MILLENNIUM **Bulk Terminals—Longview**

**EIS** Environmental Impact Statement

# State Environmental Policy Act Final Environmental Impact Statement

## Volume IV: Responses to Comments on the Draft Environmental Impact Statement

April 28, 2017

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COWLITZ COUNTY WASHINGTON

DEPARTMENT OF ECOLOGY State of Washington

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# Acronyms and Abbreviations

| | |
|---|---|
| ACM | Active Channel Margin |
| ASIL | acceptable source impact level |
| CDID | Consolidated Diking Improvement District No. 1 |
| CEQ | Council on Environmental Quality |
| CFR | Code of Federal Regulations |
| $CO_2$ | carbon dioxide |
| $CO_2e$ | carbon dioxide equivalent |
| CRD | Columbia River Datum |
| CSZ | Cascadia Subduction Zone |
| Draft EIS | Draft Environmental Impact Statement |
| Ecology | Washington State Department of Ecology |
| EIA | Energy Information Administration |
| EPA | U.S. Environmental Protection Agency |
| ESA | Endangered Species Act |
| FEMA | Federal Emergency Management Agency |
| Final EIS | Final Environmental Impact Statement |
| FRA | Federal Railroad Administration |
| HIA | Health Impact Assessment |
| IEA | International Energy Agency |
| IPM | Integrated Planning Model |
| LVSW | Longview Switching Company |
| MHHW | mean high higher water |
| NAAQS | National Ambient Air Quality Standards |
| NEPA | National Environmental Policy Act |
| NMFS | National Marine Fisheries Service |
| NPDES | National Pollutant Discharge Elimination System |
| PM10 | particulate matter with diameter of less than or equal to 10 micrometers |
| PM2.5 | particulate matter with a diameter of less than or equal to 2.5 micrometers |
| Proposed Action | Millennium Bulk Terminals—Longview project |
| RCW | Revised Code of Washington |
| SEPA | State Environmental Policy Act |
| WAC | Washington Administrative Code |
| WDNR | Washington State Department of Natural Resources |

# Chapter 1
# Overview

This volume of the Final Environmental Impact Statement (Final EIS) presents responses to comments received on the Draft Environmental Impact Statement (Draft EIS) for the proposed Millennium Bulk Terminals—Longview project (Proposed Action).

## 1.1 Draft EIS Comment Period

The Draft EIS was published on April 29, 2016, and interested parties were notified of the document's availability and opportunities to comment on the Draft EIS. Comments were accepted during a 45-day public comment period (April 29 through June 13, 2016). Three public hearings were held during the Draft EIS comment period. Comments were received through various methods, including comments submitted electronically using a comment form on the EIS website, oral comments provided at the public hearings, and written comments submitted by mail or at the public hearings.

The availability of the Draft EIS as well as the public hearings and the comment period were advertised as follows.

- Legal notice for the release of the Draft EIS, comment period, and public hearing were published in the Washington State Register (201602166) on April 29, 2016.
- Email notices were sent to the individuals, tribes, agencies, and organizations listed in Draft EIS Appendix B, *Distribution List*.
- A news release was issued on April 29, 2016.
- Notice of the public hearings and comment period was published in the following papers: *The Longview Daily News* (April 29 and May 10, 2016), *The Spokane Spokesman-Review* (April 29 and May 12, 2016), and *The Tri-City Herald* (Pasco) (April 29 and May 19, 2016).
- An informational flyer was mailed to approximately 5,900 residents in neighborhoods near the project area 2 weeks prior to the Longview public hearing on May 24, 2016.
- An email was sent to people who signed up for the project email notification service.
- Notice of the public hearings and comment period was posted on the EIS websites and the websites of the co-lead agencies.

Three public hearings were held during the comment period.

- May 24, 2016, 1:00 to 4:00 p.m. and 5:00 to 9:00 p.m., at the Cowlitz County Regional Conference Center in Longview, Washington.
- May 26, 2016, 1:00 to 4:00 p.m. and 5:00 to 9:00 p.m., at the Spokane Convention Center in Spokane, Washington.
- June 2, 2016, 1:00 to 4:00 p.m. and 5:00 to 9:00 p.m., at the TRAC Center in Pasco, Washington.

The public hearings provided a forum to present and receive comments on the Draft EIS. Attendees were able to provide oral comments in person and were also provided with comment forms for written comments. The public hearings included an open house with informational materials (fact sheets and display boards) on the Proposed Action and Draft EIS analyses. Representatives from Cowlitz County, the Washington State Department of Ecology (Ecology), and consultant staff members were available to answer questions.

## 1.2 Approach to Responding to Comments

All comments submitted during the public comment period were reviewed and considered in the development of the Final EIS. Where relevant and appropriate, revisions identified in the comments, as well as other substantive changes to the Draft EIS, have been incorporated into this Final EIS.

All substantive comments on the Draft EIS have been responded to in the Final EIS. Substantive issues or questions raised by many commenters were summarized as comment themes and responses to these themes are presented as master responses in Section 1.3, *Comment Themes and Master Responses*, and referenced in responses to individual substantive comments described below.

Individual substantive comments were organized according to the structure of the Draft EIS.

- **Chapter 2, *Responses to Comments—Project Objectives, Proposed Action, and No-Action Alternative***, presents responses to comments related to the Applicant's project objectives, Proposed Action (project location, existing facilities and operations, and proposed facilities and operations) and No-Action Alternative.
- **Chapter 3, *Responses to Comments—Built Environment***, presents responses to comments related to land and shoreline use; social and community resources; aesthetics, light, and glare; cultural resources; tribal resources; and hazardous materials.
- **Chapter 4, *Responses to Comments—Natural Environment***, presents responses to comments related to geology and soils, surface water and floodplains, wetlands, groundwater, water quality, vegetation, fish, wildlife, energy and natural resources, and coal spills.
- **Chapter 5, *Responses to Comments—Operations,*** presents responses to comments related to rail transportation, rail safety, vehicle transportation, vessel transportation, noise and vibration, air quality, coal and coal dust, and greenhouse gas emissions and climate change.
- **Chapter 6, *Responses to Comments—Cumulative Impacts***, presents responses to comments related to cumulative impacts that could result from construction and operation of the Proposed Action in combination with reasonably foreseeable future actions.
- **Chapter 7, *Responses to Comments—Other Topics***, presents responses to comments related to other relevant topics such as the Washington State Environmental Policy Act (SEPA) process, scope and analysis of the Draft EIS, public and agency outreach, agency coordination and consultation, the Draft EIS comment period, mitigation, and overall health concerns.
- **Chapter 8, *Responses to Comments Index***, presents an index of all commenters who submitted substantive comments on the Draft EIS and where the individual comments and responses are located.

**Appendix A, *Commenters with General Comments***, presents the list of commenters who provided general feedback but did not make specific comments on the Draft EIS. These commenters did not make specific comments on the approach, methods, or conclusions of the impact assessments provided in the Draft EIS. All comments supporting or opposing the Proposed Action are acknowledged by Cowlitz County and Ecology.

**Appendix B, *Comments on the Draft Environmental Impact Statement***, presents all comments received on the Draft EIS by commenter type (federal agencies, state agencies, local and regional agencies, elected officials, organizations, tribes and tribal representation, and general public).

# 1.3 Comment Themes and Master Responses

This section presents responses to themes of comments on the Draft EIS. The responses address overarching issues about the purpose, scope, and approach used in the analysis of impacts and development of mitigation measures. These master responses also are referred to in responses to individual comments presented in Chapters 2 through 7 of this volume.

The following master responses are presented in this section.

- Purpose and focus of the EIS
- Geographic study areas of the EIS
- Connected or similar actions
- Project objectives
- Alternatives
- Cumulative impacts analysis
- Mitigation framework
- Health impact assessment
- Vessel wake stranding
- Particulate matter and coal dust emissions analyses
- Coal market assessment
- Future of the coal market
- Greenhouse gas emissions and climate change

## 1.3.1 Purpose and Focus of the EIS

### Comment Summary

Many commenters expressed opposition or support for the Proposed Action and stated the co-lead agencies should either approve or deny the Proposed Action for specific reasons. Commenters also raised specific issues they felt should be addressed in the EIS.

## Master Response

Review under SEPA is triggered when a proposal requires a state or local agency to take a governmental action as defined in the Washington Administrative Code (WAC) 197-11-704. Because implementation of the Proposed Action would require state and local permits, the Proposed Action is subject to SEPA review. The environmental review process under SEPA is designed to work with other regulations to provide a comprehensive review of a proposal. SEPA review is intended to ensure that environmental values are considered during decision-making by state and local agencies.

The purpose of a SEPA EIS is to provide information for agency decision-makers, as well as applicants and the public regarding the potential environmental impacts associated with a proposal and the mitigation measures that could be implemented to reduce those impacts. The purpose of the SEPA environmental review process is to "assist the agencies and applicants to improve their plans and decisions, and to encourage the resolution of potential concerns or problems prior to issuing a final statement." An EIS is intended to be used by "agency officials in conjunction with other relevant materials and considerations to plan actions and make decisions" (WAC 197-11-400).

An EIS is not a decisional document; in other words, the approval or denial of a proposal is not within the scope of an EIS. Agency decisions related to an underlying action, such as a decision to issue a permit for the Proposed Action, are addressed through procedures specific to the permitting agency and the specific permits being considered. SEPA gives agencies the authority to condition or deny permits based on the agency's adopted policies, plans, rules, or regulations (WAC 197-11-660).

An EIS is not required to document all of the possible effects and considerations of a decision (WAC 197-11-448), but should focus on elements of the environment that may be significantly affected by a proposal and alternatives. Elements of the environment that would not be significantly affected need not be discussed (WAC 197-11-440(6)(a)). WAC 197-11-444 lists the elements of the environment that may be analyzed in an EIS. These include the natural environment (earth, air, water, plants and animals, and energy and natural resources) and the built environment (environmental health, land and shoreline use, transportation, public services, and utilities).

An EIS is not required to provide information on every aspect of a proposal; for instance, an EIS is not required to analyze the economic or social policy impacts of an action, nor is it required to discuss methods for financing proposals, economic competition, or profits (WAC 197-11-448(3)). An EIS is also not required to contain a cost-benefit analysis (i.e., a quantified comparison of costs and benefits generally expressed in monetary or numerical terms) (WAC 197-11-450 and 197-11-762).

The co-lead agencies established the scope of the EIS based on state and local SEPA guidance and comments received during the scoping period for the Proposed Action. The EIS addresses potential impacts of the Proposed Action related to the following resources.

- Land and Shoreline Use
- Social and Community Resources
- Aesthetics, Light, and Glare
- Cultural Resources
- Tribal Resources
- Hazardous Materials
- Fish
- Wildlife
- Energy and Natural Resources
- Rail Transportation
- Rail Safety
- Vehicle Transportation

- Geology and Soils
- Surface Water and Floodplains
- Wetlands
- Water Quality
- Vegetation
- Vessel Transportation
- Noise and Vibration
- Air Quality
- Coal Dust
- Greenhouse Gas Emissions and Climate Change

The SEPA EIS process provides opportunities for public input during scoping and public review and comment on the Draft EIS. Information collected during the SEPA review process, including information provided by the public, organizations, tribes, and other agencies, helps to inform the analysis of environmental impacts and develop the Draft and Final EIS documents. The Final EIS is then used by agency decision-makers, applicants, and the public to understand the potential environmental impacts associated with the proposal, the mitigation measures that could be implemented to reduce those impacts, and, ultimately, whether the proposal would result in unavoidable and significant adverse impacts.

Refer to the Master Responses for Geographic Study Areas of the EIS the study areas considered in the EIS. Refer to the Master Response for Mitigation Framework for more information about the use of SEPA substantive authority to condition or deny a permit.

## 1.3.2 Geographic Study Areas of the EIS

### Comment Summary

Commenters indicated that the study areas considered in the Draft EIS should be expanded in the Final EIS, and that the Final EIS should analyze, in more detail, the potential impacts associated with transporting coal from the mines in the Powder River Basin or Uinta Basin, to its final point of delivery in Asia, including potential impacts related to rail transportation in Wyoming, Montana, Idaho, Utah, and Oregon, impacts on the Columbia River Gorge National Scenic Area, and vessel transportation impacts beyond the Columbia River. Some commenters indicated the geographic study areas for the Draft EIS were too broad, and should be more narrowly focused on the project area and immediate vicinity.

### Master Response

Numerous provisions in the SEPA Rules clarify and emphasize that the purpose of the EIS process is to a) identify and address the significant impacts of a proposal; and b) either avoid or minimize discussions of insignificant impacts. The following excerpt of the rules provides relevant examples.

- The purpose of an EIS is to provide an impartial discussion of "significant environmental impacts" (WAC 197-11-400(2)).
- Discussion of insignificant impacts is not required; if included, such discussion shall[1] be brief and limited to summarizing impacts or noting why more study is not warranted (WAC 197-11-402(3)).

[1] SEPA Rules use the term "shall" to mean that it is a "mandatory" provision (WAC 197-11-700(3)(a)).

- The description of the existing environment and the nature of the environmental impacts shall be limited to the affected environment (WAC 197-11-402).
- For purposes of deciding what an EIS must cover, affecting refers to "having probable, significant adverse environmental impacts" (WAC 197-11-712).
- Probable means likely or reasonably likely to occur as in a reasonable probability. Probable is used to distinguish likely impacts from those that merely have a possibility of occurring but are remote or speculative (WAC 197-11-782).

In accordance with the above guidance, the SEPA co-lead agencies defined the geographic study areas for the Draft EIS analyses to encompass the areas where the Proposed Action could result in significant adverse environmental impacts. As such, the study areas varied in terms of geographic extent, activities considered, and of level of analysis, as described below.

- Potential impacts in and around the project area were considered in detail for all resources.
- Potential impacts along the rail routes for Proposed Action-related trains in Cowlitz County and in and along the Columbia River from the project area to the Pacific Ocean were considered in detail for resources as appropriate.
- Potential impacts along Proposed Action-related rail and vessel routes in Washington State beyond Cowlitz County, including rail routes through the Columbia River Gorge, were evaluated as follows.
    - Draft EIS Chapter 3, Section 3.5, *Tribal Resources*, evaluated impacts on access to traditional fishing sites and delivery of fish to buyers from trains blocking at-grade crossings in the Columbia River Gorge.
    - Draft EIS Chapter 5, Section 5.1, *Rail Transportation,* evaluated potential impacts on rail capacity along BNSF main line routes.
    - Draft EIS Chapter 5, Section 5.2, *Rail Safety*, evaluated potential impacts on rail safety along BNSF main line routes.
    - Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, evaluated potential impacts on vehicle traffic and vehicle safety at at-grade crossings of interest along BNSF main line routes.
    - Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*, estimated increased noise exposure from Proposed Action-related trains by along BNSF main line routes.
    - Draft EIS Chapter 5, Section 5.6, *Air Quality,* presented modeled estimates of annual statewide emissions from Proposed Action-related rail and vessel activity in the context of 2011 statewide rail and vessel emissions. Section 5.6 also assessed potential impacts on Washington State from sulfur dioxide and mercury emissions from coal combustion in Asia, with additional information provided in Appendix I, *Sulfur Dioxide and Mercury Emissions*.
    - Draft EIS Chapter 5, Section 5.7, *Coal Dust*, evaluated coal dust impacts from rail transport; Final EIS Chapter 5, Section 5.7, *Coal Dust*, also evaluates impacts specific to the Columbia River Gorge.
    - Draft EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, evaluated greenhouse gas emissions from rail and vessel transport.
- Potential impacts beyond Washington State were evaluated as follows.

- Draft EIS Chapter 5, Section 5.1, *Rail Transportation*, discussed rail capacity on the routes beyond Washington State. Final EIS Chapter 5, Section 5.1, *Rail Transportation*, provides additional information.
- Draft EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, evaluated coal market changes, greenhouse gas emissions for rail and vessel transportation routes, and end-use combustion.

Narrowing the Draft EIS geographic study areas, as some commenters suggested, would fail to disclose potential significant adverse impacts attributable to the Proposed Action and would not provide adequate disclosure under SEPA.

## 1.3.3 Connected or Similar Actions

### Comment Summary

Commenters requested the scope be expanded to evaluate the potential impacts of connected or similar actions, such as other proposed export terminal applications; rail improvements to serve Proposed Action-related rail traffic along the Reynolds Lead, BNSF Spur, and through the Columbia River Gorge; and coal mining in the Powder River Basin and Uinta Basin.

### Master Response

In determining the scope of a SEPA EIS, an agency must consider the proposal and determine if there are any connected actions and similar actions to be evaluated in the EIS (WAC 197-11-792).

#### Connected Actions

Connected actions are proposals or parts of proposals that are closely related (WAC 197-11-060(3) and 197-11-305(1)) and should be evaluated in the same environmental document. Proposals or parts of proposals are closely related if either 1) they cannot or will not proceed unless the other proposals (or parts of proposals) are implemented simultaneously with them or 2) they are interdependent parts of a larger proposal and depend on the larger proposal as their justification or for their implementation.

The Proposed Action is neither part of a larger proposal nor dependent on the implementation of any other new projects for it to proceed; it has independent utility. The Proposed Action is solely dependent on the approval of the site-specific permits and requirements identified in the Draft EIS. The Proposed Action does not require off-site rail line improvements to receive coal by rail, as described in detail below, and is not dependent on new sources of coal. Therefore, no connected actions require evaluation in the EIS.

As discussed in the EIS, the Longview Switching Company (LVSW) plans to expand capacity on the Reynolds Lead and BNSF Spur as a separate action to meet the projected volume and needs of other existing and future customers—as well as from Proposed Action-related trains—consistent with typical U.S. railroad policy to accommodate freight traffic. These improvements would expand capacity and provide for safer operations and increased speed; however, they are not required to serve the Proposed Action. The EIS also identifies the potential for future improvements to existing rail infrastructure along the BNSF main lines in Washington State. Like the LVSW improvements to the Reynolds Lead and BNSF Spur, these upgrades may address capacity, safety, and/or speed, but

they are not necessary to serve the Proposed Action-related train traffic. Future rail improvements would be subject to their own environmental review under SEPA and the National Environmental Policy Act (NEPA), as appropriate.

### Similar Actions

Similar actions are those actions that, when viewed with other reasonably foreseeable actions, have common aspects that provide a basis for evaluating their environmental consequences together, such as common timing, types of impacts, alternatives, or geography (WAC 197-11-060(3)(c)(1). Unlike connected actions, which are expected to be analyzed in the same SEPA document, the inclusion of similar actions is optional (WAC 197-11-060(3)(c)). No other proposed projects were analyzed as similar actions in the EIS. However, because several proposed export terminal projects would use the same rail and vessel transportation corridors as the Proposed Action, their potential cumulative impacts are addressed in Final EIS Chapter 6*, Cumulative Impacts*, in accordance with SEPA Rules. Refer to the Master Response for Cumulative Impacts Analysis for information on the scope of the cumulative impacts analysis.

## 1.3.4 Project Objectives

### Comment Summary

Commenters indicated the project objectives are not substantiated in the EIS and do not justify the need for developing the Proposed Action.

### Master Response

The Proposed Action is a private project. As such, under SEPA the proposal and project objective(s) are defined by the Applicant and the proposal is evaluated as submitted. Draft EIS Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, and Draft EIS *Summary* presented the Applicant's objectives for the Proposed Action consistent with the requirements of SEPA. As stated in Chapter 2 and the Summary, the objectives for the Proposed Action are to enable western U.S. coal to compete in the Pacific international coal supply market, diversify Washington State's trade-based economy, and reduce local unemployment. SEPA Rules require a brief statement of a proposal's objectives, including the purpose and need to which the proposal is responding, in the EIS summary section (WAC 197-11-440(4)).

The purpose of a SEPA EIS is to provide information for agency decision-makers as well as applicants and the public regarding the potential environmental impacts associated with a proposal, as discussed in more detail in the Master Response for the Purpose and Focus of the EIS. However, an EIS is not required to contain the balancing judgments that must be made by decision-makers (WAC 197-11-448). In other words, agency decision-makers will ultimately weigh the project objectives against the potential impacts identified in the EIS when making permit decisions, but that evaluation is not required in the EIS.

In general, NEPA requires a more detailed evaluation of the purpose and need for a proposed action than SEPA (40 Code of Federal Regulations [CFR] 1502.14). The Proposed Action is subject to NEPA review. The NEPA Draft EIS was released for public review on September 30, 2016. NEPA Draft EIS Chapter 2, *Purpose and Need*, includes additional information and evaluation of the purpose and need for the Proposed Action, consistent with the requirements of NEPA.

## 1.3.5 Alternatives

### Comment Summary

Commenters requested that additional alternatives, other than the Proposed Action and No-Action Alternative, be analyzed in the EIS and that the EIS consider alternative design options for the Proposed Action. Commenters also disagreed with the description of the No-Action Alternative in the Draft EIS.

### Master Response

The Draft EIS analyzed alternatives consistent with the requirements of SEPA. For a private project on a specific site, under SEPA, the lead agency is required to evaluate only a no-action alternative and other reasonable alternatives for achieving the proposal's objective on the same site (WAC 197-11-440(5) (d)). Reasonable alternatives are thereby limited to those that 1) can be feasibly attained or approximate a proposal's objective but at a lower environmental cost or decreased level of environmental degradation; 2) can be implemented on the same site as proposed; and 3) which an agency with jurisdiction has authority to control the private project's impacts by means of required mitigation measures (WAC 197-11-786). Consequently, alternatives that involve components beyond the applicant's control (e.g., an off-site alternative) are not required to be evaluated under SEPA. Therefore, the Draft EIS evaluated the Proposed Action and No-Action Alternative, as described in Chapter 2, *Project Objectives, Proposed Action, and Alternatives*.

The evaluation of a no-action alternative is required under SEPA; however, SEPA Rules do not define what the no-action alternative must include. The analysis of the No-Action Alternative in the EIS does not assume a future development similar to the Proposed Action would occur at the project area, but rather, over the 20-year period, another project *could* be developed under existing permits. The lead agency has the discretion to define a reasonable no-action alternative, and it is typically defined as what would be most likely to happen if the proposal did not occur. According to the Applicant, absent the Proposed Action, the project area could be developed with storage and shipment facilities to increase bulk product terminal operations or other industrial operations. Therefore, the No-Action Alternative was defined accordingly in the EIS, as described in Final EIS Chapter 2, *Project Objectives, Proposed Action, and Alternatives*.

In general, NEPA requires a more detailed evaluation of alternatives for a proposed action than SEPA. Specifically, NEPA requires the EIS "rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated" (40 CFR 1502.14). The Proposed Action is subject to NEPA review. The NEPA Draft EIS was released for public review on September 30, 2016. NEPA Draft EIS Chapter 3, *Alternatives*, describes the alternatives development process for the Proposed Action consistent with NEPA requirements and identifies alternatives that are analyzed in the NEPA Draft EIS.

## 1.3.6 Cumulative Impacts Analysis

### Comment Summary

Commenters indicated the analysis of cumulative impacts should provide a more detailed assessment of past and present actions and existing impacts from those actions. Other commenters

requested the geographic study areas for the cumulative impacts analysis be expanded to account for cumulative impacts all along the rail lines to the coal mines in the Powder River Basin and Uinta Basin. Commenters also requested that the cumulative impacts analysis be revised to account for changes to coal market conditions and the status of certain future actions.

### Master Response

Chapter 6, *Cumulative Impacts*, presents the analysis of the incremental addition of impacts from the Proposed Action to impacts from past, present, and reasonably foreseeable future actions. An inventory of future actions that could contribute to cumulative impacts in combination with the Proposed Action was developed. This inventory includes all reasonably foreseeable actions that would affect the geographic study areas established for the cumulative impacts analysis. The analysis includes a brief discussion of key past and present actions, and the existing effects of these actions are accounted for in the description of existing conditions for each environmental resource area in Chapters 3, 4, and 5 of the Final EIS. The cumulative impacts analysis builds on the description of existing environmental conditions presented for each resource area and, therefore, accounts for the effects of past and present actions. The Final EIS has been revised to provide additional discussion of past and present actions where appropriate.

The geographic study areas for the cumulative impact analysis were defined for each resource that would be affected by construction and operation of the Proposed Action. Some cumulative impacts study areas are identical to the resource study areas described in Chapters 3, 4, and 5, while other resources have a larger cumulative impacts study area. These study areas encompass the areas where the Proposed Action could result in potential adverse impacts.

Final EIS Chapter 6, *Cumulative Impacts*, has been revised to account for changes to the status of future actions and coal market conditions since the completion of the Draft EIS.

## 1.3.7 Mitigation Framework

### Comment Summary

Commenters raised many issues related to mitigation, including general concerns about how it was developed and how the measures would be enforced. Commenters raised concerns that, in many cases, there is not a clear mechanism for implementing or enforcing the proposed mitigation and that implementation may not eliminate the impact.

### Master Response

As described in Final EIS Chapter 3, Section 3.0.4, *Mitigation Measures Development Approach*, and corresponding sections in Chapters 4 and 5, mitigation measures are identified when applicable regulations, permit conditions, and required plans would not adequately reduce potentially significant impacts. The specific applicable regulations, permits, or plans are identified in each resource section of Final EIS Chapters 3, 4, and 5, and are summarized in Final EIS Chapter 8, *Required Plans, Permits, and Approvals*.

As described in the Draft EIS and Final EIS, mitigation measures were presented in the following three categories.

- **Voluntary mitigation and design features**. Voluntary mitigation and design features comprise measures that the Applicant has committed to implement during construction or operations; these are considered part of the Proposed Action.
- **Applicant mitigation**. Applicant mitigation comprises measures that could reduce potentially significant impacts remaining after regulatory compliance and voluntary mitigation are considered. These measures are not required simply by their inclusion in the EIS but could be included as conditions of permits informed by this EIS. Measures included as permit conditions would become legal requirements that must be met by the Applicant.

  Under SEPA, agencies responsible for taking government action on a proposal, such as issuing a permit or approval for the Proposed Action, have the authority to require mitigation to address potentially significant impacts based on the following criteria (WAC 197-11-660).

  1. Any governmental action on public or private proposals that are not exempt may be conditioned or denied under SEPA to mitigate the environmental impact subject to the following limitations:

     a. Mitigation measures or denials shall be based on policies, plans, rules, or regulations formally designated by the agency (or appropriate legislative body, in the case of local government) as a basis for the exercise of substantive authority and in effect when the determination of non-significance or Draft EIS is issued.

     b. Mitigation measures shall be related to specific, adverse environmental impacts clearly identified in an environmental document on the proposal and shall be stated in writing by the decision maker. The decision maker shall cite the agency SEPA policy that is the basis of any condition or denial under this chapter (for proposals of applicants). After its decision, each agency shall make available to the public a document that states the decision. The document shall state the mitigation measures, if any, that will be implemented as part of the decision, including any monitoring of environmental impacts. Such a document may be the license itself, or may be combined with other agency documents, or may reference relevant portions of environmental documents.

     c. Mitigation measures shall be reasonable and capable of being accomplished.

     d. Responsibility for implementing mitigation measures may be imposed upon an applicant only to the extent attributable to the identified adverse impacts of its proposal. Voluntary additional mitigation may occur.

     e. Before requiring mitigation measures, agencies shall consider whether local, state, or federal requirements and enforcement would mitigate an identified significant impact. An applicant must be reasonably able to implement required mitigation. An applicant cannot be required to act beyond its legal authority or jurisdiction. For example, the Applicant has no ability to make railroad improvements or set operational standards for trains that are the responsibility of the rail lines under federal regulations.

- **Other measures to be considered**. Other measures to be considered consist of actions that could be implemented by parties other than the Applicant to further reduce potentially significant impacts associated with the Proposed Action. These measures are beyond the Applicant's control or authority and would not be enforceable through a permit specific to the Applicant's proposal. In some cases, other measures may be part of ongoing efforts to address existing problems (unrelated to the Proposed Action) or related to existing requirements or

regulations that protect public resources and safety. Inclusion of these measures in the EIS is intended to help decision-makers and planners establish priorities for actions within their authority and jurisdiction to implement.

The proposed mitigation presented in the Final EIS has been developed within the limits of the SEPA regulatory framework. In general and to the extent practicable, measures have been revised to provide greater specificity (e.g., timing of initiation and completion) with the intent of improving the effectiveness of the measures. As appropriate, measures have been revised to clarify parties who would participate in their execution and, to the extent possible, those who would be responsible for each measure. The Final EIS has also been updated to include a proposed mitigation measure for the Applicant to monitor and provide an annual report on compliance with mitigation required as a condition of an issued permit. Mitigation monitoring reports would be part of the public record.

## 1.3.8 Health Impact Assessment

### Comment Summary

Commenters indicated a Health Impact Assessment (HIA) was missing from the Draft EIS. Several commenters also recommended multiple topics they felt should be addressed in the HIA, and requested the HIA be available for public review and comment. In addition, some commenters suggested the study area for the HIA should include communities along the entire rail transportation route between the source mines (Powder River Basin and Uinta Basin) and project area, as well as the Washington and Oregon vessel corridor, and not just those communities in Cowlitz County.

### Master Response

During the public scoping process for the SEPA and NEPA EISs for the Proposed Action, questions regarding potential impacts on health and quality of life arose. On June 10, 2015, Cowlitz County Building and Planning Department staff met with representatives from Cowlitz County Health and Human Services Department and the Washington State Department of Health. These three agencies (i.e., the HIA co-lead agencies) agreed an HIA would be a useful tool to better understand the potential health effects of the Proposed Action. A community-led HIA is currently being prepared. More information about the HIA process can be found at http://www.millenniumbulkeiswa.gov/health-impact-assessment.html.

#### Relationship of the HIA to the SEPA EIS

An HIA is a process that helps evaluate the potential health effects of a plan, project, or policy before it is built or implemented. An HIA can provide recommendations to increase positive health outcomes and minimize adverse health outcomes (Centers for Disease Control and Prevention 2016). An HIA is a public health tool that uses available technical and scientific information to help communities understand how plans, projects, and policies affect their health. An HIA can also make recommendations about how to maximize the likely health benefits and minimize the potential harms of a given project, plan, or policy.

The HIA process is separate and independent from the SEPA and NEPA environmental review processes. The SEPA EIS is required by state law and analyzes potential impacts of the Proposed Action on environmental resources. An HIA is not required by state law. An HIA evaluates the effects of the Proposed Action on human health and the quality of life in adjacent communities. Analyses

from the SEPA EIS may inform the HIA; for example, the SEPA EIS could provide information about air quality, noise and vibration, and rail safety. However, because the HIA is not part of the SEPA environmental review process, there is no requirement that an HIA be available for public review with the Draft or Final EIS.

### Geographic Study Areas

The intent of the HIA is to engage the communities of Cowlitz County in a discussion about the potential health impacts of the Proposed Action on the local community. Several commenters recommended the study areas include communities along the entire rail transportation route between the source mines (Powder River Basin and Uinta Basin) and Longview, Washington, as well as include the Washington and Oregon vessel transportation corridor. However, because the Proposed Action is located in Cowlitz County, and because the HIA process is led by Cowlitz County agencies, the study area for the HIA is focused on communities within Cowlitz County, especially neighborhoods near the project area, as well as community facilities along the Reynolds Lead, BNSF Spur, and BNSF main line in Cowlitz County. Residents within and outside of Cowlitz County are welcome to attend and observe at the HIA Steering Committee meetings and comment on the Draft HIA report when it is released.

### HIA Steering Committee and Public Input

Comments received on the Draft EIS requested that specific topics be addressed in the HIA. An HIA Steering Committee was formed and determined the topics to be addressed in the HIA, with input from focus groups. The public has been able to provide written comments to the Steering Committee throughout the HIA process. The Draft HIA report will be released to the public for review and comment. It is anticipated the Draft HIA will be released in 2017.

The HIA findings and recommendations will be available as a resource for the community and may inform future decisions about local development. The HIA co-lead agencies may make recommendations to the Applicant regarding potential activities and design elements that may help address community health concerns. These recommendations will not be binding and are independent of any mitigation included in the SEPA EIS and associated permit conditions.

## 1.3.9 Vessel Wake Stranding

### Comment Summary

Multiple commenters stated the analysis of potential effects to fish as a result of vessel wake stranding lacked sufficient information to determine whether the Proposed Action would result in a significant adverse impact. Some commenters requested that the potential impacts associated with Proposed Action-related vessel wakes be quantified due to the relatively substantial increase in vessel traffic in the lower Columbia River as a result of the Proposed Action.

### Master Response

Draft EIS Chapter 4, Section 4.7, *Fish*, discussed the factors that contribute to the potential risk of fish stranding from wakes generated by large, deep draft vessels transiting the lower Columbia River. The physical conditions that affect stranding risk along the shoreline of the lower Columbia

River have been documented in several studies, as have the locations in the lower Columbia River where these conditions exist.

Final EIS Chapter 4, Section 4.7, *Fish*, has been revised to provide additional information on the key findings of several new relevant studies on fish stranding from vessel wakes. As discussed in more detail in the Final EIS, the studies concluded that about 8 miles of Columbia River shorelines have a high susceptibility for stranding based on screening criteria, and the majority of stranding events appear to impact sub-yearling Chinook salmon while other salmonid and eulachon are not as susceptible to wake stranding. While the studies cited in the Final EIS have looked at the issue of vessel wake stranding of fish in the lower Columbia River, none have quantified or projected the impact beyond what was observed during the studies.

Some vessel wake stranding currently occurs, but it is unclear to what extent vessel wake stranding threatens fish populations in the lower Columbia River. While scientists generally acknowledge the connection between wakes generated by large vessels and fish stranding that occurs in the lower Columbia River, they have not been able to quantify the amount of stranding currently taking place or develop a model that accurately predicts with any reasonable level of accuracy the nature and extent of stranding by deep-draft vessels. As such, there is no tool available to estimate the likely impact of vessels associated with the Proposed Action on fish stranding. The National Marine Fisheries Service (NMFS) is analyzing the issue as part of its Endangered Species Act Section 7 consultation with the Corps for the Proposed Action. Therefore, although the Proposed Action would increase deep-draft vessel traffic in the lower Columbia River, without further data it would be speculative to attempt to quantify the potential impact attributable to the Proposed Action given the current understanding of fish wake stranding and the fact that there is no known accepted methods at this time to quantify such impacts. SEPA Rules require the consideration of environmental impacts that are likely, not merely speculative (WAC 197-11-060). In accordance with this requirement, the Draft EIS disclosed potential impacts related to fish stranding due to vessel wakes, but did not quantify the potential impact.

As discussed in the Draft EIS, vessel operations in the lower Columbia River are federally regulated by the U.S. Coast Guard, Department of Homeland Security, including the size, speed, and navigation within the lower Columbia River. The federal regulation of vessel operations limits the ability of the Applicant to address the factors that influence vessel wake stranding. Because vessel operational standards are set by federal and state regulations, the Applicant may not change the standards. SEPA Rules require that an applicant must be reasonably able to implement required mitigation (WAC 197-11-660), and cannot be required to act beyond its legal authority or jurisdiction. Mitigation measures are not identified in the SEPA Final EIS to address potential vessel wake stranding impacts indirectly attributable to the Proposed Action. The NEPA Final EIS may include additional analyses, conclusions, and mitigation measures. For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

## 1.3.10 Particulate Matter and Coal Dust Analyses

### Comment Summary

Many commenters expressed concern about particulate matter and coal dust emissions from the Proposed Action, both in the project area and along the rail lines serving the proposed coal export terminal. Commenters raised concerns about potential impacts on air quality and human health, and

the effects of coal dust deposition on the environment. Commenters questioned aspects of the analyses, including how peak emissions during very short-term events were considered, and suggested additional considerations be included in the Final EIS such as dust emissions from unloaded trains and analysis of coal dust deposition in the Columbia River Gorge. Commenters also expressed concern about the adequacy of mitigation to address potential impacts related to coal dust.

## Master Response

The Draft and Final EIS estimated particulate matter emissions and dispersion and coal dust deposition related to operation of the Proposed Action in the project area and rail transport along the rail lines in the study area and evaluated potential impacts on air quality and the natural environment.

The study areas for the air quality and coal dust analyses are described in Draft EIS Chapter 5, Sections 5.6, *Air Quality*, and 5.7, *Coal Dust*. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

### Methods

Modeling was conducted to estimate particulate matter emissions, including from coal dust, from operations in the project area and rail transport along the expected routes for Proposed Action-related trains. Project area emissions were modeled using the U.S. Environmental Protection Agency (EPA's) standard regulatory air dispersion model, AERMOD. AERMOD estimates emissions from multiple sources (e.g., rail cars and coal stockpiles), in complex terrain, using local hourly meteorological data. As a result, the analysis accounts for realistic wind conditions in the vicinity of the project area and along the rail lines. Separate modeling was conducted to estimate coal dust emissions during rail transport based on best science and engineering of coal dust emissions for moving coal trains with modifications based on more recent studies of coal trains in Washington State. To supplement data from existing studies, a field study to inform this EIS was conducted in October 2014, to collect sample data on coal dust emitted from coal trains on the BNSF main line in Cowlitz County. These data were used to improve knowledge regarding coal dust emissions and improve the reliability of the impact assessment. Final EIS Chapter 5, Section 5.7.3, *Methods*, and the *SEPA Coal Technical Report* describe the modeling and impact analysis in detail.

### Air Quality and Human Health

Draft EIS Chapter 5, Section 5.6, *Air Quality*, presented modeled emissions of criteria pollutants from construction and operation of the proposed coal export terminal, including fugitive dust emissions from the coal stockpiles and during rail transport and emissions from diesel locomotives. The National Ambient Air Quality Standards (NAAQS) are the federal standards[2] for all criteria pollutants, including particulate matter with diameter of less than or equal to 10 micrometers (PM10) and particulate matter with a diameter of less than or equal to 2.5 micrometers (PM2.5). PM10 and PM2.5 are components of coal dust and are also emitted by diesel engines such as rail locomotives. The NAAQS were established under the authority of the federal Clean Air Act to protect human health, including sensitive populations such as children and the elderly, with a margin of safety. The NAAQS include annual standards for PM10 and PM2.5 and a 24-hour average standard

[2] The NAAQS have been adopted by Washington State as state standards.

for PM2.5. Very short-term peak emissions of PM are not regulated under the NAAQS. Furthermore, strong winds that often accompany these peaks tend to facilitate dispersion of emissions.

Final EIS Chapter 5, Section 5.6, *Air Quality*, reflects updated emissions estimates based on revised modeling assumptions to account for emissions from unloaded coal trains and revised silt content assumptions to reflect western coal. Estimated concentrations of criteria pollutants from Proposed Action-related emissions plus background concentrations were compared to the applicable NAAQS. Estimated maximum total PM10 and PM2.5 concentrations with the Proposed Action are below the NAAQS at all study area locations; therefore, these impacts are not considered significant.

Final EIS Chapter 5, Section 5.6, *Air Quality*, includes an assessment of increased cancer risk from diesel particulate matter emissions related to operation of the Proposed Action. These emissions are primarily related to rail locomotives serving the proposed coal export terminal. Based on the assessment, diesel particulate matter emissions from Proposed Action-related train locomotives traveling along the Reynolds Lead, BNSF Spur, and BNSF main line in Cowlitz County would result in areas of increased cancer risk at or above 10 cancers per million which would represent a potential unavoidable and significant impact.

Draft EIS Chapter 5, Section 5.7, *Coal Dust*, also compared the maximum trace element concentrations found in coal dust (including arsenic, cadmium, and mercury) with their respective acceptable source impact levels (ASIL). ASILs are screening concentrations for toxic air pollutants in the ambient air, and are established in WAC 173-460-150 (Controls for New Sources of Toxic Air Pollutants) for stationary sources. As shown in Draft EIS Table 5.7-8, the predicted maximum concentrations of trace elements found in coal dust along the BNSF main line in Cowlitz County would be less than their respective ASILs.

The Draft EIS evaluated potential impacts of the Proposed Action accordance with SEPA Rules and the Cowlitz County Code. SEPA Rules (WAC 197-11-444) do not require that an EIS analyze all impacts of an action. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

An HIA for the Proposed Action is being prepared separately from the SEPA environmental review. The HIA Steering Committee determined the health topics to be addressed in the HIA, with input from focus groups. Refer to the Master Response for the Health Impact Assessment for information on the HIA process, including the study area for the assessment, selection of topics analyzed, and opportunities for public review and comment.

## Coal Dust Deposition

Draft EIS Chapter 5, Section 5.7, *Coal Dust*, presented modeled deposition of coal dust related to the Proposed Action. There are no federal or state guidelines or standards for coal dust deposition. For purposes of the EIS, the coal dust analysis used a benchmark from New Zealand Ministry of Environment for dust nuisance impacts (i.e., the level of coal dust deposition that affects the aesthetics, look, or cleanliness of surfaces, but not the health of humans).

Final EIS Chapter 5, Section 5.7, *Coal Dust*, presents updated deposition levels to reflect the following.

- Updated silt content assumption to reflect western coal rather than average U.S. coal.

- Modeling of emissions from unloaded coal trains based on an analysis from a study at a coal export terminal at the Port of Gladstone, Australia.

In addition, the Final EIS added an evaluation of coal dust deposition impacts along the rail line through the Columbia Gorge, accounting for effective wind speed specific to the area.

The following summarizes the findings in Final EIS Chapter 5, Section 5.7, *Coal Dust*.

- Estimated maximum monthly coal dust deposition from coal handling and transport activities in the project area would be less than 25% of the benchmark used for the analysis at the project area boundary and decrease further with distance from the project area.
- Estimated coal dust deposition from transport along the BNSF main line in Cowlitz County and the Columbia River Gorge would exceed the benchmark slightly. Residents who live along these portions of the main line could experience nuisance levels which may include visible soiling on window sills, outdoor furniture, and other property. Because no state or federal standards apply to deposition of coal dust of this size, this impact is considered not significant for human health. The potential for impacts to the environment from coal dust deposition are discussed below.
- Estimated coal dust deposition from transport along the remainder of the rail line in Washington State would be below the benchmark used for the analysis.

Draft EIS Chapter 4, Sections 4.5, *Water Quality*, 4.6, *Vegetation*, 4.7, *Fish*, and 4.8, *Wildlife*, evaluated potential impacts on the natural environment from coal dust deposition related to the Proposed Action as summarized below.

- **Chapter 4, Section 4.5, *Water Quality*.** Coal dust deposition is not expected to have a demonstrable effect on water quality. The potential risk for exposure to toxic chemicals contained in coal (e.g., polyaromatic hydrocarbons [PAHs] and trace metals) would be relatively low as these chemicals tend to be bound in the matrix structure and not quickly or easily leached.
- **Chapter 4, Section 4.6, *Vegetation*.** Section 4.6 described the potential effects of dust deposition on vegetation identified in several studies and described deposition levels as they relate to the plant communities at various distances from the project area and along the rail lines.
- **Chapter 4, Section 4.7, *Fish*.** Coal particles could affect fish and aquatic wildlife similar to any form of suspended particulates, such as tissue abrasion, smothering, obstruction or damage to feeding or respiratory organs, and other effects resulting from reduced quantity or quality of light. Coal dust deposition to the Columbia River within the study area would result in a change in suspended sediment concentration of less than 1 part per 10 billion. Particles would be transported downstream by the flow of the river and distributed over a broad area, thus diluting potential impacts.
- **Section 4.8, *Wildlife*.** Windborne coal could affect wildlife through physical or toxicological means, but deposition rates would be very low beyond a few thousand feet from the project area. Coal dust and fugitive coal particles could also be generated during rail transport of coal.

## Permit Requirements and Mitigation Measures

Proposed Action operations would be required to comply with the conditions set forth by the Southwest Clean Air Agency in the air quality permit for the terminal. In addition, the Proposed

Action includes project design measures and best management practices to control dust emissions. Some coal movement at the terminal would occur in enclosed areas, including rail car unloading and approximately one-third of the conveyors. The coal storage piles, approximately two-thirds of the conveyors, and transfer towers would not be enclosed, but they would have systems in place for dust control (watering or dry fogging). In general, the combination of these control systems would be expected to provide a high level of dust control.

Draft EIS Chapter 5, Section 5.7.7, *Potential Mitigation Measures*, described potential measures that would further reduce impacts related to coal dust. Final EIS Chapter 5, Section 5.7, *Coal Dust*, presents the proposed mitigation measures. Mitigation measures included as permit conditions would become legal requirements of the Applicant. The Final EIS has been updated to include mitigation monitoring and reporting requirements for the Applicant as proof of compliance with the mitigation requirements. Mitigation monitoring reports would be part of the public record. The mitigation measures were developed within the limits of the SEPA regulatory framework. For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

## 1.3.11 Coal Market Assessment

### Comment Summary

Commenters expressed concerns about the methods, sources, assumptions, scenarios, and conclusions of the *SEPA Coal Market Assessment Technical Report* presented in the Draft EIS.

### Master Response

The coal market analysis presented in the *SEPA Coal Market Assessment Technical Report* examined the U.S. and Asian coal market changes—in terms of coal production, consumption, distribution, and carbon dioxide ($CO_2$) emissions—associated with the Proposed Action under scenarios representing a wide range of possible future market conditions. As modeled, the Proposed Action would handle a specified quantity (44 million metric tons of coal annually at full operations) of additional coal from existing mines and existing reserves in the Powder River and Uinta Basins to be shipped to the Asia Pacific region where it could compete with coals produced in other countries.

#### Methods

The coal market analysis used the Integrated Planning Model (IPM) to assess likely coal production, consumption, and distribution patterns resulting from development of the proposed coal export terminal. IPM is widely used and accepted by a range of agencies and companies.

The analysis presented in the Draft and Final EIS uses best available information from agencies with expertise in energy markets, including the International Energy Agency (IEA), EPA, and the Energy Information Administration (EIA). The analysis in the Final EIS uses international coal demand projections from the IEA 2015 World Energy Outlook (December 2015), which includes a scenario that incorporates the Paris Accords to lower greenhouse gas emissions. The analysis also includes data from EPA's IPM version 5.15 and data from the EIA Annual Energy Outlook 2016. Thus, the Final EIS captures changes to coal prices, international coal demand, environmental programs, and renewable energy trends that occurred between 2013 and 2016.

The international coal market was modeled in detail, including total reserves, coal supply curves, heat content and $CO_2$ intensity of coal from each supply region, shipping distances, and emissions from coal combustion. The domestic coal market was also modeled in detail and included the same inputs as the international markets, plus the expected electric demand, renewable energy standards and regulations, power plant operating characteristics, natural gas supply curves, electricity transmission grid transfer capability, scope and structure of markets for wholesale electricity supply, and power plant availability[3], among many other modeling inputs.

The *SEPA Coal Market Assessment Technical Report* contains details of the data and sources used in the analysis for the Final EIS, and describes additional changes to coal and natural gas prices, environmental programs, and renewable energy trends that occurred between 2013 and 2016.

## Scenarios

The five scenarios considered in the assessment represent a wide range of possible future market conditions to determine the impact of the proposed terminal on coal markets and $CO_2$ emissions associated with those possible futures. The four main scenarios are the 2015 U.S. and International Energy Policy scenario, No Clean Power Plan scenario, Lower Bound scenario, and Upper Bound scenario. A fifth scenario, the Cumulative scenario accounts for the addition of other reasonably foreseeable planned coal export terminals in the Pacific Northwest and western Canada. The Lower and Upper Bound scenarios are designed to provide reasonable bounds on $CO_2$ emissions related to the Proposed Action. Since coal markets are volatile, uncertain, and changing, using a range of possible outcomes is reasonable and informative. The *SEPA Coal Market Assessment Technical Report* describes the scenarios in detail.

## Conclusions

The analysis showed that the Proposed Action would likely cause the following changes in the production, consumption, and distribution of coal in the United States and Asia.

- **Production.** U.S. coal production would increase with the Proposed Action in all five scenarios. Asian coal production would decrease with the Proposed Action in all five scenarios, because it would be displaced by Proposed Action-related coal.
- **Price.** Powder River Basin prices would generally increase slightly with the Proposed Action, and international coal prices would generally remain unchanged or decrease slightly.
- **Consumption.** While overall coal demand would change slightly with the Proposed Action, it is not likely to substantially increase over the next 20 or 30 years. U.S. coal consumption would decrease with the Proposed Action in all but one scenario (Upper Bound scenario); the decrease is a result of increasing U.S. coal prices in the domestic market due to additional demand for U.S. coal on the international market. Delivered U.S. coal costs are competitively priced, so they do not substantially affect pricing and demand for coal in the international market. Only in the Upper Bound scenario did coal consumption outside the U.S. increase due to the Proposed Action.
- **Distribution.** Coal distribution and production patterns in Asia would change with the Proposed Action under all scenarios, with Proposed Action-related coal likely replacing other

[3] Coal and gas and other power plants compete for dispatch in a sophisticated and sensitive bidding and bid evaluation modeling context.

international coal production. The change in coal distribution affects the shipping distance of Asian coal imports and the mix of coal types consumed, both of which affect $CO_2$ emissions.

- **Greenhouse gas emissions.** The *SEPA Greenhouse Gas Emissions Technical Report* and Final EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, present estimated greenhouse gas emissions under the five scenarios.

Chapter 6 of the *SEPA Coal Market Assessment Technical Report* presents the coal production, consumption, distribution, and emissions modeling results for each scenario, and Chapter 7 summarizes the conclusions of the assessment in more detail.

## 1.3.12 Future of the Coal Market

### Comment Summary

Commenters expressed concern that the analysis presented in the *SEPA Coal Market Assessment Technical Report* in the Draft EIS did not accurately represent the future of the coal market. Commenters pointed to various recent actions and trends as a sign that domestic and global coal markets are in decline.

### Master Response

Accurate projections of the international coal market require the use of long-term, fundamentals-based inputs, such as coal demand inputs from the IEA World Energy Outlook, coal production capacity of mines and producing regions, coal reserves, and production costs. While supply and demand dynamics of the current coal market are factors in these projections, focusing solely on short-term trends oversimplifies the complex and changing nature of the international coal market.

The international coal demand projections in the *SEPA Coal Market Assessment Technical Report* presented in the Draft EIS, which are based on the projections of IEA's World Energy Outlook,[4] show coal market growth has slowed dramatically but is still growing. Historical data similarly show that the market has volatile spot commodity prices like other energy commodity markets.

Although U.S. coal consumption in the electric power sector has declined in recent years—from above 840 million short tons annually in 2011through 2014, to above 750 million short tons in 2015, to below 700 million short tons in 2016—global coal consumption has been increasing. Between 2008 and 2016, Asian coal consumption increased by 12% to approximately 5 billion short tons. China—by far the world's largest consumer of coal—announced on November 7, 2016, that it would limit increases in coal generation capacity to a maximum total capacity of 1,100 gigawatts by 2020; this increase is equal to two-thirds the size of US total coal power plant capacity in 5 years and a rate equal to a power plant per week (Spegele 2016). China has been decreasing coal production which increases the need for imports. This has contributed to the rapid price rise in the international markets in the second half of 2016. For example, the Australian thermal coal price in U.S. dollars per metric ton increased from $58 per metric ton in June 2016 to $107 per metric ton in November 2016.

Coal plants are also proposed in Japan, South Korea, and Taiwan including the following.

[4] These projections account for worldwide changes in the energy markets, including the use of renewables, which influence the use of fossil fuels such as coal.

- In Japan, the 45 coal plants proposed would have 20.8 gigawatts of capacity (Obayashi 2016) representing up to 60 million short tons of coal consumption.[5]
- In South Korea, nearly 6,000 megawatts of new coal-fired capacity came online in 2016, and an additional 9,200 megawatts is planned to come online between 2017 and 2021 (Center for Media and Democracy 2015); these new coal plants could consume up to 26 million short tons of coal.[6]
- In Taiwan, Taipower is rebuilding a number of coal facilities at previously retired sites that would bring 5,600 megawatts of new/rebuilt capacity online through 2023 (Taiwan Power Company 2014).

IEA is predicting an increase in global coal consumption in its Current Policies scenario and New Policies scenario in both its 2015 World Energy Outlook and 2016 World Energy Outlook. The IEA 2015 World Energy Outlook projects that coal consumption in the Non-OECD Asia region will continue to rise through 2040 in their New Policies scenario (Table 1). The New Policies scenario includes implemented climate policies as well as policies that have been announced, but may not be fully defined or implemented. These policies include the energy-related aspects of the Intended Nationally Determined Contributions (INDCs) that had been submitted as of October 1, 2015, in preparation for the United Nations Framework Convention on Climate Change Conference of the Parties. The coal consumption forecast in the New Policies scenario is the source for the international coal demand in the 2015 Energy Policy and Lower Bound scenarios in the Final EIS.

**Table 1-1. New Policies Scenario—Total Primary Energy Demand for Coal (TBtu)**

| Country or Region | 1999 | 2013 | 2020 | 2025 | 2030 | 2035 | 2040 |
|---|---|---|---|---|---|---|---|
| Non-OECD Asia | 27,136 | 101,190 | 109,561 | 115,539 | 122,835 | 128,719 | 132,716 |
| China | 21,153 | 81,446 | 81,751 | 82,135 | 82,451 | 81,448 | 78,502 |
| India | 3,714 | 13,546 | 18,907 | 22,544 | 27,399 | 32,300 | 37,045 |

Notes:
Source: International Energy Agency 2015.
TBtu = Trillion British Thermal Units

Other scenarios modeled in the analysis (No Clean Power Plan, Upper Bound, and Cumulative) reflect the Current Policies scenario from IEA's 2015 World Energy Outlook. The Current Policies scenario includes policies for which implementing measures have been adopted as of mid-2015, and assumes that these policies remain unchanged over time.

[5] Assuming that the new coal plants operate at an 80% capacity factor, have a heat rate of 9,000 Btu/kWh, and consume coal with an average heat content of 22 MMBtu/ton.

[6] Assuming that the new coal plants operate at an 80% capacity factor, have a heat rate of 9,000 Btu/kWh, and consume coal with an average heat content of 22 MMBtu/ton.

**Table 1-2. Current Policies Scenario – Total Primary Energy Demand for Coal (TBtu)**

| Country or Region | 1999 | 2013 | 2020 | 2025 | 2030 | 2035 | 2040 |
|---|---|---|---|---|---|---|---|
| Non-OECD Asia | 27,136 | 101,190 | 113,966 | 127,819 | 141,672 | 154,291 | 166,910 |
| China | 21,153 | 81,446 | 85,083 | 90,365 | 95,646 | 98,407 | 101,167 |
| India | 3,714 | 13,546 | 19,804 | 25,727 | 31,650 | 38,356 | 45,062 |

Notes:
Source: International Energy Agency 2015.
TBtu = Trillion British Thermal Units

Refer to the Master Response for the Coal Market Assessment for information on the methods, assumptions, and model used in the analysis; sources of data; scenarios considered; and conclusions related to impacts of the Proposed Action on U.S. and international coal markets.

## 1.3.13 Greenhouse Gas Emissions and Climate Change

### Comment Summary

Commenters addressed overarching issues about the scope and approach to the greenhouse gas emissions and climate change analyses and proposed mitigation measures. Commenters raised concerns about the appropriateness of the coal market scenarios considered in the analysis of greenhouse gas emissions and assumptions regarding which greenhouse gas emissions were attributable to the Proposed Action. Commenters also raised concerns about the mitigation measures identified in the Draft EIS to mitigate for potential significant impacts, including concerns that the mitigation would be precedent-setting.

### Master Response

Responses to overarching issues are organized in the following subsections.

- Greenhouse Gas Emissions Analysis Approach
- Greenhouse Gas Emissions Attributable to the Proposed Action
- Proposed Mitigation Measures
- Setting a Precedent
- Commerce Clause
- Climate Change Analysis Approach

#### Greenhouse Gas Emissions Analysis Approach

The study area for greenhouse gas emissions for Cowlitz County is defined as Cowlitz County. For Ecology, greenhouse gas emissions were studied based on the expected transportation routes and emissions from the combustion of coal. While the study areas for the co-lead agencies are different, the analysis used the same approach in the Final EIS to calculate greenhouse gas emissions attributable to the Proposed Action.

The Final EIS evaluated four scenarios for purposes of estimating greenhouse gas emissions. Each of these scenarios compared greenhouse gas emissions for operation of the Proposed Action against a no-action scenario in which the proposed coal export terminal is not built. The difference in emissions between the Proposed Action and no-action (net emissions) represents estimated greenhouse gas emissions attributable to the Proposed Action. The estimated net emissions for each scenario provide a way of determining emissions attributable to the Proposed Action, because emissions would not occur if the terminal were not built. All estimated greenhouse gas emissions in Final EIS Chapter 5, Section 5.8.1, *Greenhouse Gas Emissions*, are reasonably foreseeable and bear a reasonably close causal relationship to the Proposed Action, and thus are appropriate for consideration as impacts in the EIS.

SEPA rules require that an EIS identify and discuss mitigation measures that may offset any significant adverse environmental impacts resulting from the proposed action (Washington Administrative Code [WAC] 197-11-440(6)). The Final EIS quantifies under various scenarios the greenhouse gas emissions attributable to the Proposed Action and identifies the 2015 U.S. and International Energy Policy scenario as the scenario that best represents existing conditions. The net emissions quantified under this scenario equal 1.99 million metric tons of carbon dioxide equivalent ($CO_2e$) annually beginning in 2028 and through 2038. This amount represents a significant adverse environmental impact through the increase of greenhouse gas emissions. The increase would result in climate change impacts that would not occur but for the construction of the proposed export terminal. Climate change is impacting Washington State by causing earlier loss of snowpack, decreased stream flows, increased wildfires, changes in ocean chemistry, and other adverse effects identified in Final EIS Chapter 5, Section 5.8.2, *Climate Change Impacts on the Proposed Action*.

With respect to the significance of the emissions, as discussed in the Final EIS Chapter 5, Section 5.8.1.6, *Impacts*, the terminal would cause a net increase in greenhouse gas emissions of an estimate 1.99 million metric tons annually of $CO_2e$ under the preferred scenario beginning in 2028 and through 2038. These emissions would contribute to global climate change which has an impact in Washington State. The amount of net emissions attributable to the Proposed Action would represent a significant contribution to global greenhouse gas emissions, because it would exceed thresholds established by various laws. For example, it would exceed the threshold of 100,000 tons annually established under the Clean Air Rule, WAC 173-442, and the threshold of 10,000 tons annually established under the EPA greenhouse gas reporting rule, 40 CFR 98. Guidance was issued by the Council on Environmental Quality (CEQ) on August 1, 2016, stating agencies should not attempt to determine significance by comparing the amount of emissions caused by a proposed action with global emissions generally:

> CEQ recognizes that the totality of climate change impacts is not attributable to any single action, but are exacerbated by a series of actions including actions taken pursuant to decisions of the Federal Government. Therefore, a statement that emissions from a proposed Federal action represent only a small fraction of global emissions is essentially a statement about the nature of the climate change challenge, and is not an appropriate basis for deciding whether or to what extent to consider climate change impacts under NEPA. (Council on Environmental Quality 2016)

The March 28, 2017, Federal Executive Order on Promoting Energy Independence and Economic Growth directed CEQ to rescind this guidance; however, the underlying logic of the guidance remains valid and the SEPA environmental review continues to follow it, where appropriate and consistent with SEPA Rules which require recognition of the worldwide and long-range character of environmental problems (Revised Code of Washington [RCW] 43-21C-030).

As stated in the Final EIS Chapter 5, Section 5.8.2, *Climate Change Impacts on the Proposed Action*, greenhouse gases affect the atmosphere equally, regardless of where they are emitted, and thus they are global pollutants. "A ton of methane emissions in Asia affects the global atmosphere to the same degree as a ton of methane emissions in the United States. The increase of greenhouse gas emissions in the atmosphere has been determined to pose risks to human and natural systems. Higher global surface temperatures cause widespread changes in the Earth's climate system. These changes may adversely affect weather patterns, biodiversity, human health, and infrastructure" (Intergovernmental Panel on Climate Change 2014). The risk of increased impacts from natural variation are predicted to be incrementally magnified by climate change.

The 2016 CEQ greenhouse gas guidance stated, "It is now well established that rising global atmospheric greenhouse gas emission concentrations are significantly affecting the Earth's climate." The guidance recommends agencies use projected greenhouse gas emissions as a proxy for assessing potential climate change effects for environmental reviews. It also recommended that agencies quantify projected "direct and indirect greenhouse gas emissions, taking into account available data and greenhouse gas quantification tools that are suitable."

The Draft EIS and Final EIS estimate the net greenhouse gas emissions attributable to the Proposed Action. Under the preferred scenario, net greenhouse gas emissions would increase, which would increase the risk and magnitude of projected climate change impacts. The potential climate change impacts that would affect Cowlitz County and Washington State are described in Draft EIS and Final EIS Chapter 5, Section 5.8.2.4, *Climate Change Existing and Future Conditions*.

As a result, under SEPA Rules, the EIS must identify and discuss reasonable and appropriate mitigation measures that may offset the impacts resulting from these emissions. Using the logic in the draft and final CEQ guidance, it is not necessary to tie specific emissions to specific impacts; rather, the emissions should be taken as a proxy for the impacts. The 2016 CEQ guidance stated:

> In light of the global scope of the impacts of greenhouse gas emissions, and the incremental contribution of each single action to global concentrations, CEQ recommends agencies use the projected greenhouse gas emissions associated with proposed actions as a proxy for assessing proposed actions' potential effects on climate change in NEPA analysis.

The approach taken in the EIS is consistent with the logic in this guidance. As discussed in the guidance issued by CEQ, greenhouse gas emissions may constitute a significant adverse environmental impact regardless of the fact that the emissions are only a small fraction of worldwide emissions and regardless of the fact that specific impacts resulting from those emissions cannot be precisely identified. The guidance stated:

> …a statement that emissions from a proposed Federal action represent only a small fraction of global emissions is essentially a statement about the nature of the climate change challenge, and is not an appropriate basis for deciding whether or to what extent to consider climate change impacts under NEPA. Moreover, these comparisons are also not an appropriate method for characterizing the potential impacts associated with a proposed action and its alternatives and mitigations because this approach does not reveal anything beyond the nature of the climate change challenge itself: the fact that diverse individual sources of emissions each make a relatively small addition to global atmospheric greenhouse gas concentrations that collectively have a large impact.

The approach taken in the Final EIS is consistent with the logic in this guidance.

RCW 43.21C.030 authorizes and directs agencies to recognize the worldwide and long-range character of environmental problems and, where consistent with state policy, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in

anticipating and preventing a decline in the quality of the world environment. SEPA rules require that mitigation measures be based on policies, plans, rules, or regulations formally designated by the agency as a basis for the exercise of substantive authority (WAC 197-11-660(1)(a)). SEPA Rules contain adopted policies regarding the exercise of SEPA substantive authority (WAC 173-802-110). These rules state, among other things, that "the overriding policy of the department of ecology is to avoid or mitigate adverse environmental impacts which may result from the department's decisions"; that Ecology shall "[a]ssure for all people of Washington safe, healthful, productive, and aesthetically and culturally pleasing surroundings"; and "that each person has a fundamental and inalienable right to a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment." The proposed greenhouse gas mitigation measures identified in the Final EIS are consistent with these adopted rules.

## Greenhouse Gas Emissions Attributable to the Proposed Action

WAC 197-11-660 states that "responsibility for implementing mitigation measures may be imposed upon an applicant only to the extent attributable to the identified adverse impacts of its proposal." The coal market assessment uses scenarios to identify the change in greenhouse gases attributable to the Proposed Action.

The detailed methods and assumptions used for the coal market assessment model were described in the Final EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, and in the *SEPA Coal Market Assessment Technical Report*. These scenarios were updated as described in Final EIS Chapter 5, Section 5.8.1.4, *Methods*. The scenarios described in the Final EIS *SEPA Coal Market Assessment Technical Report* identify net emissions attributable to the Proposed Action. The Final EIS identifies a preferred scenario and the assumptions for this scenario represent existing conditions under which the Proposed Action would operate.

Modeling for the Draft EIS and Final EIS identified the changes in the coal markets and the resulting changes in potential greenhouse gas emissions that could be attributed to the Proposed Action. This is because, based on the changes in the market, transportation pathways, use of natural gas to replace coal, and other factors described previously and in the *SEPA Coal Market Assessment Technical Report* in the Draft EIS and Final EIS, the emissions for each of these areas could result in the following.

- Add to and increase the overall amount of global greenhouse gases.
- Replace other emissions with no change in the overall amount of global greenhouse gases.

## Proposed Mitigation Measures

Final EIS Chapter 5, Section 5.8.1.8, *Proposed Mitigation Measures*, states that the proposed measures described in the mitigation plan may include a range of mitigation options. The measures must achieve emission reductions that are real, permanent, enforceable, verifiable, and additional. The emission reductions may occur in Washington State or outside of Washington State but must meet all five criteria.

Greenhouse gas mitigation options are available through the existing international carbon market. This market consists of providers of emission reductions (or removals in the case of forest or soil sequestration) and the transaction infrastructure to facilitate the buying and selling of these emission reductions to interested buyers. In recent years the portion of this market most relevant to the mitigation options discussed here—typically called the "voluntary" market—has provided about

80 million metric tons of greenhouse gas reductions at an average cost of between $3 to $4 per metric ton (Ecosystem Marketplace 2016). Although often labelled as "voluntary" to contrast it with cap-and-trade system "regulatory" markets, emission reductions from these markets have historically been used for both voluntary and legal compliance purposes.

Importantly, the vast majority of emission reductions in this market are available as pre-packaged units, often called "carbon credits," which are vetted through rigorous methodologies to ensure that they meet all of the criteria noted above. Moreover, they are typically verified by third parties to guarantee their compliance. These carbon credits are posted on registry systems such as the Climate Action Reserve, the American Carbon Registry, and the Verified Carbon Standard. In short, numerous pathways exist through which the necessary emission reductions for mitigation could be obtained from the existing national and international carbon market.

Final EIS Chapter 5, Section 5.8.1.8, *Proposed Mitigation Measures*, describes the standards that the mitigation plan options would need to meet. The Final EIS proposes mitigation that would be implemented as required by permits. A permit would specify in detail the method for implementation of required mitigation as well as the process, approval, timelines, and enforcement and verification tools. These details are not required in the Final EIS as the mitigation is not enforceable through the EIS process but rather as a permit requirement.

Under SEPA WAC 197-11-440(6), state and local agencies have an obligation to identify and discuss reasonable mitigation measures that may reduce the significant environmental impacts of a proposal. Final EIS Chapter 5, Section 5.8.1.8, *Proposed Mitigation Measures*, identifies greenhouse gas emissions as a significant environmental impact; thus, it is appropriate to identify and discuss proposed mitigation measures to address those impacts. The proposed mitigation measure has been revised to mitigate 100% of the net emissions under the preferred scenario. SEPA Rule, WAC 197-11-400 describes the purpose of an EIS to provide mitigation measures that "would avoid or minimize adverse impacts or enhance environmental quality." WAC 197-11-440 states the EIS shall describe "reasonable mitigation measures that would significantly mitigate" impacts identified in the EIS. Pursuant to WAC 197-11-660(1), the mitigation measures identified in the Final EIS are reasonable and capable of being accomplished. The potential mitigation presented in the Draft EIS was developed within the limits of the SEPA regulatory framework described in the Master Response for Mitigation Framework. For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework. Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used, along with other information, by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

## Setting a Precedent

Environmental reviews are done on a case-by-case basis for a proposed action. Greenhouse gas emissions are considered as part of a typical environmental review and the lead agency determines the level and type of analysis needed.

The Proposed Action would significantly increase the amount of coal exported from the U.S. and would establish a new export route in the United States for coal. The stated purpose of the coal is to be burned in power plants for electricity. For these reasons, the EIS analyzed the potential impacts of the Proposed Action on the coal market and related greenhouse gas emissions.

Under SEPA WAC 197-11-440(6), state and local agencies have an obligation to identify and discuss reasonable mitigation measures that may reduce the significant environmental impacts of a proposal. Draft EIS and Final EIS Chapter 5, Section 5.8.1, *Greenhouse Gas Emissions*, identify greenhouse gas emissions as a significant environmental impact; thus, it is appropriate to identify and propose mitigation measures to address those impacts.

## Commerce Clause

The EIS does not impose any restrictions on interstate commerce. SEPA and its implementing regulations provide the legal authority for identifying and discussing mitigation of adverse environmental impacts identified in the Final EIS, including mitigation associated with greenhouse gas emissions. SEPA and its implementing regulations are applied evenhandedly to all major projects in Washington State; thus they do not impose any particular burden on interstate commerce. The proposed mitigation identified and discussed in the Final EIS associated with greenhouse gas emissions is conceptually similar to other proposed mitigation measures identified and discussed in the Final EIS, many of which are routinely required of major projects in Washington and other states. The proposed mitigation measures in the Final EIS help to minimize the environmental impacts of the proposal in Washington State, which is a purpose that does not violate the Commerce Clause.

In addition, pursuant to WAC 197-11-660(1)(c), the proposed mitigation measures are reasonable and capable of being accomplished. Thus, they do not constitute an undue burden. The proposed mitigation measures do not preclude construction or operation of the terminal, do not preclude or burden coal mining in other states, or apply extraterritorially. Finally, the greenhouse gas emissions identified in the Final EIS and for which proposed mitigation is also identified are not solely attributable to increased coal usage in Asia; the increased emissions identified in the Final EIS include emissions associated with increases in rail and vessel traffic, and increases in on-site emissions from construction and operation of the proposed export terminal, as well as increases in emissions from combustion in Asia. These increases in emissions would not occur but for construction and operation of the proposed coal export terminal, they bear a reasonably close causal connection to Proposed Action, and they have an impact in Washington State regardless of where they occur. The analysis of emissions is appropriate for inclusion and discussion in the Final EIS, and it is appropriate to identify and discuss proposed mitigation measures for those emissions.

## Climate Change Analysis Approach

The CEQ 2016 greenhouse gas guidance stated: "It is now well established that rising global atmospheric greenhouse gas emission concentrations are significantly affecting the Earth's climate." (Council on Environmental Quality 2016). The guidance recommended agencies use projected greenhouse gas emissions as a proxy for assessing potential climate change effects for environmental reviews. It also recommended that agencies quantify projected "direct and indirect greenhouse gas emissions, taking into account available data and greenhouse gas quantification tools that are suitable."

The Draft EIS and Final EIS estimate the net greenhouse gas emissions attributable to the Proposed Action. Under the preferred scenario, the Proposed Action net greenhouse gas emissions would increase, which would increase the risk and magnitude of projected climate change impacts. The potential climate change impacts that would affect Cowlitz County and Washington State are described in Section 5.8.2, *Climate Change Impacts on the Proposed Action*.

Draft EIS Chapter 5, Section 5.8.1, *Greenhouse Gas Emissions*, addressed quantifying greenhouse gas emissions associated with the Proposed Action and identified potential mitigation measures for Proposed Action-related greenhouse gas emissions. Draft EIS Chapter 5, Section 5.8.2, *Climate Change*, referred to climate change impacts that could affect the project area. Section 5.8.2 addressed climate change impacts within the project area and determined that such impacts are not significant and mitigation was not proposed.

Final EIS Chapter 5, Section 5.8.2, *Climate Change Impacts on the Proposed Action*, has been revised with additional data to clarify the following.

- The potential impacts on the Proposed Action as a result of climate change.
- The potential impacts of climate change on other local resource areas (e.g., water quality, air quality, vegetation, wildlife) to determine if climate change could modify the impacts of the Proposed Action.

Thus, the purpose of the climate change analysis is not to attribute or link particular climate change impacts to the Proposed Action. The analysis is intended to identify how climate change would affect the Proposed Action.

Chapter 2

# Responses to Comments—Project Objectives, Proposed Action, and Alternatives

This chapter presents responses to substantive comments related to the project objectives, Proposed Action, and alternatives.

## 2.1 Project Objectives

This section presents responses to substantive comments related to the project objectives.

### Comment PO-1

When this project was first conceived, the public did not have enough vetted information to assess the applicant's specious claim to fill a "need" for diversification (thus, "jobs") within the state's export economy. We now know that green jobs (i.e., those not involved with dirty energy, and especially, coal) are growing exponentially (http://cleantechnica.com/2015/06/05/1-2-million-us-green-jobs-reported-q1-heres-thats-problem/). We do not need coal jobs. The draft EIS has not addressed this adequately. The draft EIS has not adequately addressed the fact that coal is quickly becoming antiquated. Coal reserves are "stranded assets" whose theoretical market value will never be realized because environmental, legal, technological, and market constraints will inevitably prevent much of it from being sold and burned. …" (0490)

#### Response to PO-1

Draft EIS *Summary*, and Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, presented the Applicant's project objectives. As noted in the Master Response for Project Objectives and Alternatives, the Proposed Action is a private project; as such, the objectives and proposal are defined by the Applicant.

Under SEPA, an EIS is required to focus on the environmental impacts of a proposal and its alternatives. SEPA does not require an EIS to analyze the economic or social policy impacts of an action or discuss economic competition or profits (WAC 197-11-448(3)). Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used along with other information by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

Refer to the Master Response for Future of the Coal Market for additional information.

### Comment PO-2

The summary section of this Draft EIS is a high level look at the proposed action and a brief description of the chapter components, potential impacts, permits needed, and potential mitigation measures as well as associated SEPA process for the Draft EIS. One noticeable area where there is a

lack of substantiated information is in regard to the need for the proposed action. Under Washington State SEPA regulations, within WAC 197-11-440 (4):

> *"…The summary shall briefly state the proposal's objectives, specifying the purpose and need to which the proposal is responding…"*

Although section S3 of this summary gives some information regarding project objectives, it isn't substantiated and doesn't provide any insight regarding State initiatives regarding the ethics toward future developments. One example is in regards to climate change.

- Why would Washington State be open to diversifying its economic base with an industry that contributes to continued global warming concerns when this State has taken one of the leading roles/initiatives in the entire United States to try and curb and/or reduce global warming concerns?

The Cowlitz Tribe disagrees with the following statement in section S3:

> *"The Applicant states further development of western U.S. coalfields and the growth of Asian market demand for U.S. coal is expected to continue, and existing West Coast terminals are unavailable to support this need."*

It is obvious through media and other sources that the demand for coal has considerably declined and also statements from Asian countries has made it obvious of their intent is to reduce coal burning consumption. We request references that substantiate the claim pointed out in the reference indicated of increasing Asian demand. We also request information as to the apparent or assumed analysis that left to the assertion that other West Coast terminals are unavailable to support this need. Was there a specific analysis done in this respect? (3227)

### Response to PO-2

Refer to Response to PO-1.

## Comment PO-3

We request some clarification in regards the significance of the assertion within the Draft EIS of contributing to reducing unemployment in Cowlitz County. The Website: https://fortress.wa.gov should provide some of this insight for you. For the long-term in regards to the employment outlook from this proposed development, we don't believe that there is any significance towards reducing unemployment in Cowlitz County. With a current workforce of around 45,724 (revised in March 2016 noted from fortress.wa.gov) and the outlook of this proposal of adding approximately 135 new long-term jobs; that would only equate to **.29% increase** (less than 1/3 of a percent) in contributing to the current workforce for Cowlitz County in the long-term. "if the Applicant hires locally."

We don't believe that the assertion of reducing local unemployment is significant to justify the proposed coal terminal in relationship to the potential environmental impacts we would have to endure. It also doesn't describe the potential of displacement of other potential developments that may contribute significantly higher employment outlook for the region. If the action agencies and the Port of Longview are serious about creating a better jobs outlook, we are sure that there are other developments that would contribute more employment opportunities for the area; especially development that may include some sort of manufacturing component of which the proposed Coal terminal falls short.

We believe that there is little justification regarding the need of this development, and we believe it falls short of the intent of SEPA in regards to WAC 197-11-440 (4) given the current State policy initiatives around climate change and future sustainable developments for our communities.

Chapter 2 of the Draft EIS tries to validate their objective that we pointed out concerns which we provided in the summary section on purpose and objectives. We believe a very poor substantiation was done and believe that the concerns we presented in regards to the objective in the summary section of the proposed action also equally apply here. We request the same concerns presented in regards to the projects objectives presented in the summary section also to be applied to *"2.1 Applicant's Project Objectives"*. We believe the Draft EIS does a poor job in regards to justifying the need for this proposed development.

One additional concern we would like to point out is in regard to the unemployment data used in section 2.1.3: The current unemployment rate has now changed from the 8% reported in the Draft EIS to a rate last reported in April 2016 or 7.5%. Looking at the past three years, the unemployment rate for the month reported in the Draft EIS of January has progressively gone down from 2014 (9.1%); 2015 (8.5%); and last January of 2016 (8.0%) (Resource: https://fortress.wa.gov/esd/employmentdata/reports-publications/regional-reports/labor-area-summaires). This shows that Cowlitz County has been progressively improving its economic outlook and we believe the proposed Coal terminal would do little to nothing in regards to this concern based on the few (135) long-term jobs they would bring as it relates to the entire workforce/employment opportunity of Cowlitz County. Actually, the Cowlitz Tribe will likely provide a considerable improved employment outlook for Cowlitz County for the future than what Millennium would ever be able to provide. We also plan to do so in an environmentally friendly manner. (3227)

## Response to PO-3

Refer to Response to PO-1.

# Comment PO-4

The Applicant's proposal is insufficient in regards to providing any impact towards improving economic conditions for Cowlitz County. We also don't agree with the economic feasibility of the Coal industry given the current issues/relationships around global climate change and the current dilapidated condition of the world Coal marketplace. Also, with the uncertainty of the Coal markets, it is likely that the jobs related to this proposal would be under constant threat of continuous or frequent employment layoff conditions. We request that the Draft EIS is clearly updated to clearly describe the data associated with the volatility of the market of the products they wish to handle at the proposed Coal terminal; and to clearly delineate an appropriate interpretation of the data based on best available science and/or information. (3227)

## Response to PO-4

Refer to Response to PO-1.

# Comment PO-5

The EIS must justify why Longview should dedicate prime industrial real estate to such a clear loser project. (3408)

## Response to PO-5

Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used along with other information by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

# Comment PO-6

For the third Project Objective, the DEIS is deficient in not pointing out the extremely poor use of the land area for creating jobs. The project would generate less than one job per acre of land used. Any small-business park creates at least 30 jobs per acre, including parking. (3408)

## Response to PO-6

Refer to Response to PO-1.

# Comment PO-7

Finally, we fervently believe that this project should be reviewed with a policy lens that is commodity neutral. The addition of the MBT-Longview project increases our position to be globally competitive in the delivery of many commodities, not just one. Singling out a commodity, coal, ignores the strategic position of this terminal as a full-service bulk facility. Agricultural products, timber and many other bulk products will seek to take advantage of a strategically located facility. A commodity neutral review would have likely lessened the timeline of review and unnecessary delay. (2939)

## Response to PO-7

As discussed in Draft EIS Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, the Proposed Action would construct and operate a coal export terminal. The Applicant's proposal specifies coal as the only commodity that would be handled at the proposed terminal. The EIS evaluates the impacts of the Applicant's proposal associated with the receiving, stockpiling, and loading of coal. In some cases, these impacts are unique to coal (e.g., coal stockpile pads, potential coal dust emissions from terminal operations and along rail routes) and require evaluation and disclosure under SEPA.

# Comment PO-8

The Applicant Objectives are as follows:

- Enable western U.S. coal to compete in the Pacific international coal supply market. The Applicant states the Proposed Action would enable western U.S. coal to compete in the Pacific international coal supply market by providing a facility designed to efficiently transport western U.S. coal from rail to ocean-going vessels. The Applicant states further development of western U.S. coalfields and the growth of Asian market demand for U.S. coal is expected to continue, and

existing West Coast terminals are unavailable to support this need. According to the Applicant, to derive benefit from economies of scale, implementation of the Proposed Action would provide a coal export terminal sufficient in throughput to give U.S. coal producers the opportunity to expand their share of the international coal market.

- Diversify Washington State's trade-based economy. The Applicant states the Proposed Action would support the diversification of Washington State's trade-based economy by providing a new bulk commodity export terminal to accommodate the anticipated growth in demand for exporting U.S. coal. According to the Applicant, implementation of the Proposed Action would help support the state's diverse economy, which is essential for maintaining economic sustainability.
- Reduce local unemployment. The Applicant states the Proposed Action would help reduce unemployment in Cowlitz County by creating employment opportunities in the Longview area. The new employment opportunities would also generate needed tax revenues for local economies.

Information from the nearly 8,000 entries in the Energy Information Administration and Department of Commerce for the period 2002 through 2015 related to US Coal Exports of Steam Coal, Metallurgical Coal, and Coke.

[See original attachment for data on exports of steam coal, metallurgical coal, and coke from 2002 to 2015]

8. Observations by Bill Brake

- Metallurgical Coal is Top Export from USA followed by Steam Coal
- Steam Coal is Top Export from Pacific Ocean Port Cities
- Pacific Ocean Port Cities are San Diego, Los Angeles, San Francisco, Portland, Seattle and Anchorage
- Seattle Washington is over half of Steam Coal Exports from Pacific Ocean Cities
- Pacific Ocean Ports and Seattle have significantly Lower Revenue per short Ton than the rest of the USA Coal Exports
- Seattle Export Demand has fallen 20 % from peak in 2011
- The Port of Seattle has Exported Coal to 15 Countries
- Millennium Bulk Terminal – Longview proposal at 48,500,000 Short Tons per Year is larger than any USA Port
- Washington Economy is sufficiently diversified in Coal Exports now without a new Coal terminal

Based on this review, I do not see a need for additional diversification of exports from Washington State or need for an additional coal export terminal (MBTL- Longview) and recommend the "No Action Alternative" Unemployment in Cowlitz County will not be significantly improved with the addition of 135 jobs related to this proposal. (2572)

## Response to PO-8

Refer to Response to PO-1.

## Comment PO-9

There are coal deposits in Washington State that are potentially marketable for use as export. The Power Plant at Centralia has an adjacent mine called the Centralia coal mine that shutdown in 2006. At that time 9 unit trains of coal a week were being mined with 600 employees and about 4.5 million tons a year. Why does the coal have to be from the Powder River and Uinta Basins and not the Local Coal in Lewis County less than 50 Miles from Longview. (2572)

### Response to PO-9

As noted in the Master Response for Project Objectives and Alternatives, the Proposed Action analyzed in the EIS is a private project; as such, the objectives and proposal are defined by the Applicant.

## Comment PO-10

The DEIS claims that coal can be exported competitively to Asia, but virtually all of the available data shows that at current and anticipated future market conditions, the project is a bust. They should be required to demonstrate that this isn't another boom-and-bust project that won't leave Longview with another useless piece of infrastructure, and an even bigger mess to clean up that holds back longer term, sustainable development at this site. (0813)

### Response to PO-10

Refer to Response to PO-1.

# 2.2 Proposed Action

This section presents responses to substantive comments related to the Proposed Action.

## Comment PA-1

The DEIS neglects to mention the inconvenient fact that the coal doesn't just magically appear in Washington but rather is transported through MY community in Montana. The railroad bisects hundreds of towns and cities here and in Idaho on its way to Washington. The tracks run adjacent to small neighborhoods, schools, churches and medical facilities. This seems to be a peculiar and glaring omission! (0178)

### Response to PA-1

As stated in Draft EIS Chapter 2, Section 2.2.3.3, *Operations, Off-Site Transport, Rail,* the sources of coal under the Proposed Action would be the Powder River Basin in Montana and Wyoming, and the Uinta Basin in Utah and Colorado. Figure 2-8 depicted the anticipated rail routes for loaded and empty trains between these sources and the proposed export terminal. For the reasons described in the Master Response for Geographic Study Areas of the EIS, the Draft EIS focused on rail transport–related impacts in Washington State.

# Comment PA-2

The Facility Siting Guidelines of the American Institute of Chemical Engineers would not choose this location just because there is 190 acres of industrial land adjacent to the Columbia River. The location should typically be 5 to 10 miles from any urban setting to minimize neighborhood conflicts. The executive management team of MBTL should be required to live in the housing adjacent to the proposed facility as they are on call 24/7/365. (0374)

## Response to PA-2

SEPA does not require the evaluation of alternative locations for a private proposal. Refer to the Master Response for Alternatives for information on the analysis of alternatives under SEPA.

# Comment PA-3

The draft Environmental Impact Statement, on pages 2-16, states that the Panamax vessels have a draft of 42 to 49 feet and that the main shipping channel on the Columbia River is 43 feet deep at low tide, meaning the Panamax vessels would drag bottom. Who is going to pay for dredging? Millennium? Who is going to pay for cleanup when just one of those 840 vessels/year founders in the bar or runs aground? (0809)

## Response to PA-3

The Proposed Action would not require dredging of the Columbia River navigation channel. As discussed in Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, the Columbia River navigation channel is maintained by the Corps and accommodates Panamax-class vessels. The draft of Proposed Action-related vessels would be limited to the draft of the shipping channel and checked by Columbia River Bar Pilots and Columbia River Pilots when they are onboard piloting the vessel. As described in Draft EIS Chapter 5, Section 5.4.4.2, *Vessel Transportation*, *Vessel Traffic Management*, transit planning for draft-constrained vessels considers tidal elevation to ensure sufficient water under the keel. Pilots have final decision for vessel movements and determine if the planned operation can be successfully completed. The Columbia River Pilot's Vessel Movement Guidelines state that vessels may be permitted to sail with a maximum fresh water draft of 43 feet if the river level, tide, and conditions permit. Outbound transit plans are developed at least 8 hours and as much as 24 hours in advance. Pilots operating draft-constrained vessels in the study area have to adjust the time of their transit to allow for at least 2 feet of under-keel clearance on the river plus expected squat.

Draft EIS Chapter 5, Section 5.4.5.1, *Proposed Action, Operations—Indirect Impacts*, evaluated the potential for increased risk of vessel incidents under the Proposed Action and No-Action Alternative. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

# Comment PA-4

Finally, we note one significant, overarching omission from the DEIS: the sordid history of this project and the proponent's dishonesty with regulators and the public. In 2010, the proponents sought permits from Cowlitz County to build a claimed 5 million ton/year project. After some Coalition members appealed that decision to the Shorelines Hearings Board, appellants uncovered

confidential documents to expand dramatically as soon as permits were received. The attempt to defraud regulators led to national news and the withdrawal of this project. In our view, this event colors all of the claims that the proponents make about this project and its claimed benefits. It should not go unmentioned in this DEIS. (3277)

### Response to PA-4

Under SEPA, an EIS is required to focus on the environmental impacts of a proposal and its alternatives. Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used along with other information by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

Draft EIS, Chapter 2, *Project Objectives, Proposed Action, and Alternatives,* described the Proposed Action proposed by the Applicant. At full operation, the Proposed Action would have a maximum annual throughput capacity of up to 44 million metric tons of coal per year, and this maximum throughput capacity would be limited by permit condition for the Proposed Action. If the plans for the Proposed Action are modified or expanded such that new or modified permits are required, additional environmental review would be required under SEPA.

## Comment PA-5

When Ambre Energy proposed their plans to build the Longview export terminal in November 2010, it was a figure of 5.7 million tons moved annually that was publicly on the record. However, internal Millennium Bulk Terminals emails disclosed in February 2011 revealed that "the company hopes to export 80 million tons of coal through its proposed west of Longview terminal, nearly 15 times more than the company originally stated in its application for county permit." (http://tdn.com/news/local/millennium-internal-e-mail-reveals-goal-of-million-tonsin/article_8a86fa28-4072-11e0-b60d-001cc4c002e0.html)

Joe Cannon, Millennium CEO, responded to outcry over the deception with the statement: "When any business develops a site, they're going to look at all kinds of things. Different people speculate on different things, and they send e-mails, and that's where they came from." This is an abysmal justification for the clandestine deliberation over making the proposed project the West Coast's largest coal terminal. Awareness of misleading the public and state regulators is blatant in a November 2010 memo, in which "Millennium's former chief executive, Jeff Torkington, wrote that Millennium should deliberately wait at least two months before proposing an expansion, warning that Millennium could be 'perceived as having deceived the agencies.'" As Gayle Kiser, a resident of Cowlitz County said: "They knew darn well what they were about in keeping this quiet." (http://www.nytimes.com/2011/02/15/us/15coal.html) The secrecy is understandable, as this foot-in-the-door approach is the only scenario with any likelihood of succeeding in the face of monumental resistance to the project.

I remind you of this past misconduct, so that it may be agreed that the initial proposal itself established a precedent of deceit and obfuscation of the realities of this project. That a basis of transparency would then be adopted in the years following is a naive assumption to be made, and it's an insult to all those affected by these proceedings if such a change-of-heart is suggested to have taken place. We cannot afford to place credence in Millennium with so much at stake. Because this EIS is designed to address the current proposal, the extent to which it accurately predicts the impacts of the site depends upon the realism of projections put forth by Millennium as to the scope

of their operation. However, Millennium's credibility has already been called into question, and therefore it must be asked whether the conclusions of this study truly represent the consequences of their expansion if greenlit, as prior evidence suggests that they may not intend to operate under proposed circumstances. (1455)

### Response to PA-5

Refer to Response to PA-4.

## Comment PA-6

The Proposal calls for 8 trains per day with 125 rail cars and total delivery of 44 Million Metric Tons Per Year to Asian Markets From Chapter 5 Page 10 each unit train of 125 rail cars will haul 15,263 Short Tons of Coal

44 Million Metric Tons Per Year x 1.1 Metric Tons / Short Tons = 48.4 Million Short Tons Per Year
48,500,000 Short Tons Per Year / (15,263 Short Tons/ Train x 365 Days Per Year) = 8.70 Trains Per Day

This indicates the basic premise that 8 Loaded Trains Per Day is FALSE and the Actual number assuming "Perfect World Conditions" is 8.7 Trains Per Day or an increase of 0.7 Trains Minimum Per Day.

Since Rail Car Loadings are not done in "Perfect World Conditions" The reality is a minimum of 9 Trains per Day. This indicates that all calculations done in the DEIS are in error and the "No Action Alternative" is Recommended. (2572)

### Response to PA-6

Draft EIS, Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, stated that according to the Applicant, proposed rail operations and coal export terminal design would support terminal throughput of 40 million metric tons of coal per year or 44 million short tons of coal per year. The Proposed Action is based on a throughput of up to 44 million metric tons of coal per year. The Applicant assumes a 10% increase in throughput (4 million metric tons of coal per year) is possible with rail car capacity increases through process efficiencies and technological improvements by 2028, the first year of assumed full operations.

The impacts analysis has been revised throughout the Final EIS where appropriate to reflect four locomotives per Proposed Action-related train. Specifically, impact analyses were updated in the Final EIS Chapter 5, Sections 5.1, *Rail Transportation*; 5.3, *Vehicle Transportation;* 5.5, *Noise and Vibration*; 5.6, *Air Quality*; and 5.8, *Greenhouse Gas Emissions and Climate Change.* The increase in weight for the future cars would not require more than four locomotives and the length of the train would not change from what is analyzed in the Final EIS. Refer to Response to PA-4.

## Comment PA-7

The rail car tandem rotary dumper has a conveyor belt rated at 7,500 metric tons per hour. This times 24 hours in a day x 365 days per year yields 65.7 million metric tons per year. The Facility is designed for a 44 million metric ton per year rate and this equipment is significantly oversized or is 150 % too big. This can allow the MBTL to expand operations without adding equipment. The DEIS

needs to address what is the pinch point of the operations and how is it guaranteed that the MBTL does not exceed permit guidelines. Since there is not a weight measurement, there needs to be some method to do the accounting. (2572)

### Response to PA-7

As noted in the Master Response for Project Objectives, the Proposed Action is a private project and the objectives and proposal are defined by the Applicant. Draft EIS Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, described the type of material and approximate volumes to be transported based on this information. The maximum throughput for the proposed coal export terminal would be a condition of the permits granted for the Proposed Action. In other words, the Proposed Action would not be permitted to exceed a throughput of 44 million metric tons of coal per year without seeking new or modified permits.

## Comment PA-8

The stockpile pads together would be able to hold approximately 1,500,000 metric tons of coal. The pads would vary in length from 2,200 to 2,500 feet and could hold from 360,000 to 400,000 metric tons each. Coal would be stacked to approximately 85 feet above the pads. That is a lot of weight equal to the Empire State Building at 365,000 Tons Weight so each stock pile is the same as one Empire State Building and the 85 feet is about a 9 story building. Just throwing a bunch of rubble to preload the soil is not the solution and detailed calculations are required to do proper planning and construction. (2572)

### Response to PA-8

Draft EIS, Chapter 2, Section 2.2.3, *Proposed Facilities, Construction, and Operations*, described the preloading process for the stockpile area. Preliminary engineering plan sheets were also provided in Draft EIS Appendix C, *Coal Export Terminal Engineering Plan Sheets*. Engineering and design are iterative and ongoing processes that proceed with an increasing level of detail commensurate with the stage of development. Detailed engineering drawings, including engineering for the preloading process, would be prepared following completion of the environmental review process. The Applicant would be required to submit engineering design drawings and construction specifications detailing the preloading process as part of future permit applications.

## Comment PA-9

Rail Transit - Unit trains would consist of 3 locomotives and 125 coal cars, with a total length of 6,844 feet is stated in the SEPA DEIS. Mountain terrain and flat terrain do not require the same horsepower as well as loaded and empty unit trains. Visual Observations in the Vancouver Rail Yard indicate that typical Coal Trains have as many as 5 locomotives and therefore the emissions, greenhouse gas, particulates, crossing wait times and other factors are in error. (2572)

### Response to PA-9

The impacts analysis has been revised throughout the Final EIS where appropriate to reflect four locomotives per unit coal train. Specifically, impact analyses were updated in the Final EIS Chapter 5, Sections 5.1, *Rail Transportation*; 5.3, *Vehicle Transportation;* 5.5, *Noise and Vibration*; 5.6, *Air Quality*; and 5.8, *Greenhouse Gas Emissions and Climate Change.*

# Comment PA-10

The Scope of Environmental Assessments should be comprehensive and analyze all potential human and natural environmental effects caused or generated by the construction of coal export terminals…

c) Defining the specific train and barge routes for transporting coal for export through the states of Washington and Oregon

(2980)

## Response to PA-10

Draft EIS, Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, Figure 2-8, showed the train routes for transporting loaded and unloaded trains between the Powder River Basin and Uinta Basin and the proposed coal export terminal. Chapter 5, Section 5.4, *Vessel Transportation*, Figure 5.4-1, showed the navigation channel along the Columbia River from the proposed export terminal to the Pacific Ocean. Chapter 5, Section 5.1, *Rail Transportation*, analyzed rail impacts related to the Proposed Action, and Section 5.4, *Vessel Transportation*, analyzed vessel impacts related to the Proposed Action.

# Comment PA-11

The Scope of Environmental Assessments should be comprehensive and analyze all potential human and natural environmental effects caused or generated by the construction of coal export terminals…

d) Defining the loading and transportation by rail or barge by metric tons per rail car and coal train and barges on the Columbia River.

(2980)

## Response to PA-11

Draft EIS, Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, described the unloading of coal from rail cars and the loading of coal onto vessels at the proposed coal export terminal and identified the maximum annual throughput for the Proposed Action. Draft EIS Chapter 5, Sections 5.1, *Rail Transportation*, and 5.4, *Vessel Transportation*, analyzed rail and vessel impacts, respectively, related to the Proposed Action, based on the maximum annual throughput of the proposed coal export terminal.

# Comment PA-12

Chapter 2 P. 15. This section reports peak water usage estimates for the terminal but does not report average or yearly estimated water consumption. The EIS should do so, because long-term consumption and discharge are equally relevant figures for public sector water planning. This discussion should be related to the discussion of climate change in chapter 5.8. (3386)

### Response to PA-12

By looking at the peak water usage estimated for the proposed export terminal, the EIS has taken into account the maximum potential impact on municipal water supplies. As stated in Draft EIS, Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, industrial and fire-protection water would be supplied from treated water stored on site from the terminal's water-treatment facility. Only potable water would be sourced from the public utility district. As discussed in Draft EIS Chapter 3, Section 3.2, *Social and Community Resources*, the Proposed Action would use potable municipal water supplies for domestic uses such as drinking, sinks, and toilets, which would result in a small increase in source demand.

## Comment PA-13

Chapter 2 P. 18. Pre-loading aggregate: only the sketchiest outlines of this process have been included. The EIS needs to be specific about what kinds of material will be obtained, where from, how much diesel smoke will be generated in moving it with 753 barges the first year, noise and air pollutants to be generated over several years in the process of moving the material around the site from one pad to another, effects on communities through which the aggregate will have to pass. This will be a massive, prolonged, and devastating disruption to the Longview and neighboring communities. Its effects should not be minimized. (3386)

### Response to PA-13

Draft EIS, Chapter 2, Section 2.2.3, *Proposed Facilities, Construction, and Operations*, described the preloading process for the stockpile area. As stated in the Draft EIS, preloading material would consist of rock, dirt, concrete, and other appropriate materials. Engineering and design are iterative and ongoing processes that proceed with an increasing level of detail commensurate with the stage of development and to meet permit requirements. The Draft EIS analyzed potential impacts related to construction vehicle traffic, noise, and air quality in Chapter 5, Sections 5.3, *Vehicle Transportation*, 5.5, *Noise and Vibration*, and 5.6, *Air Quality*. These sections describe the three construction-material-delivery scenarios analyzed for impacts on vehicle traffic, noise, and air during construction, and detail the methods employed in the analyses.

## Comment PA-14

Another impact that is not addressed is final clean-up. Where is the clear and complete description of total impact and reparations to be made to the actual terminal site? A complete EIS must include this mitigation plan, and the source of funding to accomplish it, for when the Millennium Bulk Terminal closes. (2055)

### Response to PA-14

The Proposed Action is described in Draft EIS, Chapter 2, *Project Objectives, Proposed Action, and Alternatives*. Decommissioning, closing, and restoring the project area is not part of the Proposed Action as defined and analyzed in the EIS. Refer to the Master Response for Purpose and Focus of the EIS for a discussion of what is addressed in the EIS.

# Comment PA-15

The DEIS must include a plan for decommissioning of Millennium's coal terminal, along with financial assurances that Millennium and its parent company will be able to provide for this decommissioning and the cleanup from impacts left behind. (3013)

## Response to PA-15

Refer to Response to PA-14.

# Comment PA-16

There's no examination of the applying entity, its liabilities {lawsuits} and its related concerns, i.e., Resource Capital Fund which has taken control of Ambre Energy. (3652)

## Response to PA-16

Under SEPA, an EIS is required to focus on the environmental impacts of a proposal and its alternatives. Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used along with other information by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

# Comment PA-17

| DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|
| Chapter 2 Project Objectives, Proposed Action and Alternatives Page 2-15, Water Systems, second paragraph, last sentence | Revise "*The proposed trestle and docks would have capture and containment measures ~~beneath them~~ and all water…"* | The capture and containment measures are not necessarily beneath the trestle and docks |

(3070)

## Response to PA-17

Final EIS, Chapter 2, Section 2.2.3.1, *Proposed Facilities*, has been revised.

# Comment PA-18

And, I also have deep reserve in trusting Millennium. They have proven to say one thing and end up doing another. They started out telling us that it would be handling 5 million ton a year and now that is 44 tons a year! I have researched property near the proposed site, and Millennium has purchased more land down river under a different name. The shoreline properties are owned by LLC's that are not real clear who owns them. Several of them have foreign owners. It is my sense that our newest Port Commissioner travels to and has ties with some of these people. His family has also owned land in that area and has been involved in numerous lawsuits, including land related in that area. I would like this looked into also so the EIS takes into consideration that Millennium may have plans for expansion that they are keeping from this review and the public. All of this is public record on the Cowlitz Co. website and the Washington Secretary of State website. (1431)

### Response to PA-18

Refer to Response to PA-4.

# 2.3 Alternatives

This section presents responses to substantive comments related to alternatives.

## Comment ALT-1

The No-Action Alternative is required to recognize and account for growth and development to occur in a manner consistent with adopted zoning and comprehensive plans. Non-conforming uses, while they may be legal, are disfavored under Washington law. Thus, the No-Action Alternative should anticipate that over the planning period (which is at least the time for project build out), the land on which these 44 non-conforming uses exist will be redeveloped consistent with zoning and the adopted comprehensive plan. Properly conducted, the Draft EIS would have considered the 44 residences to be replaced as part of the No-Action Alternative. The future use, consistent with zoning, should be used as the basis for determining the noise impacts from trains traveling on the short line. The Final EIS must clarify that the existing uses are inconsistent with the City of Longview's applicable zoning and comprehensive plan designations, and that such non-conforming uses are disfavored under the law. The Final EIS should modify the No-Action Alternative to reflect uses allowed under the applicable City zoning. (3070)

### Response to ALT-1

As noted in the Master Response for Alternatives, a lead agency has the discretion to define a reasonable no-action alternative, and it is typically defined as what would be most likely to happen if the proposal did not occur. The co-lead agencies are not aware of any proposals to redevelop or displace the residential uses along the Reynolds Lead referenced by the commenter. Consistent with other Draft EIS analyses, existing conditions were established as a baseline to evaluate potential impacts. Absent reasonably foreseeable actions to redevelop or displace these residential uses, the Draft EIS did not speculate on future existing conditions to evaluate potential impacts. Therefore, these residential uses were evaluated as part of existing conditions and the No-Action Alternative in the EIS. Refer to Draft EIS Chapter 3, Section 3.1, *Land and Shoreline Use*, regarding the evaluation of consistency of the Proposed Action with zoning regulations, comprehensive plans, and other public plans and policies.

## Comment ALT-2

The Draft EIS should have examined those impacts proximately caused by MBT-Longview's Project as compared to impacts that would result whether or not MBT-Longview's Project is approved (i.e., impacts identified in the No-Action Alternative). The Draft EIS did not properly account for anticipated growth in the use of transportation infrastructure and systems in the No Action Alternative in making these comparisons. (3070)

## Response to ALT-2

The Proposed Action evaluated in the Draft EIS was described in Chapter 2, *Project Objectives, Proposed Action, and Alternatives*. Specifically, Chapter 2 described the off-site transport of coal by vessel and rail that is considered to be part of the Proposed Action for the SEPA analysis. As described in Chapter 5, Sections 5.1, *Rail Transportation*, 5.3, *Vehicle Transportation*, and 5.4, *Vessel Transportation*, Proposed Action-related train, vehicle, and vessel traffic was not attributed to the projected future baseline rail traffic numbers. Proposed Action-related rail, vehicle, and vessel traffic is evaluated in addition to baseline rail, vehicle, and vessel traffic under the No-Action Alternative because the respective traffic volumes would not occur without construction and operation of the proposed export terminal, an established practice under SEPA to evaluate a reasonable worst case analysis of potential probable impacts.

# Comment ALT-3

We believe that activities and future plans toward Environmental Restoration in the potential impact area of the proposed Millennium Bulk Terminal should also be analyzed as "existing conditions and reasonable foreseeable future actions" within the study area and documented within the Draft EIS. Currently, there is little to no characterization in the regard in the Draft EIS. These actions are just as significant, if not more significant to consider as part of your decision. We respectfully request that this component (investment in environmental restoration activities, future plans, and potential impacts) be incorporated into the analysis and documented into a new Draft EIS for the public to review. Just one spill or accident event could likely wipe out several years of investment in this regard. The Draft EIS you present serves to reaffirm our opposition to this proposed development.

We believe that there is no amount of mitigation possible to fully compensate the deleterious impacts the proposed action would have to our community, our natural environment, and future outlook towards restoration. Of considerable note, the Draft EIS fails to acknowledge any of the restoration efforts completed, underway, and future project to repair the already depressed state of the regions environment due to previous industrial developments and their continued negative impacts to area species that are listed under the Endangered Species Act. (3227)

## Response to ALT-3

The Draft EIS described existing conditions within the study areas identified for each resource area analyzed in Draft EIS Chapters 3, 4, and 5. To the extent that past environmental restoration activities have improved conditions within a study areas, those conditions are reflected in the existing conditions described in the Draft EIS. The purpose of a SEPA EIS is to provide information for agency decision-makers and the public regarding the potential environmental impacts associated with a proposal and the mitigation measures that could be implemented to reduce those impacts. A full accounting of restoration efforts completed, underway, or planned for the future in the surrounding area is outside the scope of a SEPA EIS; however, a new appendix has been added to the *SEPA Fish Technical Report* that provides information on all restoration projects that are known to have occurred in the lower Columbia River subbasin (i.e., watershed below Bonneville Dam). The list of projects was provided by the Lower Columbia Estuary Partnership. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

Specific efforts related to remediation and environmental cleanup of the Applicant's leased area are a separate action from the Proposed Action. Cleanup of the Applicant's leased area was described in Draft EIS, Chapter 3, Section 3.6, *Hazardous Materials*, and Appendix H, *Hazardous Materials Remediation History*. In particular, Appendix H described remediation efforts in the Applicant's leased area that have been completed, are ongoing, and will be completed in the future. The potential spill of hazardous materials related to construction and operation of the Proposed Action was also addressed in Section 3.6.

# Comment ALT-4

The Millennium Bulk Terminals Draft SEPA Environmental Impact Statement (EIS) describes a major project as a minor impact. Throughout the document, the Applicant describes project actions, minimizes project actions, conflates impact relationships, and states the project has minimal to no impact. Throughout the Draft EIS, Millennium Bulk Terminals describes its 'no action alternative' as an 'increase in bulk terminal actions.' This is misleading and doesn't recognize the efforts and actions toward environmental recovery. (3227)

## Response to ALT-4

The Draft EIS was prepared in accordance with the SEPA Rules and Cowlitz County Code. For more information on the regulatory requirements for the No-Action Alternative in a SEPA EIS, refer to the Master Response for Alternatives.

# Comment ALT-5

To start with, the Applicant presents only two alternatives; the proposed project and the "No-Action Alternative." The "No-Action" alternative is actually an undefined "expansion" of existing activities. **The Draft EIS does not actually present a 'no action' alternative.** (3227)

## Response to ALT-5

The Draft EIS analyzed alternatives consistent with the requirements of SEPA, described in the Master Response for Alternatives. A lead agency has the discretion to define a reasonable no-action alternative, and it is typically defined as what would be most likely to happen if the proposal did not occur. If the coal export terminal is not built, the Applicant has stated it would continue existing operations and could expand handling of bulk industrial materials.

# Comment ALT-6

H. Terminal Construction Impacts on the Columbia River

*1. Failure to analyze reasonable alternatives to the proposed dock and dredging designs.*

The DEIS lacks any analysis of alternative dock configurations and alternatives to the quantity and size of the proposed dredge prism. WAC 197-11-440(5)(d) states in part: "When a proposal is for a private project on a specific site, the lead agency shall be required to evaluate only the no-action alternative plus other reasonable alternatives for achieving the proposal's objective on the same site" (emphasis added). The DEIS fails to consider reasonable alternatives to achieving MBT's objectives at the site.

First, the DEIS fails to evaluate alternative dock alignments and associated impacts on endangered species and other aquatic life. WDNR requested a dock and dredge prism alternatives analysis in the agency's scoping comments, stating:

> The EIS should include a comprehensive analysis of alternatives to the proposed project design. The analysis should assess the potential adverse impacts and mitigation measures for each alternative. Alternative overwater structure designs should be evaluated to identify designs that avoid and minimize impacts, such as minimizing the number of pilings required, minimizing the coverage area of new overwater structures, using alternative decking materials, and minimizing artificial light.

The DEIS lacks the alternatives analysis required under WAC 197-11-440(5)(d) and recommended by WDNR.

Second, the DEIS fails to analyze reasonable alternatives to dredging 48-acres of the Columbia River. Again, the DEIS ignores the requirements of WAC 197-11-440(5)(d) and WDNR's scoping comments. The Co-leads should analyze alternative dock configurations that would minimize the initial and ongoing dredging requirements. WDNR's scoping comments recommend that the Co-leads analyze using smaller, shallower-draft transport and ship loading equipment designs. The DEIS lacks this analysis.

Third, the DEIS fails to analyze utilizing the existing dock, Dock 1. MBT has stated on the record that it will not use Dock 1 for coal export. In turn, the Co-leads and other agencies have authorized rebuilding and maintenance dredging to facilitate safe, ongoing operations at Dock 1. The public and agencies have relied on Millennium's statements that Dock 1 would not be used for coal export. The Coalition does not support coal export at Dock 1 or any new docks. However, the DEIS should nonetheless analyze the alternative of utilizing an existing dock and dredge prism before destroying additional critical habitat in the Columbia River.

The Co-leads must revise the DEIS to consider reasonable alternatives to MBT's proposed dock and dredging proposal. (3277)

### Response to ALT-6

The Draft EIS analyzed alternatives consistent with the requirements of SEPA. As noted in the Master Responses for Project Objectives and Alternatives, the Proposed Action is a private project; as such, the objectives and proposal are defined by the Applicant.

Per NEPA requirements, the NEPA Draft EIS for the Proposed Action evaluated an off-site alternative. The U.S. Army Corps of Engineers published the NEPA Draft EIS on September 30, 2016. Chapter 3 of the NEPA Draft EIS describes the alternatives development process and the three alternatives evaluated in the NEPA Draft EIS (On-Site Alternative, Off-Site Alternative, and No-Action Alternative).

## Comment ALT-7

The DEIS doesn't really account for the effect of opposition groups. Having worked for an opposition group, you know, we've heard recently fossil fuel companies have admitted that opposition groups are one of the greatest obstacles that they have for future viability and, as a member of one of those opposition groups, I'm not only flattered but really deeply concerned. We're not going to let any

more leases happen? They're all going to dry up because we shut them down, and there's not going to be enough coal to put in the coal trains to bring over here. So it creates a huge problem because there won't be enough access to coal once we keep it in the ground and then all of the people who really want to work at a coal terminal won't really have anything to export. (TRANS-LV-Q1-00060)

### Response to ALT-7

The concern raised by the commenter is outside the scope of a SEPA EIS. Refer to the Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS for an explanation regarding the basis for the EIS scope and focus.

## Comment ALT-8

The DEIS is deficient in not addressing the loss of solar resource as a significant community resource. The DEIS should note that the large area used by the project (190 acres) could be utilized for solar power generation as a dedicated solar farm or with solar arrays atop large warehouses or other buildings.

A comparable utility-scale solar generation facility is the Baldock Rest Area on 7 acres on I-5 near Wilsonville, which generates 1.75 MW of power. http://www.solarworld-usa.com/newsroom/news-releases/news/2012/advanced-transportationenergy-systems

190 acres in Longview is enough space for a 47 MW ground-mount solar installation. 47 MW could entirely power about 3100 homes plus two electric vehicles per home (15 kW per home). That's roughly 20% of the homes in Longview/Kelso. Such facilities are very financially efficient and will be increasingly attractive as solar technologies get cheaper.

Instead of offering a best case of 135 jobs, 10,000 residents would be better off with free energy to entirely and cleanly power their houses and cars. At 8.3 cents/kWh and gasoline at $2.50 per gallon, the average Longview household (assume two electric cars) would save about $900 for electricity and $2500 in gasoline annually; and 3100 households would save over $10 million a year, which is 50% more than the average income of 135 Americans.

Rail tracks, a huge pile of coal, and coal dust everywhere don't allow space for solar energy collection. (Roof space would not be as space-efficient as a ground-mounted array, so perhaps half of the 47 MW would be available if panels are mounted on warehouses.) (3408)

### Response to ALT-8

As noted in the Master Response for Project Objectives, the Proposed Action is a private project; as such, the objectives and proposal are defined by the Applicant. Refer to the Master Response for Alternatives for an explanation of the requirements related to alternatives in a SEPA EIS.

Chapter 3
# Responses to Comments—Built Environment

This chapter presents responses to substantive comments related to the built environment: land and shoreline use; social and community resources; aesthetics, light, and glare; cultural resources; tribal resources; and hazardous materials.

## 3.1 Land and Shoreline Use

This section presents responses to substantive comments related to land and shoreline use.

### Comment LSU-1

The EIS must consider the conflicts of this project to Statewide initiatives to bolster and sustain Washington's agriculture economy, and Washington' unique fisheries, with a special consideration of the location on the Columbia River and its proximity to the agriculturally important Columbia Basin agricultural export rail capacity, and as such must study the potential impacts on the local agricultural economy. (3426)

#### Response to LSU-1

The Draft EIS evaluated potential impacts of the Proposed Action on agricultural land (Chapter 3, Section 3.1, *Land and Shoreline Use*), commercial fishing (Chapter 4, Section 4.7, *Fish*), and rail transportation (Chapter 5, Section 5.1, *Rail Transportation*) within the study areas established for the EIS analysis. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

### Comment LSU-2

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| A | 3.1 Land and Shoreline Use<br>Page 3.1-1, Table 3.1-1 | Match Table 3.1-1 to the table in the "SEPA Land and Shoreline Use" Technical Report | Table in Section 3.1 is labeled the same as the table in the Technical Report, but does not match exactly. |
| B | 3.1 Land and Shoreline Use<br>Page 3.1-1 | Include the City of Longview Comprehensive Plan in Table 3.1-1 | This would give a more thorough background and should be included. |
| C | 3.1 Land and Shoreline Use<br>Page 3.1-4, Subsection 3.1.4.1 | Move Section 3.1.4.1 into Section 3.1.1 Regulatory Setting. | The subsections in 3.1.4.1 discuss the regulations and ordinances for the project area. It is confusing that these paragraphs are contained within the "Existing Conditions" section as they are not describing the land itself but |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| | | | rather the regulatory limitations imposed on it. |
| D | 3.1 Land and Shoreline Use<br>Page 3.1-10, Figure 3.1-4 | Include a map (or possibly a call-out box on figure 3.1-4) that shows the two single-family residences that are within the 500-foot study area. | The map in Figure 3.1-4 does not show enough detail to highlight where these parcels are located. |
| E | 3.1 Land and Shoreline Use<br>Page 3.1-14, Land Use and Shoreline Resources | Modify or clarify language contained in section titled "Modify Existing Land and Shoreline Uses in the Project Area" | The lines, "the Proposed Action would not change the land use character of the project area substantially and [...] the land use character of the project area would remain generally consistent with other land uses in the 500-foot study area," implies that there will be changes (though small), but doesn't give any detail about what those changes will be. Remove words "substantially" and "generally". |
| F | 3.1 Land and Shoreline Use<br>Page 3.1-17, Section 3.1.5.2, Subsection "Construction—Direct Impacts" | Include definitive statement about impacts similar to other sections. | This section implies that there would be no impacts, but doesn't actually include a statement saying that. All other sections have a sentence that states directly whether or not there will be impacts (and whether they are temporary). |
| G | 3.1 Land and Shoreline Use<br>Page 3.1-17, Section 3.1.5.2, Subsection "Construction—Indirect Impacts" | Include more details and explanation for the finding of no indirect construction impacts. | Refer to the August 2014 URS Resource Report for Land Use and Shoreline Plans and Policies, which states that there will be minor and temporary impacts anticipated adjacent to the property. |

(3070)

## Response to LSU-2

The following describes the changes made to Final EIS Chapter 3, Section 3.1, *Land and Shoreline Use*, and the *SEPA Land and Shoreline Use Technical Report,* in response to these comments. Refer to the left-most column of the above table for lettering used to identify each comment.

- **Comment A:** The list of regulations presented in Draft EIS Chapter 3, Section 3.1, *Land and Shoreline Use*, Table 3.1-1 was intended to be more narrowly focused than the list provided in Table 1 of the *SEPA Land and Shoreline Use Technical Report*. No revisions have been made.

- **Comment B:** Final EIS Chapter 3, Section 3.1, *Land and Shoreline Use*, Table 3.1-1 has been revised to include the City of Longview Comprehensive Plan and zoning ordinance.
- **Comment C:** Draft EIS Chapter 3, Section 3.1.1, *Regulatory Setting*, identified and briefly described relevant regulations. Draft EIS Chapter 3, Section 3.1.4, *Existing Conditions*, described the existing land and shoreline use conditions in the study area, including the specific application of the regulations identified in Section 3.1.1 to the study area. Final EIS Chapter 3, Section 3.1.1 has been revised to include a note referring the reader to Section 3.1.4 for further discussion of the regulations.
- **Comment D:** Final EIS Chapter 3, Section 3.1, *Land and Shoreline Use*, Figure 3.1-4 has been revised to include an inset map with a detailed view of land uses near the project area.
- **Comment E:** The text of Final EIS Chapter 3, Section 3.1.5, *Impacts*, *Modify Existing Land and Shoreline Uses in the Project Area,* has been revised.
- **Comment F:** Final EIS Chapter 3, Section 3.1.5.2, *No-Action Alternative*, has been revised to include a conclusion statement regarding direct impacts of construction.
- **Comment G:** In the EIS, indirect impacts are impacts resulting from either construction or operations that occur beyond the project area. The No-Action Alternative would not be expected to directly affect land or shoreline use beyond the project area. Construction would temporarily generate traffic, noise, dust, and vibration, but these impacts are assessed in the applicable sections of the EIS.

# 3.2 Social and Community Resources

This section presents responses to substantive comments related to social and community resources.

## Comment SC-1

A recent study conducted by a Billings-based transportation consultant and released by the Western Organization of Resource Councils (WORC) outlines economic costs associated with rail system, road and infrastructure upgrades that would be required by proposed Powder River Basin/West Coast coal export projects. The study indicates that these costs, added to mitigation measures, could total in the billions and would likely be borne by state and local governments. The WORC report complements studies previously released by CommunityWise Bellingham on rail capacity, transportation and economic impact issues. Crosscut offers a concise overview of the situation in an article by Floyd McKay. Please investigate these costs to the taxpayer. (0127)

### Response to SC-1

SEPA Rules (WAC 197-11-444) do not require that an Environmental Impact Statement (EIS) analyze the economic or social policy impacts of an action. The rules (WAC 197-11-448) state,

> SEPA contemplates that the general welfare, social, economic, and other requirements and essential considerations of state policy will be taken into account in weighing and balancing alternatives and in making final decisions. However, the environmental impact statement is not required to evaluate and document all of the possible effects and considerations of a decision or to contain the balancing judgments that must ultimately be made by the decision makers. Rather, an environmental impact statement analyzes *environmental* impacts and must be used by agency decision makers, along with other relevant considerations or documents, in making final decisions on a proposal.

Additionally, the rules (WAC 197-11-450) state that a cost-benefit analysis is not required. Final EIS Chapter 3, Section 3.2, *Social and Community Resources,* has been revised to remove the analysis of potential impacts to the local economy. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus. The master response also discusses how the Final EIS will be used along with other information by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

## Comment SC-2

We find the following to be significant adverse impacts and are concerned that they were inadequately addressed in the SEPA/NEPA review process.

Economics:

- Increased rail traffic will create frequently blocked crossings, which will impact all businesses along the routes.

- Increased presence of large ships in the shipping channels will impact current users and increase the risk of collisions and other mishaps.
- Local communities will bear the expense of at least 90% of the costs of rail crossing improvements. In most cases this expense will have little benefit to that community.
- Marine resource jobs will be greatly impacted by coal pollution and increased shipping traffic.
- Aquatic resources will be greatly impacted by a spill and the burning of the coal, potentially raising mercury levels and loss of habitat.
- Emergency access in the communities along the rail routes will be greatly impaired by the increased train traffic.
- Coal companies are receiving subsidies at the expense of our economy.
- Property values decrease near coal terminals.
- Coal as an international commodity is declining. The terminal will be built and ultimately lie dormant - a waste of time and money.
- Ocean acidification will only be increased as we continue to use and abuse fossil fuels. Our marine resource economy provides sustainable economic value to both tribal and non-tribal communities. Treaty rights and our coastal communities cannot be ignored by inappropriate development. (0687)

### Response to SC-2

The Draft EIS addressed the following issues raised by the commenter.

- Draft EIS Chapter 4, Sections 4.5, *Water Quality*, and 4.7, *Fish*, evaluated potential impacts of coal spills on aquatic resources.
- Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, evaluated the potential impacts of Proposed Action-related trains to block at-grade rail crossings and affect social and community cohesion in the study area.
- Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, evaluated potential impacts on vessel transportation and safety in the study area from Proposed Action-related vessel traffic.
- Draft EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, evaluated the potential increase in ocean acidification.

The remaining issues raised by the commenter are outside the scope of a SEPA EIS. Refer to Response to SC-1 regarding economic considerations.

## Comment SC-3

I am also very concerned about my property values decreasing by having a coal terminal so close. I have listened to testimony from local realtors reporting potential clients choosing not to relocate here if the coal terminal comes in. This community already has a problem attracting professionals to care for, teach, and represent our community. The final EIS should more adequately consider the economic and reputational risk to my business, to Longview, and to other communities impacted by coal trains and dust. Consider real estate value decline, and the fact that many modern, clean

businesses will not move to a coal town. These are very significant impacts to us. We deserve not to be continually dumped on. (1431)

### Response to SC-3

Refer to Response to SC-1.

## Comment SC-4

The DEIS does not adequately consider the economic and reputational risks to Longview and other communities impacted by coal trains and dust. Studies elsewhere have shown real estate values to decline due to increased train traffic, and businesses will not choose to relocate to “coal towns.” (1912)

### Response to SC-4

Refer to Response to SC-1.

## Comment SC-5

The DEIS ignores significant economic and reputational risks to Longview and other communities impacted by coal trains and dust. Real estate values decline in "coal towns." The DEIS ignores the economic impacts on other users of the rail system, such as agriculture. (3721)

### Response to SC-5

Refer to Response to SC-1.

## Comment SC-6

The DEIS does not adequately consider the economic and reputational risks to Longview and other communities impacted by coal trains and dust. Studies elsewhere have shown real estate values to decline due to increased train traffic, and businesses will not choose to relocate to "coal towns." These impacts are significant but ignored in the DEIS. (3451)

### Response to SC-6

Refer to Response to SC-1.

## Comment SC-7

But coal trains are a different type of train and one of the major deficiencies in the DEIS is to not adequately examine the negative impacts of specifically coal trains. Coal trains are longer, louder, more polluting due to the extra engines, and have the possibility of releasing hazardous coal dust. There are only a couple of studies out there that have looked at the impact of increased train traffic on property values. But these studies aren't adequate because they look at an increase in generic train traffic, not coal train traffic, and the two aren't the same. Look, when I'm standing on one of our lots looking down at the tracks and an Amtrak goes buy -it's not too bad, it's kind of fun to watch. Same goes for generic freight trains -it's nice to see commerce moving. But a long, loud, monotonous coal train with double or triple the engines is not pleasant. And all that uncovered coal simply

reminds me of the pollution waiting to happen. Reduced property values can hit people hard. I'm probably not going to get much sympathy as a developer, but there are lots of folks who live near the tracks and I know their homes represent the bulk of their life savings. Hurting their property values is not fair. And even a small decrease in property values can equal a huge impact, as there is billions of dollars' worth of property along the tracks from here to the mines. Please consider the negative impacts to property values as you evaluate the DEIS. (3640)

### Response to SC-7

The analyses of impacts on operational resources in Draft and Final EIS, Chapter 5, *Operations*, take into account Proposed Action-related train length and commodity where appropriate.

An assessment of impacts on property values is outside the scope of the EIS. Refer to Response to SC-1.

## Comment SC-8

The Social and Community Resources Analysis optimistically fails to include the impacts that could clearly drive down property values, in particular in neighborhoods near the tracks. This conclusion is flawed based on the geographic limitations of the study. Dozens of communities from the Powder River Basin to Longview, Washington are bifurcated by the BNSF main line that would see a massive increase in rail traffic. Each of these communities, many of which see higher concentrations of EJ populations near the tracks, should be assessed based on property value impacts due massive increases in industrial rail use. (3353)

### Response to SC-8

Refer to Response to SC-1.

## Comment SC-9

My question is what is the economic impact on Washingtonians? The company's analysis showed that the benefit of the project will be to create permanent 135 jobs in Cowlitz County and annual $2.18 million & $1.45 million tax revenue to Cowlitz County and WA respectively. They estimated the cost of building the port to be $638 million (Economic & Fiscal Impact Analysis Of Millennium Bulk Terminals Longview, BERK Consulting, Apr 12, 2012). However we have not seen the analysis on the cost that Washingtonians pay in terms of health cost, loss of work hours due to delays in traffic, loss of revenue from fishing, loss of habitat and wetland due to the establishment of the coal terminal etc. (1742)

### Response to SC-9

The Master Response for Geographic Study Areas of the EIS explains the study areas analyzed in the EIS. Refer to Response to SC-1 regarding economic considerations.

## Comment SC-10

"Ambre Energy North America and Arch Coal have publicly put costs to develop the terminal at over $650 million, an estimate that low-balls the real number. It doesn't count mitigation of community

traffic, safety, environmental and health impacts that would likely be required if the port is built. Just one of those expenses—remediation of potential gridlock in and around Longview caused by coal-train traffic—has been estimated at $150 to $200 million." (Ross Macfarlane, Institute for Energy Economics and Financial Analysis, http://ieefa.org/in-northwest-u-s-desperate-times-for-u-s-coalmean- desperate-port-proposals/) So it is imperative for us to know whether the benefit we get from the coal terminal outweighs the actual cost that many Washingtonians will end up paying yearly. (1742)

### Response to SC-10

Refer to Response to SC-1.

## Comment SC-11

The comments I have are for impacts that will impact me directly as a resident near the mouth of the Columbia River and within 5 minutes walking distance from my home to the Seaside beach, which is down current from mouth of the Columbia. I live in a community dependent upon tourism. Our livelihoods would be devastated by our beach polluted by a spill, grounding, vessel fire, vessel accident off our beach. (1922)

### Response to SC-11

Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, evaluated potential impacts on vessel transportation and safety in the study area from Proposed Action-related vessel traffic, including the potential increase in risk of an allision, collision, grounding, or emergency. Refer to Response to SC-1 regarding economic considerations.

## Comment SC-12

What about the economic cost to all those with business and real estate in Longview? The Final EIS must show real estate data from before and after coal bulk terminals were built in communities elsewhere. How will a coal terminal affect future business and opportunities in Longview? Can Millenium show an economic benefit from coal terminals elsewhere other than the number of jobs promised? I fear this coal terminal will be a blight on future hopes Longview might have for growth and development. (1980)

### Response to SC-12

Refer to Response to SC-1.

## Comment SC-13

I request that the final EIS include a study of impacts to SJC's economy based on the impacts to the SRKW based on the project's direct impacts to this key salmon population. Please address the following impacts in the final EIS: Based on the adverse impacts outlined in the DEIS for the MBTL project, including the adverse impacts from the increased risk of oil spills, to endangered Columbia Chinook salmon, an essential food for SRKWs, in the Columbia River • What is the economic threat from the loss of SRKWs to the economy of SJC and WA State? • What would be the loss of property values in SJC and what would be the loss of tourism and real estate sales from depleted fish and

wildlife populations such as SRKWs in the event of a major oil spill in the Columbia River? In analyzing all the impacts above, what would a "worst case scenario" look like in the presence of each of the plausible, compounding factors or events, including but not limited to human errors, storms, earthquakes, tsunamis, and other planned/proposed projects that may contribute to increased cumulative impacts and chance of accidents? What would a "worst case scenario" look like for all the above plausible, compounding factors combined? What would be the estimated damages in dollars, overall and for SJC in particular, if such a "worst case" event happened? Will the MBTL project have sufficient insurance coverage to insure against the "worst case" damages and economic losses? (2433)

### Response to SC-13

Refer to Response to SC-1.

## Comment SC-14

Negative economic effects. The DEIS does not adequately address the negative economic effect of the many adverse issues (noise, traffic, dust, air quality, to name a few) on the affected communities, e.g. loss of property values, quality of life, and future business due to coal issues. (2435)

### Response to SC-14

Refer to Response to Comment SC-1. The Draft EIS evaluated potential impacts related to noise, traffic, dust, and air quality in Chapter 5, Sections 5.3, *Vehicle Transportation*, 5.5, *Noise and Vibration*, 5.6, *Air Quality*, and 5.7, *Coal Dust*.

## Comment SC-15

The Scope Is Far too Narrow! Consider just one aspect—jobs. Much has been said about the jobs to be generated for terminal workers and railroad employees. However, if you also consider the job losses for employees in restaurants, hotels, recreational activities, and so forth in the Gorge that will result from the pollution from the coal trains, the job tally will be a net loss. (2560)

### Response to SC-15

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS. Refer to Response to SC-1 regarding economic considerations.

## Comment SC-16

The Draft EIS concludes in Section 3.2: Under these scenarios, Proposed Action-related trains would adversely affect the accessibility to community resources and public services at selected public at-grade crossings on the Reynolds Lead, BNSF Spur, and BNSF main line. [see DEIS, page 3.2-25) These conclusions are not supported, especially when compared with the Draft EIS's analysis of similar impacts from the "No-Action Alternative. The Draft EIS on p. 3.2.28 concludes that the No-Action Alternative would not be expected to affect vehicle delay, and therefore, would not affect social and community cohesion and public services. Given that the No-Action Alternative includes more trains than exist today, the analysis of effects from the Project should reflect a similar low level of impacts

resulting from vehicle delay and effect on public services. The description of impacts of the No-Action Alternative in the Final EIS should reflect this impact, similar to the proposed Action. (3070)

### Response to SC-16

The Proposed Action would add 16 train trips per day to the Reynolds Lead, BNSF Spur, and the BNSF main line. The No-Action Alternative would add approximately 2 train trips per day. As discussed in Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, six public crossings on the Reynolds Lead, BNSF Spur, and BNSF main line in Cowlitz County are projected to operate below the standard used for the vehicle delay analysis if a Proposed Action-related train travels during the peak traffic hour in 2028 with current track infrastructure. Under the No-Action Alternative, all crossings are projected to operate above the standard used for the vehicle delay analysis during the peak traffic hour. Access to community resources and public services would be adversely affected if a Proposed Action-related train travels during the peak traffic hour.

## Comment SC-17

The Management Plan for the NSA also requires the protection of existing recreation in the National Scenic Area, NSA Management Plan at Part I, Chp. 4, which the DEIS did not address with respect reducing access to the Columbia River with increased rail traffic and a compromised user experience. The Management Plan also contains a recreation development plan, which the DEIS did not address. NSA Management Plan at Part III, Chp. 1. (3107)

### Response to SC-17

The Columbia River Gorge National Scenic Area (NSA) is outside the study area for the analysis of parks and recreation facilities defined in Draft EIS Chapter 3, Section 3.1, *Land and Shoreline Use*. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

## Comment SC-18

Coordinate with emergency responders for medical (ambulance and fire), environmental (flood, earthquake, etc.), and rail related emergencies, and design mitigations that correct for the increased risk of this population. (2823)

### Response to SC-18

The Final EIS evaluates impacts on vehicle transportation including on emergency response vehicles (Final EIS Chapter 3, Section 3.2, *Social and Community Resources*, and Final EIS Chapter 5, Section 5.3, *Vehicle Transportation*). As discussed in Draft EIS Chapter 4, Section 4.1, *Geology and Soils*, the Proposed Action would be required to comply with International Building Code 16.05 and Cowlitz County Grading Ordinance 16.35, which would likely reduce potential impacts related to earthquakes. Draft EIS Chapter 4, Section 4.2, *Surface Water and Floodplains*, did not identify impacts related to flooding that would require mitigation. Refer to the Master Response for Mitigation Framework for more information on the regulatory framework for mitigation.

# Comment SC-19

The rail transport corridor includes more than 200 at-grade crossings, including numerous under-protected crossings (USFWS 2016b). Increased rail traffic and resulting disruptions to community resources and access represent significant adverse impacts. To date, the Applicant and SEPA co-leads have failed to identify mitigation measures that would meaningfully and adequately avoid these significant impacts. (3458)

## Response to SC-19

Draft EIS Chapter 3, Section 3.2, *Social and Community Resources*, included an assessment of potential impacts on access to community resources and public services as a result of rail traffic-related vehicle congestion. The assessment focuses on at-grade crossings on the Reynolds Lead, BNSF Spur, and BNSF main line in Cowlitz County.

Mitigation measures to address potential impacts related to vehicle transportation are discussed in Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*. These mitigation measures could also address potential vehicular access impacts on community resources and public services. As discussed in Section 5.3, the Proposed Action at full operation could result in unavoidable significant and adverse impacts on vehicle transportation in the study area, Cowlitz County. The Master Response for Geographic Study Areas of the EIS explains the study areas analyzed in the EIS.

# Comment SC-20

It is also worth noting that the DEIS fails to discuss the benefits to Washington's ports that come from being rail-served, including the environmental and economic benefits. (3218)

## Response to SC-20

The EIS evaluates potential impacts attributable to the Proposed Action, not impacts of the existing rail line. Refer to Response to SC-1 regarding economic considerations.

# Comment SC-21

Bankrupt coal companies don't have to pay for cleanup of their mines. Tax payers do. The economic impacts of mined coal to burned coal are not worth the expenses of this proposal. Will MBT revenue-share with all the communities along the rail lines? Will BNSF or UP? (3213)

## Response to SC-21

The topics raised by the commenter are outside the scope of a SEPA EIS. Refer to Response to SC-1 regarding economic considerations.

# Comment SC-22

What of the supposed taxes generated from the terminal if built that will benefit Washington State? Will it benefit the other states and Tribal Nations that are subject to coal and its problems rolling through their communities? (3213)

### Response to SC-22

The topics raised by the commenter are outside the scope of a SEPA EIS. Refer to Response to SC-1 regarding economic considerations.

## Comment SC-23

And what of the supposed taxes generated from the terminal if built that will benefit Washington State? Will it benefit the other states and Tribal Nations that are subject to coal and its problems rolling through their communities? (2536)

### Response to SC-23

The topics raised by the commenter are outside the scope of a SEPA EIS. Refer to Response to SC-1 regarding economic considerations.

## Comment SC-24

In the Heavy Traffic Still Ahead (HTSA) study done in 2014 by Terry Whiteside and G. W. Fauth, who have a combined over 60 years of transportation expertise, it is stated that it's the communities along the rail routes who will pick up the tab for rail upgrades. Because the upgrades will likely need to occur in hundreds of communities and many of the upgrades will be serious as in over and underpasses it could cost in the hundreds of millions of dollars. The upgrades figures don't include health impacts. The costs could easily be above the projected 45 million dollars or so in tax revenues. (3213)

### Response to SC-24

The EIS evaluates potential impacts of Proposed Action-related rail traffic. Any impacts resulting from future upgrades that the railroad companies make to accommodate rail traffic under the No-Action Alternative or Proposed Action conditions would be considered under the environmental review of those separate projects. Refer to Response to SC-1.

## Comment SC-25

The Coalition also incorporates by reference the comments regarding environmental justice analysis filed by Stand. We are dismayed that the DEIS limited analysis of environmental justice impacts to the project site only, whereas there is abundant evidence of noise, air pollution and other impacts to environmental justice impacts all along the rail-line. It is critical that these communities and individuals, who frequently lack English language skills and/or face challenges that prevent them from participating in the EIS process, are engaged in the decision making process. They will bear the burdens of this project in increased noise, pollution, and emergency risks, but will receive none of the claimed benefits. The DEIS falls short in this regard. (3277)

### Response to SC-25

As discussed in Draft EIS Chapter 3, Section 3.2, *Social and Community Resources,* the study area for the analysis of impacts on minority and low-income communities included the project area, the area within approximately 1 mile of the project area, and the area within 0.5 mile of the affected rail lines

in Cowlitz County. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment SC-26

SEPA regulations do not require a full cost-benefit analysis of projects. However, to the extent that economic information is included in the Final EIS (FEIS), it must include some independent review so as to be balanced, inclusive, accurate and fair. This DEIS provides a one-sided picture of economic benefits, without any countervailing assessment of economic harm. It fails to examine the cumulative costs of MBT, including costs of emergency department visits, hospitalizations, medications; lost days of school and work for patients and caregivers; and the stress associated with a significant drop in home values, for example. (3327)

## Response to SC-26

Refer to Response to SC-1.

# Comment SC-27

SEPA regulations generally do not require a full cost-benefit analysis of projects. However, to the extent that economic information is included, it must be balanced and inclusive. Hughes River Watershed Conservancy, 81 F.3d at 446–48 ("it is essential that the EIS not be based on misleading economic assumptions"). An EIS cannot "trumpet" the economic benefits of a project without also acknowledging its costs. Sierra Club v. Sigler, 695 F.2d 957, 979 (5th Cir.1983). In other words, to the extent its considered, economic information must be accurate and fair. Id. Moreover, a DEIS cannot simply incorporate without question a proponents' economic claims but must provide some independent review.

Unfortunately, the DEIS falls short of this standard. While disclaiming explicitly that it is "intended to be a cost benefit analysis," DEIS 3.2-5, it provides a one-sided picture of economic benefits simply repeated by the proponent, without any countervailing assessment of economic harm. The project applicants commissioned the BERK economic assessment included in the DEIS, but no independent third party has evaluated the study's conclusions. It does not appear that these claims have been subject to any scrutiny or review by the DEIS contractor or the Co-leads. Yet there is reason to treat its conclusions with skepticism. For example, the BERK study takes as a given the direct job projections provided by MLBT. But MLBT has not provided the public with any documentation to back up these job projections.

There are numerous data gaps that must be filled in to complete the economic picture.

The Millennium Bulk Terminal's Draft Environmental Impact Study fails to provide an accurate assessment of the project's economic impact to the local or regional economy. Instead, the DEIS only includes the projected benefits as calculated by BERK Consulting in 2012. Indeed, somehow the DEIS concludes that there will be no significant impact on "social and community cohesion and public services, the local economy, or utilities" without even making the barest effort to analyze impacts beyond simply repeating the applicant's preferred study. DEIS 3.2-30.

There are several limitations to relying strictly on the BERK study as a means to evaluate MBTL's potential economic impact. For example, the only area of study on potential economic downside is a narrow assessment how increased train traffic could cause delays in local commercial areas. Given

the DEIS's severely limited geographic scope of study, the consultants conclude the impact would be negligible. DEIS 3.2-26. While conceding that "this vehicle delay could affect accessibility to local businesses during the peak traffic hour without track infrastructure improvements" the DEIS simply dismisses them as "negligible". Id. 3.2-27.

The question for decision-makers to consider is not simply the number of potential new employees but the net economic benefit for the local and regional communities. Both sides of a project's balance sheet must be considered in evaluating its economic merits. The many foreseeable negative economic risk factors that were not considered in the DEIS need to be evaluated. The report fails to include a comprehensive—and geographically relevant—economic impact assessment, which would consider MBT's potential negative economic impacts on areas including but not limited to:

- Local and regional businesses due to the congestion, blocked roadways and noise from increased train traffic through commercial areas, and its consequences for productivity, sales, etc.;
- Other state and regional exporters such as agricultural producers that utilize rail services and do not have the flexibility for shipping delays;
- Increased tax burden on local communities with the need to upgrade rail crossings, as the railroads only cover a maximum of 5% of these very costly projects:
- Fishing and recreational industries (including tribal fishing) due to risks from increased tanker traffic and the heightened possibility of collisions and spills;
- Local and regional businesses impacted by "stigma" impact of coal;
- Decrease in property values in response to a substantial increase in train traffic along the full length of the coal transport corridor, which has been shown to decrease values particularly in residential neighborhoods.
- Health care costs, including emergency department visits and hospitalizations,

Similarly, while dismissing coal dust pollution on nearby homes and businesses as at worst a "nuisance," the DEIS neglects to quantify the economic impact of coating homes and businesses with coal dust, or potential liabilities for the County if such harms become actionable.

These are not theoretical or imaginary impacts. Robust economic analyses have been prepared for the other major coal export facility recently proposed in Washington State—the Gateway Pacific Terminal near Bellingham. Academic studies in other U.S. cities document a significant drop in home values as rail traffic increases. These analysis document many of the adverse impacts described above. While there are differences between the two communities, many of the impacts described in these reports are salient to the Longview project. In short, having trumpeted the alleged economic benefits of the project, the EIS must then also include a fair analysis of the potential economic risks. In this regard, it falls far short. (3277)

## Response to SC-27

Refer to Response to SC-1.

Draft EIS Chapter 3, Section 3.2, *Social and Community Resources*, evaluated potential impacts on social and community cohesion, public services, and utilities, including potential impacts related to

water and sewer service, demands for fire-protection services, access to community resources and local businesses, and noise levels in local parks.

# Comment SC-28

Acute and averaged impacts are different, in particular when dealing with sleep disruption issues and child development. With EJ communities typically closer to the source of the sound—train whistles, braking and rolling noise—disparate impacts are guaranteed without MBT's commitment to pay all costs associated with installing quiet zones for every community along the rail route. In Section 3.1.1.1, the EJ report correctly identifies sound impacts from trains on park users, but fails to address the issue of accumulated health impacts, both at the project site and uprail. (3353)

## Response to SC-28

As discussed in Draft EIS Chapter 3, Section 3.2, *Social and Community Resources,* the Proposed Action's potential noise impacts along the Reynolds Lead would have a disproportionately high and adverse effect on minority and low-income populations if a Quiet Zone is not approved and implemented. Refer to Response to SC-25 regarding the geographic scope of the study area. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for this scope and focus.

# Comment SC-29

Critical impacts from the proposal that should be better addressed in the FEIS with respect to impacts on EJ communities include:

- **Noise disturbance**: The DEISs fail to quantify probable noise impacts from increased train traffic, and fail to examine the impacts on children's cognitive development, and overall sleep patterns, in communities already impacted by noise
- **Particulate matter emissions from train engines**: PM2.5 concentrations within a half mile of the tracks should be examined for existing baseline levels, and EJ communities compared with non EJ communities.
- **Cumulative impacts of proposed oil and coal transport**: The potential for a dramatic increase in fossil fuel transport by rail if all the proposed oil and coal facilities are built must be examined, as each type of train presents unique and cumulative harm. A recent study from the University of Washington monitoring coal trains has shown that the air pollution from coal trains is more egregious than previously understood. The abstract can be found here: http://www.sciencedirect.com/science/article/pii/S1309104215000057. (3353)

## Response to SC-29

Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*, included a quantified analysis of projected noise levels from rail traffic on the Reynolds Lead and BNSF Spur. As discussed in Draft EIS Chapter 3, Section 3.2, *Social and Community Resources*, the Proposed Action's potential noise impacts along the Reynolds Lead would have a disproportionately high and adverse effect on minority and low-income populations if a Quiet Zone is not approved and implemented. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for this scope and focus.

Draft EIS Chapter 5, Section 5.6, *Air Quality*, included estimates of particulate matter with a diameter of 2.5 micrometers or less (PM2.5) concentrations along the Reynolds Lead and BNSF Spur. The analysis demonstrates that the total concentrations of PM2.5 (i.e., existing background concentrations plus the modeled concentration from the Proposed Action) would be below National Ambient Air Quality Standards (NAAQS).

Final EIS Chapter 5, Section 5.6, *Air Quality*, includes an evaluation of increased cancer risk associated with the increase in diesel particulate matter emissions in Cowlitz County. Final EIS, Chapter 3, Section 3.2, *Social and Community Services*, evaluates the potential for disproportionately high and adverse effects related to potential cancer risk in the Highlands neighborhood.

Draft EIS Chapter 6, *Cumulative Impacts*, presented the analysis of the potential cumulative impacts of the Proposed Action in combination with other reasonably foreseeable future actions, which include several other proposed export terminal projects (Draft EIS Chapter 6, Section 6.2, *Scope of Cumulative Impacts Analysis*, Table 6-2 provided a list of projects). The analysis concludes that the other future projects would not contribute additional disproportionately high and adverse impacts on minority and low-income communities beyond those identified for the Proposed Action.

# Comment SC-30

The FEIS should include deep analysis of Longview residents and those living along transportation corridors utilizing the full power and resources of U.S. EPA's Environmental Justice screening tool (EJSCREEN). This tool combines demographic variables identifying potential susceptible or vulnerable populations with separate environmental indicators to derive separate EJ Indices that reflect whether those populations are facing excess environmental risk for an environmental indicator. The results for coal train and vessel routes through Washington en route to MBT clearly show multiple municipalities and disproportionately impacted communities where disparate risk should be further evaluated as part of the FEIS. (See https://www.epa.gov/ejscreen.) (3327)

## Response to SC-30

The Draft EIS included an assessment of potential disproportionately high and adverse effects on minority and low-income populations consistent with guidance published by the Council on Environmental Quality (CEQ). The analysis uses demographic data from the U.S. Census Bureau, similar to what is available through EJ Screen, and evaluates potential adverse effects on minority and low-income populations based on the technical analyses prepared for the Proposed Action. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment SC-31

The projection of potential direct, indirect, and induced economic and fiscal benefits of the proposal are based on the 2012 study Economic and Fiscal Impacts of Millennium Bulk Terminals Longview prepared by BERK. (DEIS 3.2-5). The potential direct, indirect and induced economic and fiscal benefits of the proposal should be reassessed based on current information. As noted above, the downturn since 2012 in the outlook for U.S. coal exports and the domestic coal industry generally is well documented and expected to continue for the foreseeable future. According to the Energy Information Administration, for example, there was a 24% decline in coal exports from the United States between 2014 and 2015 alone. (EIA, Quarterly Coal Report, October-December 2015). As

discussed above, the rapid decline in coal prices has resulted in a succession of bankruptcy filings by the top coal producer s in the United States in 2015 and 2016. Accordingly, projections of benefits from the project based on the substantially more favorable economic outlook for coal in 2012 are misleading and should be reexamined. (2691)

### Response to SC-31

Refer to Response to SC-1.

## Comment SC-32

The DEIS states that exposure to this particulate matter pollution is a problem for social justice- Cowlitz County has a large proportion of its population (about 20%) living below the federally defined poverty-line. There is evidence that people in poverty who live in areas polluted by particulate matter are disproportionately affected in terms of their health; hypothesized causes are related to the cumulative health stressors and lower mobility of people in poverty. However, acknowledging this problem is not the same as solving it, and the DEIS proposes no solution nor mitigation. Also, what the DEIS does not mention is the high level of poverty in the Longview neighborhoods closest to the proposed coal terminal site –especially south of Ocean Beach Highway (State Highway 4) and the Highlands neighborhood. Similarly, populations living and working near the tracks carrying open coal cars are likely to be in poverty. The social justice issue posed by this proposed project is higher than acknowledged in the DEIS. Mitigation for all the populations in poverty who will be affected by the coal dust pollution should be acknowledged, monitored, and mitigated. (3465)

### Response to SC-32

Refer to Response to SC-25 regarding the geographic scope of the study area.

The Draft EIS identified low-income populations in the areas identified by the commenter in Chapter 3, Section 3.2, *Social and Community Resources*, Table 3.2-8 and Chapter 3, Section 3.2, *Social and Community Resources*, Figure 3.2-4. Draft EIS Chapter 5, Section 5.7, *Coal Dust*, assessed potential coal dust impacts and concluded that coal dust deposition from the Proposed Action would not exceed the benchmark used for the analysis from coal export terminal operations, or along the Reynolds Lead and BNSF Spur, nor would the Proposed Action result in exceedances of the NAAQS for PM2.5 and PM10. The Master Response for Mitigation Framework addresses the commenter's concern regarding mitigation. Section 5.7 also discussed potential mitigation measures to reduce impacts related to coal dust.

## Comment SC-33

In Longview, of course, the people whose health will be most heavily affected by the toxic environment created by the plant itself and the incoming trains, will be those with the lowest income and least political clout, as always. (2245)

### Response to SC-33

Draft EIS Chapter 3, Section 3.2, *Social and Community Resources,* included an assessment of potential disproportionately high and adverse effects on minority and low-income populations. The

analysis concluded the Proposed Action would result in disproportionately high and adverse effects on minority and low-income populations from train horn noise sounded for public safety. Section 3.2 identified a mitigation measure to implement a Quiet Zone. If the Federal Railroad Administration approves the Quiet Zone, the Proposed Action would not have a disproportionately high and adverse effect on minority and low-income populations. However, without approval and implementation, the Proposed Action's disproportionately high and adverse effect on minority and low-income populations would be unavoidable.

# Comment SC-34

Additionally the proposed 135 jobs for the new Coal Export Terminal with the total Cowlitz County Employment at 42,324 persons and 3,408 persons unemployed will not significantly change the labor statistics. This Proposed Millennium Bulk Terminal Longview LLC Project is 480 times bigger than the current Longview operation and only has 3.6 times more employees to unload the coal product, store the coal on site and load into ships. It is also 9 times bigger than the Centralia Power Plant Coal unloading, storage and conveying to the power plant burner tip. The manpower proposal for the Longview Terminal are unrealistic and need to be further evaluated. (2572)

## Response to SC-34

Refer to Response to SC-1.

# Comment SC-35

The DEIS is deficient in not analyzing how many people MBTL expects to hire from the existing Longview workforce. The current progress of artificial intelligence and robotics will obviate jobs like vehicle drivers and any job that is repetitive or dangerous. So is the estimate of 135 operating employees realistic? BNSF runs a train with two people, and coal plants unload coal cars with one person per shift. The only jobs not automated at the terminal would be for managers and automation experts—how many of those currently live in Longview? How many jobs would actually be created? (3408)

## Response to SC-35

Refer to Response to SC-1.

# Comment SC-36

The proposed facility has a 360,000 gallon fire water pond. With the on-site fire pump rated at 1,500 gallons per minute, there is 240 minutes of water or 4 hours. After that time, an on-site fire is allowed to burn itself out. This is typical of process plants with 4 hour on site fire water to comply with company and insurance requirements. What is proposed if the fire continues beyond the 4 hour time period --- a river pump, interconnection to municipal systems, water tenders, or unknown? (2572)

## Response to SC-36

As discussed in Draft EIS Chapter 3, Section 3.2, *Social and Community Resources,* Cowlitz 2 Fire & Rescue would provide fire-protection services to the project area. Required fire- and life-safety

systems, including a fire water pond, would be installed in the project area according to fire code standards. These systems would be regularly inspected and maintained. The Draft EIS did not find there would be significant adverse impacts on fire-protection services.

# Comment SC-37

The DEIS should include a detailed firefighting plan and a plan for training of local firefighters paid by Millennium Bulk Terminals. Coal is combustible and other possible chemicals could be stored onsite that will require special handling by these professionals. (3014)

## Response to SC-37

Refer to Response to SC-36.

# Comment SC-38

My question is what is the economic impact on Washingtonians?

The company's analysis showed that the benefit of the project will be to create permanent 135 jobs in Cowlitz County and annual 2.18 million dollars and 1.45 million tax revenue to Cowlitz County and Washington respectively. They estimated the cost of building the port to be 638 million dollars. (Economic and Fiscal Impact Analysis of Millennium Bulk Terminals Longview, BERK Consulting, April 12, 2012.)

However, we have not seen analysis on the cost that Washingtonians pay in terms of health cost, loss of work hours due to delays in traffic, loss of revenue from fishing, loss of habitat and wetland due to the establishment of the coal terminal, et cetera. (TRANS-PASCO-Q2-00001)

## Response to SC-38

Refer to Response to SC-1.

# Comment SC-39

My concern with the Draft Environmental Impact Statement is that is doesn't adequately represent all of the economic issues associated with the terminal. Specifically it doesn't list the jobs that will be created in the medical sector of Longview. You know, I'm a medical assistant personally and I know that COPD could be huge business for Longview. So I think building the terminal would create a lot of need for a lot of medical infrastructure to take care of the longshoremen who are sick, and I think those are definitely jobs. (TRANS-LV-Q1-00060)

## Response to SC-39

Refer to Response to SC-1.

# Comment SC-40

We need to transition away from fossil fuels therefore a programmatic opportunity cost and analysis for building infrastructure for this project as opposed to comparable investment in any clean energy

project should be included in any sort of economic consideration in the final analysis. (TRANS-LV-M2-00125)

### Response to SC-40

Refer to Response to SC-1.

## Comment SC-41

First of all I would like to say that I appreciate the SEPA process. However, it seems that some people don't understand that jobs are not part of the SEPA process. They are not a part of the element of the environment that we are looking or an impact. They are also not a mitigation. (TRANS-LV-M2-00056)

### Response to SC-41

Refer to Response SC-1.

## Comment SC-42

Of course, the economic harms to salmon fisheries, recreational boating, Native American treaty and subsistence fishing rights all need due consideration. Such consideration has been neglected to this point in the DEIS deliberations and will be hard indeed to come by if MBTL goes through. (3491)

### Response to SC-42

Draft EIS Chapter 3, Sections 3.1, *Land and Shoreline Use*, and 3.5, *Tribal Resources*, and Draft EIS Chapter 4, Section 4.5, *Fish*, included assessments of potential impacts on fish (including salmon), recreational boating, and tribal resources. Refer to Response to SC-1.

## Comment SC-43

The railroad passes close to or through low-income neighborhoods in Montana, and the effects (noise, emissions/dust, crossings, etc.) on people living there are much greater than for the general population – both to their health and their physical safety. This is an environmental and social justice issue that should be considered. (3479)

### Response to SC-43

Refer to Response to SC-25.

## Comment SC-44

The EIS documents several studies which show that the rail lines from Spokane to Pasco and Pasco to Vancouver are already at capacity and cannot actually accommodate the proposed rail car increases needed by this project. The single commodity that is being “funneled” through Washington State is a direct conflict to our regional economy’s use of the rail lines. This is a direct and foreseeable impact from permitting of this facility and is un-mitigatable in any way that doesn’t involved spending billions of taxpayer money in upgrading and improving rail transportation. The economic cumulative effects to local state and federal government expenditures for the foreseeable

needed infrastructure improvements need to be evaluated, and were inadequately evaluated in the EIS. (3426)

### Response to SC-44

Refer to Response to SC-1.

## Comment SC-45

The analysis of economic impacts is focused on the local project area and Cowlitz County, and this does not fully capture the regional economic impacts of increased traffic congestion, over-capacity rail lines, air and water pollution, and noise along rail lines and the Columbia River. Farmers are already experiencing difficulties in getting commodities to market. Within communities along the rail line, traffic congestion, pollution, and noise will deter economic development. Communities downstream of the proposed coal terminal such as Seattle are also directly impacted by the congestion created on the rail line elsewhere as it makes it more difficult and costly for goods to ship in and out of Seattle. (3127)

### Response to SC-45

Refer to Response to SC-1.

## Comment SC-46

The DEIS reported that "operation of the Proposed Action would generate property taxes, combined state and local sales and use taxes, and B&O taxes." However, after communication with Washington State Department of Revenue, it was reported that transport of coal for export is exempt from Business and Occupation Tax (WAC 458-20-193C) as long as the delivery of the goods is made directly into the export channel and no change in composition of the product is made. I was unable to open the file of the SEPA Social and Community Resources Technical Report to obtain further information on the B&O taxes the proponent would pay to the state, please explain why the reported B&O taxes would be made and what the annual B&O taxes would total from the operation of this project. (3005)

### Response to SC-46

Refer to Response to SC-1.

## Comment SC-47

It is unclear if the draft EIS adequately addresses EJ requirements of both NEPA and SEPA. The EJ components of the final EIS should take into consideration both the as-yet-incomplete Health Impacts Assessment planned for the MBT analysis, and extend all EJ analyses for communities along the rail line, at the project site, in likely shipping lanes, and those impacted by the climate impacts of the project. (3353)

## Response to SC-47

The Draft EIS was prepared pursuant to SEPA. As discussed in Draft EIS Chapter 3, Section 3.2, *Social and Community Resources,* the study area for the analysis of impacts on minority and low-income communities included the project area, the area within approximately 1 mile of the project area, and the area within 0.5 mile of the affected rail lines in Cowlitz County. Although SEPA does not require an analysis of environmental justice, Section 3.2 included an assessment of potential disproportionately high and adverse impacts on minority and low-income populations consistent with guidance published by CEQ. A Health Impact Assessment (HIA) for the Proposed Action is being prepared separately from the SEPA environmental review; refer to the Master Response for the Health Impact Assessment for additional information.

A separate Draft EIS was prepared by the U.S. Army Corps of Engineers under NEPA (33 CFR 230) to support federal permit decisions related to the Proposed Action. The NEPA Draft EIS was published on September 30, 2016.

# Comment SC-48

The Applicant Lease Area has rail tracks in an area that is not part of the lease. Should there be a problem or liability, this is a 'finger pointing nightmare' that needs to be resolved before construction and not after operation.

"A small portion of the rail loop would be constructed on two parcels currently owned by Bonneville Power Administration (BPA) (Figure 2-3). One parcel contains an access road and substation. To maintain or provide for pedestrian and vehicular access to BPA facilities, the Applicant would construct an access road between the Proposed Action access road and the BPA yard, and install a gate to the BPA yard at a location to be determined by BPA. According to the Applicant, BPA will not make a determination whether to sell or grant an easement to the Applicant until after the U.S. Army Corps of Engineers (Corps) publishes the National Environmental Policy Act Final EIS for the coal export terminal." Reference to plot plan on page 2-12 of SEPA DEIS. (2572)

## Response to SC-48

As discussed in Draft EIS Chapter 3, Section 3.2, *Social and Community Resources*, the Applicant intends to purchase the Bonneville Power Administration (BPA) parcels or obtain an easement from BPA prior to construction. This would occur after the publication of the NEPA Final EIS, but prior to operation.

# Comment SC-49

Noise, diesel emissions and toxic coal dust from the increased rail traffic will negatively impact the livability of Portland and surrounding communities. (0489)

## Response to SC-49

Rail traffic-related noise, diesel emissions, and coal dust were analyzed in the Draft EIS. The analysis of these impacts generally focused on the project area and rail routes in Cowlitz County and Washington State. The analyses did not identify any significant adverse impacts related to rail traffic-related noise, diesel emissions, or coal dust at communities along rail routes in Washington State outside of Cowlitz County. The Master Response for Geographic Study Areas of the EIS explains

the rationale for the study areas analyzed in the EIS. Portland, Oregon is not included in the EIS study area.

# Comment SC-50

The geographic scope of analysis for many of the DEIS elements is too narrow to capture impacts to impacted communities along rail and barge routes. For example, the analysis and mitigation of noise and economic impacts is focused only on Kelso, Longview, and Cowlitz County despite the fact noise and traffic impacts along rail and barge lines will impact communities in 5 states. The DEIS acknowledged disproportionate impacts to Minority and Low-Income Populations within 1 mile of the project area and 0.5 mile of the affected rail lines in Cowlitz County. Again this, underrepresents the full scope of the impact. Impacts to not stop at the Cowlitz County line. (3127)

## Response to SC-50

Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*, included an assessment of noise from rail traffic on routes through Washington State. Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, included a discussion of potential increases in vehicle delay at selected railroad crossings outside of Cowlitz County in Washington State. Refer to Response to SC-25 regarding the study area for the analysis of impacts on minority and low-income communities.

# Comment SC-51

What is the economic threat from the loss of Orca to the economy of San Juan County in Washington State? What would be the loss of property values in San Juan County and what would be the loss of tourism and real estate sales from depleted fish and wildlife populations such as Orca in the event of a major oil spill in the Columbia River? (1941)

## Response to SC-51

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS. San Juan County is not included in the EIS study areas.

# Comment SC-52

Economic Impacts: In Sandpoint, expanded rail traffic will result in a negative impact on the economy. Using DOT's guidelines, the City of Sandpoint has computed that the current wait time impact on our local economy is about $350,000 per year. With no change in traffic or rail crossings the city could reach well over $1 million in total loss in just four years, according to the City of Sandpoint's analysis. Increased train traffic impacts the flow of goods and services. As delay and isolation increases, business owners may decide it is no longer feasible to operate here. Contemporary research indicates that significant increases in train traffic can reduce property values of residential homes within 750 feet of the track by as much as 5 to 7 percent. With the multiple fossil fuel projects now in the permitting process, homeowners could lose an average of $8,000 in home value. As a community, this would represent about a $2 million loss of taxable value. (3492)

### Response to SC-52

Refer to Response to SC-1.

## Comment SC-53

The geographic scope of analysis for many of the DEIS elements is too narrow to capture impacts to impacted communities and resources along rail and barge routes. For example, the analysis and mitigation of noise and economic impacts is focused only on Kelso, Longview, and Cowlitz County despite the fact noise and traffic impacts along rail and barge lines will impact communities in five states. Further, the DEIS acknowledged disproportionate impacts to Minority and Low-Income Populations within 1 mile of the project area and 0.5 mile of the affected rail lines in Cowlitz County. Again this, underrepresents the full scope of the impact, which extend to communities beyond the borders of Cowlitz County.

Impacts to protected areas along rail and barge lines are a particular concern. The Columbia River Gorge National Scenic Area is just one of many protected and sensitive areas that would be negatively impacted by coal trains that would service this facility. Wetlands, wildlife refuges, state parks, tribal fishing areas, critical fish, wildlife and plant habitat, recreation, and scenic resources would be harmed by the impacts of this facility, its trains, and the expansion of rail lines needed to accommodate the increase in rail traffic. (2449)

### Response to SC-53

Draft EIS Chapter 5, Section 5.1, *Rail Transportation*, included a discussion of rail impacts in Washington State. Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*, included an assessment of noise from rail traffic on main line routes through Washington State. Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, included a discussion of potential increases in vehicle delay at selected rail/road crossings outside of Cowlitz County in Washington State. Appendix F included information on potential impacts in the rail and vessel corridors. Draft EIS Chapter 3, Section 3.1, *Land and Shoreline Use*, included a discussion of potential impacts to parks and recreation; the Columbia River Gorge National Scenic Area is outside the study area for that analysis. Draft EIS Chapter 4, Section 4.7, *Fish*, included a discussion of potential impacts to fish. Draft EIS Chapter 4, Sections 4.3, *Wetlands*, and 4.6, *Vegetation*, included a discussion of potential impacts to wetlands and plant habitat. Draft EIS Chapter 3, Section 3.3, *Aesthetics, Light, and Glare*, included a discussion of potential impacts to aesthetics.

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

## Comment SC-54

The analysis of economic impacts is focused on the local project area and Cowlitz County, and this does not fully capture the regional economic impacts of increased traffic congestion, over-capacity rail lines, air and water pollution, and noise along rail lines and the Columbia River. Farmers are already experiencing difficulties in getting commodities to market. Within communities along the rail line, traffic congestion, pollution, and noise will deter economic development. (2449)

### Response to SC-54

Refer to Response to SC-1.

## Comment SC-55

In combination, the failure to appropriately scope EJ-related issues, failure to involve the public outside of the project site, and the startlingly narrow definition of the project plan mean that the project's primary EJ analysis, the Technical Report, is inadequate and must be improved in the final EIS. It is inappropriate for the DEIS to acknowledge much broader levels of rail impacts on economic considerations, while ignoring EJ impacts in precisely those same places. (3353)

### Response to SC-55

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS. As described in Draft EIS Chapter 7, *Public Involvement and Agency Coordination*, public and agency outreach efforts for the Proposed Action included areas beyond the project area.

## Comment SC-56

While the DEIS identifies and analyzes many of the potential adverse impacts that will likely stem from the project, the statewide impact is not fully examined. The geographic scope of analysis for many of the DEIS elements is too narrow to capture impacts to impacted communities and resources along rail and barge routes. For example, the analysis and mitigation of noise and economic impacts is focused only on Kelso, Longview, and Cowlitz County despite the fact noise and traffic impacts along rail and barge lines will impact communities in five states. Further, the DEIS acknowledged disproportionate impacts to Minority and Low-Income Populations within 1 mile of the project area and 0.5 mile of the affected rail lines in Cowlitz County. Again this, underrepresents the full scope of the impact, which extend to communities beyond the borders of Cowlitz County. (3253)

### Response to SC-56

Draft EIS Chapter 5, Section 5.1, *Rail Transportation,* included a discussion of potential rail impacts in Washington State. Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*, included an assessment of noise from rail traffic on routes through Washington State. Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, included a discussion of potential increases in vehicle delay at selected rail/road crossings outside of Cowlitz County in Washington State. Appendix F included information on potential impacts in the rail and vessel corridors. As discussed in Draft EIS Chapter 3, Section 3.2, *Social and Community Resources,* the study area for the analysis of impacts on minority and low-income communities included the project area, the area within approximately 1 mile of the project area, and the area within 0.5 mile of the affected rail lines in Cowlitz County. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

## Comment SC-57

The DEIS is deficient in not estimating the loss of jobs and property values along a coal chute through the Columbia Gorge National Scenic Area. How many talented people would decide that they'd rather live somewhere with clean waterfronts, far from coal trains? How much would

property values decline as a result of noise, coal dust, waiting for 16 more trains every day at at-grade crossings, etc.? What would be the environmental and cultural impacts of a coal train derailing and dumping coal into the Columbia? (3408)

### Response to SC-57

Refer to Response to SC-1.

## Comment SC-58

The EJ components of the FEIS should take into consideration both the HIA planned for the MBT analysis, and extend all EJ analyses to communities along the rail line, at the project site, in vessel corridors, and to those most impacted by the climate impacts of the project. (3327)

### Response to SC-58

As discussed in Draft EIS Chapter 3, Section 3.2, *Social and Community Resources,* the study area for the analysis of impacts on minority and low-income communities included the project area, the area within approximately 1 mile of the project area, and the area within 0.5 mile of the affected rail lines in Cowlitz County. Draft EIS Chapter 5, Section 5.8.2, *Climate Change*, assessed potential climate change impacts on the Proposed Action. Final EIS Chapter 5, Section 5.8.2, *Climate Change*, has been revised to consider how future changes in climate could modify the impacts of the Proposed Action on resources within the study areas defined in the EIS among others. The Master Response for Geographic Study Areas of the EIS explains the study areas analyzed in the EIS. The Master Response for Health Impact Assessment explains the HIA process.

## Comment SC-59

English is often not the first language in EJ communities. In assessing impacts on communities along the rail route and shipping lanes, Ecology should take into account the high concentrations of non-native speakers of English in many communities, with special attention to indigenous peoples, Spanish speakers, Russian and Ukrainian speakers, and members of Asian Pacific Islander communities.

The Environmental Protection Agency provides guidance for engaging with these communities in their home languages, per the Title VI prohibition against national origin discrimination. This guidance suggests that the responsible agency provide "written translations of vital documents for each eligible LEP language group that constitutes five percent or includes 1,000 members, whichever is less, of the population of persons eligible to be served or likely to be affected or encountered. Translation of other documents, if needed, can be provided orally; or (b) If there are fewer than 50 persons in a language group that reaches the five percent trigger in (a), the recipient does not translate vital written materials but provides written notice in the primary language of the LEP language group of the right to receive competent oral interpretation of those written materials, free of cost."

Ecology should review these language population thresholds within each community along the affected rail line and shipping lanes, and within any impacted areas proximate to the proposed terminal, and conduct requisite in-language outreach in each of the communities that qualify. (3353)

### Response to SC-59

The co-lead agencies determined that public outreach efforts for the Proposed Action should be conducted in English and Spanish based on census data for areas where there was potential for impacts. As noted in Final EIS Chapter 3, Section 3.2, *Social and Community Resources,* Spanish-language handouts and Spanish translation services were available at each scoping meeting and each public hearing on the Draft EIS. In addition, an informational flyer was mailed to households near the project area in advance of the scoping meetings and the Draft EIS public hearings; the flyer provided information in English and Spanish. The joint EIS website also included information in Spanish.

## Comment SC-60

The "Proposed Action" as written appears to plan for the magical appearance of unit trains of coal at the BNSF main line at Longview Junction, Washington. Failing to account for impacts on EJ communities both uprail and downstream (in the shipping routes) of the project will dramatically underestimate the known impacts of the project. The FEIS should perform actual analysis of each EJ community by municipality and aggregate impacts thereupon should the MBT project be built. A limited subset of candidate communities are described in the attached maps showing probable rail routes and the communities they intersect. These sample towns—Spokane, Yakima, Prosser, and Wenatchee—include towns likely to see full coal trains en route to MBT, and empty trains returning over Stampede Pass. The final EIS's EJ analysis should include all candidate towns on all possible routes from the point of extraction to Longview. (3353)

### Response to SC-60

Refer to Response to SC-25.

## Comment SC-61

The cumulative impacts of emergency response should also be addressed. It is insufficient to analyze the impact of rail traffic on levels of emergency services provided to environmental justice communities without acknowledging the much lower baseline in EJ communities; environmental justice communities already typically suffer from impaired emergency response. In addition to level of service impacts, the FEIS should analyze the total impact on an annual basis of degraded emergency response on human health. Acute conditions such as stroke and heart attack, and asthma attacks in children – which are higher among certain EJ populations than the population as a whole – demand rapid emergency response. To the extent that the proposals will degrade emergency response, each affected community should be made aware of those impacts through translated, accessible, culturally appropriate communication. The Emergency Response section of the EJ analysis must be extended to include every community hosting the BNSF mainline. (3353)

### Response to SC-61

Draft EIS Chapter 6, *Cumulative Impacts*, discussed cumulative impacts on emergency service response. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for this scope and focus. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment SC-62

The U.S. EPA (EPA) uses an Environmental Justice screening tool (EJSCREEN) that combines demographic variables identifying potential susceptible or vulnerable populations with separate environmental indicators to derive separate EJ Indices that reflect whether those populations are facing excess environmental risk for an environmental indicator. The results for coal train routes through Washington en route to MBT clearly show the likelihood of multiple municipalities where disparate risk should be further evaluated as part of the final EIS. (3353)

## Response to SC-62

The Draft EIS assessment of potential disproportionately high and adverse impacts on minority and low-income populations was prepared using guidance published by CEQ. In accordance with the SEPA Rules, the assessment focuses on the potential impacts of the Proposed Action and assesses whether these impacts would disproportionately affect minority and low-income populations. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment SC-63

Health has to be talked about within the context of environmental justice or intersectionality. While this issue was looked at, at the site of the proposal, it is clearly lacking in regards to the rail communities that are connected to this proposal. It is a grave omission to not consider rail communities and health in the DEIS. In fact, it is an action of environmental injustice to not consider health impacts to communities outside of Longview and especially outside of the state of Washington. The proposed facility does not exist in a vacuum, and the trains that may travel along the rail routes will have very real and negative impacts on the hundreds of communities from the Utah and PRB mines to Longview. (2515)

## Response to SC-63

Refer to Response to SC-25.

# Comment SC-64

While 40 commenters requested that the draft EIS address environmental justice impacts of MBT in areas along the full rail line and impacted by vessel traffic from the project, the Public Involvement Plan (PIP) failed to include environmental justice communities with unmitigable impacts **away** from the project site. (3353)

## Response to SC-64

As discussed in Final EIS Chapter 7, *Public Involvement and Agency Coordination*, public and agency outreach efforts extended to communities away from the project area, including public hearings on the Draft EIS in Longview, Spokane, and Pasco, Washington. Information was provided online and at public hearings in Spanish and translation services were made available.

# Comment SC-65

The final EIS must provide a more robust analysis of full costs and risks of this proposal to communities across the impacted region. (2449)

## Response to SC-65

Refer to Response to SC-1.

# Comment SC-66

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| A | **3.2 Social and Community Resources**<br>Page 3.2-2 | "Information Sources" should include a review of the Vulnerable Populations Emergency Plan for Cowlitz County. | This would add an additional level of depth to the chapter. |
| B | **3.2 Social and Community Resources**<br>Page 3.2-14 | *"An existing sewage treatment system provides sewer service to the project area"* | Should be deleted. The project site will be connected to City sewer. |
| C | **3.2 Social and Community Resources**<br>Page 3.2-23, paragraph above "Generate Tax Revenue" | Clarify whether the $38,730 annual salary for transportation and material moving occupation in Cowlitz County includes benefits. | The previous paragraph mentions that the assumed annual wage in the economic impact analysis was $130,000, including benefits. To make a complete comparison between this number and the lower annual salary for a line of work similar to work from the Proposed Action in Cowlitz County, the EIS should compare numbers that factor in the same things. |
| D | **3.2 Social and Community Resources**<br>Page 3.2-25, "Affect Accessibility to Community resources and Public Services" | Revise discussion on the impacts caused by train delays during peak traffic hours. | Avoiding significant traffic delays caused by two or more Proposed-Action trains coming through during peak traffic times relies on the assumption that improvements will be made by the owners of the Reynolds Lead and BNSF Spur, but mentions that no plans have been submitted or permitted. |

(3070)

## Response to SC-66

The following describes the changes made to Final EIS Chapter 3, Section 3.2, *Social and Community Resources,* in response to these comments. Refer to the left-most column of the above table for lettering used to identify each comment.

- **Comment A:** The Vulnerable Populations Emergency Plan for Cowlitz County does not provide new information that is relevant to the analysis.
- **Comment B:** The discussion of the existing sanitary sewer service to the project area in Final EIS Chapter 3, Section 3.2, *Social and Community Resources*, has been clarified.
- **Comment C:** The analysis of potential impacts to the local economy has been removed from Final EIS Chapter 3, Section 3.2, *Social and Community Resources*.
- **Comment D:** The analysis of potential impacts on the accessibility of community resources and public services concluded that Proposed Action-related trains would adversely affect accessibility at select at-grade crossings if two Proposed Action-related trains travel during the peak hour or infrastructure improvements are not made to the Reynolds Lead and BNSF Spur. As described in Draft EIS Chapter 5, Section 5.1, *Rail Transportation*, Longview Switching Company has proposed upgrades to the Reynolds Lead and part of the BNSF Spur as a separate action should it be warranted by increased rail traffic resulting from existing and future customers. Because improvements are not certain, the vehicle delay analysis in Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, assessed the vehicle delay impact with and without these improvements. For this reason, the referenced text in Draft EIS Chapter 3, Section 3.2, *Social and Community Resources*, documents the potential impacts with and without improvements to the Reynolds Lead and BNSF Spur.

# Comment SC-67

The Social and Community Resources Analysis must include impacts outside of the small area of Longview, WA! The Millennium Bulk Terminal makes it possible for coal to be shipped to Asian markets. Due to its existence, an entire corridor of coal transport becomes a reality impacting thousands of people, in communities all along its route. The environmental study needs to analyze the impacts all along the route. (1922)

## Response to SC-67

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment SC-68

Increased coal train traffic from the PRB mines to the proposed MBTL would directly lead to increased financial costs to Montana communities and taxpayers. For example, federal law requires train engines to blow when approaching a crossing, whether that crossing has guard arms that come down or not. (2504)

## Response to SC-68

Refer to Response to SC-1. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment SC-69

First, the analysis of the economic impact is focused almost exclusively on the area around Cowlitz County. This ignores significant effects in communities in five states along the rail shipping route.

In Spokane, we can't afford to add extra trains to our downtown corridor. The DEIS estimates that Spokane would see 16 additional trains per day. During peak agricultural season, Spokane hits its capacity of 78 trains per day. As BNSF has told me in multiple meetings, coal and oil trains will always take precedence over agricultural products. In 2013, it was reported that the Columbia River (inaudible) no longer locally sources their materials due to rail congestion, and that is at current levels. In 2014, coal trains went out of business due to rail congestion, and that is at current levels. The DEIS does not review the increase of 16 trains per day and how that would affect Eastern Washington's largest export, agriculture. (TRANS-SPOKANE-M1-00052)

## Response to SC-69

Refer to Response to SC-1. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment SC-70

I request that the final EIS for the proposed MBT project include a study of impacts to our San Juan County economy based on the impacts to the SRKW based on the project's direct impacts to this key salmon population. (1941)

## Response to SC-70

Refer to Response to SC-1. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# 3.3 Aesthetics, Light, and Glare

This section presents responses to substantive comments related to aesthetics, light, and glare.

## Comment ALG-1

I am concerned about the lighting. (1431)

### Response to ALG-1

Draft EIS Chapter 3, Section 3.3, *Aesthetics, Light, and Glare*, included an assessment of the potential light and glare impacts of the Proposed Action. The analysis evaluated potential light and glare impacts from 11 key viewpoints near the project area. The analysis concluded the Proposed Action would have no, or low, light and glare impacts from all of the viewpoints except the viewpoint from Dibblee Beach, on the south side of the Columbia River (Viewpoint 10 in Section 3.3). The analysis identified a potential moderate light and glare impact from this viewpoint. Proposed mitigation to address this impact is discussed in Final EIS Chapter 3, Section 3.3.7, *Proposed Mitigation Measures*.

# 3.4 Cultural Resources

This section presents responses to substantive comments related to cultural resources.

## Comment CR-1

The 828-plus page Draft EIS found only one unavoidable and significant adverse impact that would be directly caused by the Project--namely, demolition of the remains of the Reynolds Aluminum Plant. Voluntary mitigation for this impact has already been identified with appropriate federal, state, and local agencies, including the Washington Department of Archaeology and Historic Preservation. The mitigation measures are expected to be documented before the Final EIS is published. Completion of this process will reduce the impact of demolition below a level of significance, and the Final EIS should reflect this change. (3070)

### Response to CR-1

The Section 106 Memorandum of Agreement was not finalized at the time of the publication of the Final SEPA EIS. Section 106 of the National Historic Preservation Act (Section 106) is separate from the SEPA review process. The U.S. Army Corps of Engineers (Corps) is carrying out the Section 106 review concurrent to the NEPA review process.

## Comment CR-2

We request follow up government-to-government consultation to clarify our concerns associated with the Draft EIS and proposed action on cultural resources. It is pointed out however that the Draft EIS speaks of developing a Memorandum of Agreement (MOA) with various entities and tribes. To date, we have not been approached at all in regards to any MOA. The Cowlitz Tribe has no plans to entertain or negotiate such an MOA in regards to the Proposed Action. (3227)

### Response to CR-2

The Memorandum of Agreement (MOA) referenced is part of the federal process and the NEPA EIS lead agency (Corps) is responsible for plans to engage with the Cowlitz Indian Tribe in government-to-government consultation as part of the Section 106 process. The MOA is currently being negotiated and was not finalized at the time of publication of the Final EIS.

## Comment CR-3

Six of the units of Lewis and Clark NHP are along the shoreline of the lower Columbia River Estuary or nearby along the coast of the Pacific Ocean. As a result, the park could be impacted by the estimated 1,680 vessel transits in the Columbia River per year; this would represent a 38% increase from the projected 4,440 transits of other cargo vessels estimated for the year 2028 (page 5.4-39). This increase in vessel traffic will lead to an increase in total incident frequency and an increase in the risk of oil spills (page 5.4-43). To that end, we suggest the FEIS say "Increased vessel transport could also affect the Lewis and Clark National Historic Trail and Lewis and Clark National Historical Park ... " [pages S-16 and 3.4-16]. If oil or cargo spills occur near the units of Lewis and Clark NHP,

the park's natural and cultural resources could be affected. The extent of the adverse impact would depend on tides, weather, and the emergency response. (2432)

## Response to CR-3

Draft EIS Chapter 3, Section 3.4, *Cultural Resources*, evaluated potential impacts on the portions of the Lewis and Clark National Historic Trail within the cultural resources study area. Lewis and Clark National Historical Park and the remaining portions of the Lewis and Clark National Historic Trail are outside the cultural resources study area. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment CR-4

Section 3.4: Cultural Resources. A fundamental problem with the DEIS in terms of cultural resources is that it fails to provide data sufficient to judge whether and to what degree there could be adverse effects to archaeological resources and to traditional cultural properties. The DEIS's reliance on reports not included in the Appendix is troubling, and a comparison of methodologies and conclusions as described in the original (which is in fact on file at DAHP) and as characterized in the DEIS shows that the latter includes significant errors and misinterpretations that result in the DEIS under-estimating the potential for archaeological resources and for adverse effects to them.

Based on the AECOM archaeological report, it is clear that there is potential for archaeological deposits as shallow as 1 foot beneath the modem ground surface, well within the reach of conventional archaeological methods. Prior to any action, DNR recommends a much more thorough archaeological investigation, because without that we do not know what is present, and therefore cannot discuss potential adverse effects or mitigations. (2691)

## Response to CR-4

The AECOM report referenced by the commenter states “it may be possible that discrete portions of the Study Area contained relatively stable landforms that were suitable for habitation and have been buried by fill events, but any potential locations or extent of such potential resources is unknown, and archaeological resources are not likely to be identified using traditional (pedestrian survey and shovel testing) techniques due to the extent of fill deposits underlain by deep alluvial deposits” (AECOM 2015 ). The Draft EIS conclusions regarding the potential for archaeological deposits were consistent with the conclusions of the report referenced by the commenter. As noted in the Draft EIS Chapter 3, Section 3.4, *Cultural Resources*, geotechnical investigations indicated the depths of fill in the study area typically range from 5 to 10 feet below the existing surface. The impacts expected to extend below this depth are the compaction/displacement impacts and installation of deep piles associated with the coal stockpiling development area; neither activity would yield sediment for observation. Final EIS Chapter 3, Section 3.4, *Cultural Resources*, has been revised to note that fill depths are approximately 1 to 2 feet in the portions of the study area farthest from the Columbia River.

As noted in the Draft EIS, the AECOM report contains confidential historic and archaeological information, and access to this information is restricted by the National Historic Preservation Act of 1966, as amended, and the Archaeological Resources Protection Act of 1979, as amended. In compliance with federal law, the AECOM report is only available to agencies with jurisdiction and is not available to be included in the EIS.

# Comment CR-5

Categories of cultural resources are inconsistent with National Historic Preservation Act (NHPA) and its regulations in 36 CFR 800. For reasons not explained, "Traditional Cultural Property" category has been split into "Culturally Significant Property" and "Tribal Resources," the latter being addressed in a different section. (2691)

## Response to CR-5

A Traditional Cultural Property (TCP) is a property that is eligible for inclusion in the National Register of Historic Places (NRHP) based on its associations with the cultural practices, traditions, beliefs, lifeways, arts, crafts, or social institutions of a living community (U.S. Department of the Interior 2012). As used in the Draft EIS, the term “Culturally Significant Property” refers to ethnographic sites in general, regardless of whether they have been determined eligible for listing in the NRHP. The Draft EIS used the term TCP to refer to Mount Coffin, which has been determined eligible for listing in the NRHP.

As noted in Draft EIS Chapter 3, Section 3.4, *Cultural Resources*, cultural resources refers to archaeological resources, historical resources, and culturally significant properties. Historic properties and any properties of traditional religious and cultural importance to Native American tribes were evaluated in Draft EIS Chapter 3, Section 3.5, *Tribal Resources*. Tribal resources in the context of this EIS, refers to the collective rights and resources associated with a tribe’s sovereignty and/or formal treaty rights. Because of the different topics addressed under tribal resources and cultural resources, these resources are evaluated in separate sections of the EIS.

Section 106 of the National Historic Preservation Act (Section 106) is separate from the SEPA review process. The Corps is carrying out the Section 106 review concurrent to the NEPA review process.

# Comment CR-6

The list of federal laws is limited to the National Register of Historic Places (NRHP), which is a component of the NHPA, but not the entirety. The list omits other potentially relevant laws, including (but not limited to): 36 CFR 800, Archaeological Resources Protection Act, Native American Graves Protection and Relocation Act, American Indian Religious Freedom Act, Abandoned Shipwreck Act, and various Executive Orders. (2691)

## Response to CR-6

Final EIS Chapter 3, Section 3.4, *Cultural Resources*, Table 3.4-1 has been updated to list the National Historic Preservation Act, Protection of Historic Properties (36 CFR 800) as an applicable regulation. Table 3.4-1 has also been revised to note the updated location of the NHPA in the U.S. Code and to include the Archaeological Resources Protection Act, Native American Graves Protection and Repatriation Act, and American Indian Religious Freedom Act. Final EIS Chapter 3, Section 3.4.4.2, *Archaeological Resources*, has been revised to note that recent below-water surveying does not indicate the presence of shipwrecks or other cultural materials in the dredge prism. Therefore, the Abandoned Shipwreck Act is not relevant.

# Comment CR-7

Since this is a federal undertaking subject to the NHPA, the "Study Area" should be formally defined as an "Area of Potential Effect" (APE). The Study Area fails to include areas subject to potential effect due to terminal construction, such as spoils disposal areas, fill sources (for example, borrow pits or quarries), and haul routes. If there are in fact no such areas beyond the mapped polygon, this should be stated clearly. (2691)

## Response to CR-7

For the purposes of the SEPA EIS, the term “study area” is appropriate. The term “area of potential effect” (APE) is a term used in the review process for compliance with Section 106 of the National Historic Preservation Act (Section 106). The Section 106 review process is separate from the SEPA review process. The Corps is carrying out the Section 106 review concurrent to the NEPA review process.

The study area evaluated in the Draft EIS is consistent with the study area defined by the Corps in accordance with Section 106. The APE has been defined pursuant to the Corps’ Procedures for the Protection of Historic Properties (33 CFR 325 Appendix C), and the process has involved state and local agencies, potentially affected Native American tribes, and other interested parties as required by federal regulation. If the Proposed Action changes so as to involve impacts beyond the study area, the Corps would develop a revised study area under Section 106.

# Comment CR-8

There is a series of 1942 aerial orthophotos that should be examined as well. The much-cited AECOM report is not in the appendix, making it difficult to evaluate DEIS summaries and characterizations. The AECOM report shows that geotech corings are unevenly distributed, and do not cover many areas within the study area.

Geotech cores alone are not sufficient to evaluate archaeological potential, especially as the DEIS does not make clear what level of archaeological expertise was brought to bear in their analysis. The AECOM report mentions shovel probes that provide more useful archaeological data than geotech cores, but these results are omitted from the DEIS. An "archaeological work plan" is mentioned, but none of its elements are described. Later in the DEIS, it appears that there are no plans for further archaeological investigation prior to construction. (2691)

## Response to CR-8

The aerial orthophotos from 1942 referenced by the commenter were reviewed as part of the analysis presented in the technical reports cited in the Draft EIS.

As discussed in Draft EIS Chapter 3, Section 3.4, *Cultural Resources*, prior geotechnical studies and approximately 100 previous geotechnical bore logs were reviewed to address the extent of fill in the study area and the potential existence of buried archaeological remains. These data were used to guide the placement of 28 additional deep test borings to evaluate the potential for archaeological resources. The additional test borings were located at systematic intervals across the project area in locations not affected by existing buildings, pilings, stormwater features, landfills, utilities, underground storage tanks, and contaminants (AECOM 2015). Both the Draft EIS and the AECOM report noted that field investigators were precluded from using traditional methods of subsurface

archaeological investigation, such as exploratory shovel probing or trenching, due to existing development and the depths of fill materials within the study area.

As noted in the Draft EIS, the archaeological work plan was part of a research design for the identification and evaluation of cultural resources in the project area prepared in June 2015. The Draft EIS summarized the results of the archaeological work. The Draft EIS stated that research and field data for the analysis of the Proposed Action were collected, compiled, and analyzed by qualified cultural resources professionals. The analysis was reviewed by the co-lead agencies, Corps, and qualified staff from the Washington State Department of Archaeology and Historic Preservation (DAHP).

# Comment CR-9

The cited model is insufficient to address effects in the water and in certain portions of the study area due to absence of geotech coring data in those areas. The phrase "indicated potential for direct impacts on cultural resources" is left unexplained, yet leaves wide latitude for concern. (2691)

## Response to CR-9

Final EIS Chapter 3, Section 3.4, *Cultural Resources*, has been revised to summarize the archaeological potential of the below-water portions of the study area. The phrase referenced by the commenter was used to indicate that the prior geotechnical studies did not rule out the potential for impacts on cultural resources. As stated elsewhere in Draft EIS Chapter 3, Section 3.4, *Cultural Resources*, there is limited potential to encounter undocumented archaeological sites in the project area.

# Comment CR-10

Throughout this section, there is a failure to relate the contexts to the project area. What do the known prehistoric, ethnographic, and historic contexts mean in terms of archaeological expectations in the project area? What kinds of artifacts and features might be expected, and from which time periods? The prehistoric context lists several phases based on lithic artifacts, but fails to mention that the Columbia River was one of if not the most heavily populated areas in prehistoric North America. The full range of site types could be present, dating back to over 14,000 years ago. This section skips some of the best information from the AECOM report. In particular, there is a gap between 1850s settlement (no mention of the adjacent Donation Land Claim, for instance) and industrialization in the 20th century. (2691)

## Response to CR-10

Draft EIS Chapter 3, Section 3.4.4.1, *Setting, Historic Context*, presented post-1850s industrialization history of the study area and noted that intensive settlement by European Americans began following passage of the Donation Land Act of 1850. A range of precontact and historic sites types that could be present in the study area are described in Section 3.4.4, *Existing Conditions*.

# Comment CR-11

It is difficult to understand how landfills and fill deposits were determined NRHP eligible. Text mentions that USGS and GLO maps support the interpretation that the project area was formerly a

wetland, but fails to show this with georeferenced overlay maps. The text should be revised to say Holocene Epoch (not "epic").

Conclusions about the depositional environment as described in this DEIS are internally contradictory. For example, the documents states there is no evidence of soil formation within the 70 feet of alluvium, but then states that soil characteristics indicate that it was a wetland. The FEIS departs from data included in the AECOM report with regard to the potential for buried soil horizons, which are settings in which archaeological materials are more likely, and where impacts could be most adverse. The AECOM report mentions layers that appear to be buried stable surfaces at 1-2 feet below current ground surface, but the DEIS omits these references, states there is no evidence of soil development, and states that the shallowest expressions of native (non-fill) sediment is 5-10 feet below current ground surface.

Both the AECOM report and the DEIS claim a diminished potential for cultural resources in the area based on the conclusion that it was a wetland, but they fail to address two key questions: Was the area a seasonal or year-round wetland? And is there evidence that the wetland was present throughout the span of potential human presence in the area? Seasonality and antiquity of the supposed wetland both have implications for archaeological expectations. There is mention that some organic layers were dated radiometrically, but no mention of the results. (2691)

## Response to CR-11

Both the Draft EIS and the AECOM report indicated that much of the study area was likely a stable, low-lying wetland that would have been perennially or seasonally saturated prior to the relatively recent filling and industrial development, and possibly had been in this condition for thousands of years. The discussion of soil development in the study area does not contradict the indications that the area was likely a wetland. Soils require time to form, and the absence of well-developed buried soils indicates the study area was subject to ongoing depositional activities without periods of relative stability during which soil development could occur. Therefore, the analysis determined the study area was not conducive to long-term human occupation.

The AECOM report indicates that fill depths may be about 1 to 2 feet deep in the portions of the study area farthest from the Columbia River. The report also indicates that native soils are difficult to identify in the study area because of the long history of industrial use and because dredge spoils may result in soil stratigraphy similar to naturally deposited sediments. The AECOM report concluded that fill materials were found to extend across the study area to depths of 5 to 10 feet on average. Final EIS Chapter 3, Section 3.4, *Cultural Resources*, has been revised to note that fill depth is 5 to 10 feet *on average* and that fill depths are approximately 1 to 2 feet in the portions of the study area farthest from the Columbia River.

References to the “Holocene Epic” have been revised to “Holocene Epoch” in Final EIS Chapter 3, Section 3.4, *Cultural Resources*.

# Comment CR-12

There is no such category as "culturally significant properties" in a Section 106 evaluation. (2691)

## Response to CR-12

Refer to Response to CR-5.

# Comment CR-13

Rail and vessel corridors include a long stretch of the Columbia River and its shorelines. This was a major prehistoric population center, and nearly the full range of site types could be present. This section does not communicate this information and should be addressed in the analysis. (2691)

## Response to CR-13

Draft EIS Chapter 3, Section 3.4.4.5, *Rail and Vessel Corridors in Washington State*, listed the types of precontact sites and historic sites that could be present along these corridors. The text noted that the Columbia River basin was important for habitation and as a travel corridor.

# Comment CR-14

Besides the potential that the area was not a wetland throughout the Holocene or during all seasons, the DEIS fails to recognize that wetlands and river bedlands have potential for several types of archaeological sites, including fish weirs and traps, marsh gardens, and accumulations of sinker stones. The DEIS says that none of the activities with potential for impact would "yield sediment for observation," yet states that an Unanticipated Discovery Plan (UDP) would be implemented, and in a later section says that archaeological monitoring would be done. The DEIS says that there cannot be indirect construction impacts, since construction will be limited to the project area. As mentioned previously, it is likely that the real APE will include additional areas due to fill introduction, spoils dumping, and haul routes, at a minimum. The DEIS implies that an UDP will resolve any direct impacts from operations, but is unclear how. (2691)

## Response to CR-14

As stated in Draft EIS Chapter 3, Section 3.4, *Cultural Resources*, construction of the Proposed Action would involve surface grading, compaction to a depth of approximately 25 feet, and pile-driving to a depth of approximately 70 feet. Based on the results of the geotechnical investigations conducted in and near the project area, archaeological resources could exist in native soil below the existing fill, which typically ranges from 5 to 10 feet below the existing surface in the study area, except in the portions of the study area farthest from the Columbia River, where fill depths may be 1 to 2 feet. An Inadvertent Discovery Plan (IDP, also known as an Unanticipated Discovery Plan) would address any discovery of previously unidentified archaeological resources during construction, including archaeological resources such as those mentioned by the commenter. The Applicant would submit the IDP to DAHP and receive approval before construction.

An IDP outlines procedures to be followed if previously unknown archaeological or historical resources are discovered during project activities. In particular, an IDP would require work to immediately stop in the vicinity of a discovery and notify the Corps and Cowlitz County. As noted in the Final EIS, the Applicant would have a qualified professional archaeologist monitor ground-disturbing activities to protect archaeological resources that may occur in subsurface deposits.

Refer to Response to CR-7.

# Comment CR-15

The discussion of operational direct impacts fails to address underwater effects such as dredging, wakes, moorage or anchoring, and prop wash. The discussion of operational indirect impacts fails to address sea level rise as all this coal is burned. On a more immediate level, the effects of coal dust as carbon introduced into archaeological sites would be to complicate and perhaps preclude radiometric dating. The operational indirect impacts were "assessed qualitatively," but there is no explanation of what that means, or which qualities were used. As noted in the comments regarding Section 3.4.4.5 above, the Rail Corridor impacts section fails to address the potential effects of coal dust (see radiometric dating comment above) or of derailments on the pervasive nature of archeological significant sites along the proposed rail routes. The Vessel Corridor section fails to address underwater effects such as dredging, wakes, moorage or anchoring, and prop wash. It also contains the unexplained and unsubstantiated claim that there will be no wake-caused erosion "because individual site conditions would inhibit, reduce, and or minimize vessel wake energy." What are these conditions, and how do they inhibit, reduce or minimize? (2691)

## Response to CR-15

Final EIS Chapter 3, Section 3.4, *Cultural Resources*, has been revised to summarize the archaeological potential of the below-water portions of the study area. As discussed, the below-water portions of the study area appear to have been subjected to substantial historic and modern disturbance due to erosion, and prior dredging activities have likely removed any archaeological materials. There would be no direct impacts on in-water archaeological materials in the study area during operations of the Proposed Action.

As discussed in Draft EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, sea-level rise is expected to occur with or without the Proposed Action. An analysis of potential sea-level-rise impacts on cultural resources is outside the scope of the EIS.

Draft EIS Chapter 3, Section 3.4.5.1, *Proposed Action, Operations—Indirect Impacts*, explained that indirect impacts on cultural resources along the rail and vessel corridors were assessed qualitatively based on an expectation of the types of resources likely to be present and an assessment of how they could be affected by routine operations. Impacts were determined by evaluating if operations would alter any characteristic of a cultural resource (archaeological, historical, or culturally significant) that qualifies the resource for inclusion in the NRHP or Washington Heritage Register, or affect a recorded archaeological site. The analysis noted that archaeological and historic resources could be affected by dirt and dust from passing trains, but that these resources are already subjected to existing rail traffic along existing rail lines. Individual site conditions that would inhibit, reduce, or minimize shoreline erosion include soils composition and susceptibility to erosion and distance to the navigation channel.

# Comment CR-16

The main mitigation measure is to have an archaeological monitor for excavations deeper than 10 feet below modem ground surface. However, the AECOM report cites native sediment and possible stable soil horizons at 1-2 feet below surface, and even the DEIS states that native sediments begin at 5-10 feet. Monitoring itself is insufficient, since inadequate subsurface archaeological survey has occurred. (2691)

### Response to CR-16

As noted in Draft EIS Chapter 3, Section 3.4, *Cultural Resources*, an Inadvertent Discovery Plan (IDP, also known as an Unanticipated Discovery Plan) would address any discovery of previously unidentified archaeological resources during construction. Refer to Response to CR-8 regarding geotechnical studies and bore logs.

## Comment CR-17

The designated Lewis and Clark Trail routes—State Route 14, the Columbia River, and Interstate 84—all travel parallel and adjacent to the likely transportation route for the proposed coal export facility. A significant increase in rail traffic and new rail sidings has the potential to cause significant adverse impacts to these resources. The EIS should be revised to provide adequate disclosure of impacts to these cultural and historic resources. Notably, Native American cultural resource sites are already suffering from adverse impacts from air pollution. Increase nitrogen emissions and impacts from a coal spill could permanently destroy irreplaceable Native American sites. These impacts must be addressed in the final EIS. (2508)

### Response to CR-17

Potential impacts on the portion of the Lewis and Clark National Historic Trail within the study area were evaluated in Draft EIS Chapter 3, Section 3.4, *Cultural Resources*. The analysis concluded that the portion of the trail within the study area does not retain historic integrity and features present during the Lewis and Clark Expedition and have been significantly modified by existing industrial development. The portions of the Lewis and Clark National Historic Trail referenced by the commenter are outside the cultural resources study area. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

Outside the study area, Draft EIS Chapter 3, Section 3.4, *Cultural Resources*, qualitatively assessed potential impacts along rail and vessel transportation corridors for the Proposed Action. The analysis considered potential impacts related to dirt and dust from passing trains and visual and audible intrusions, and concluded impacts on archaeological resources as a result of routine rail transport under the Proposed Action would not be considered significant.

## Comment CR-18

The Final Environmental Impact Statement (FEIS) should evaluate the impacts of increased rail traffic due to MBTL, which could have direct and indirect effects on the historic properties of Fort Vancouver NHS. The FEIS should evaluate the increased frequency of visual and audible impacts from rail traffic on visitor experience at Fort Vancouver NHS. We are concerned that the increased rail traffic due to MBTL could diminish the ability of visitors (including American Indians and Native Hawaiians) to make connections to the historic properties of the district, including in particular, aspects of feeling and setting. Views from inside and adjacent to the Fort, Village, and Waterfront Complex may be disrupted, affecting the ability of the visitor to orient to the historical context of the site. Some of these sites may have a special significance to American Indian tribes. (2432)

### Response to CR-18

Draft EIS Chapter 3, Section 3.4, *Cultural Resources*, noted historic resources along the rail transportation corridor could be affected by increased rail traffic related to the Proposed Action. Potential impacts could include visual and audible intrusions, increased usage of rail facilities, and obstructed access. However, these resources are already subject to existing rail traffic along existing rail lines.

## Comment CR-19

The DEIS acknowledges that air pollution can harm structures. "Coal dust can also cause nuisance impacts, such as affecting the look or cleanliness of something when it is deposited on surfaces." Yet, the DEIS fails to analyze this important aspect of the problem.

In addition to considering impacts to historic properties and tribal resources within the footprint of the export terminal, the EIS and National Historic Preservation Act (NHPA) analysis must consider impacts from air pollution. The impacts can come in a variety of ways. Fugitive coal particulate matter from the mining, transportation, loading and unloading of the coal can cause the soiling and darkening of historic properties. In addition, acid deposition from diesel engine emissions and blasting may damage historic properties and tribal resources like fish.

Several studies could inform this analysis. One of the first studies to look comprehensively at the synergistic effects of various air pollutants on culturally-significant structures, the MULIT-ASSESS study, which developed multi-pollutant deterioration and soiling models of wet and dry deposition of gases and particulates on materials. More recently, the CULTSTRAT study researched threshold levels of pollution for different materials used in historic structures. The book The Effects of Air Pollution on Cultural Heritage may also serve as a useful resource in this evaluation. We raised this in our scoping comments. We do not know why this important aspect of the problem continues to be ignored. (3277)

### Response to CR-19

Draft EIS Chapter 5, Sections 5.6, *Air Quality*, and 5.7, *Coal Dust*, evaluated the potential impacts of the Proposed Action related to air pollutant emissions and coal dust. The air quality analysis concluded the Proposed Action would not result in exceedances of the National Ambient Air Quality Standards. The Proposed Action would also include measures to control coal dust emissions. The coal dust analysis concluded the estimated maximum coal dust deposition beyond the project area from export terminal operations would not exceed the benchmark used for the analysis. Therefore, operation of the proposed export terminal would not be expected to affect cultural resources in the cultural resources study area. Coal dust generated during mining and from Proposed Action-related trains is outside the cultural resources study area. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

## Comment CR-20

The Columbia River Gorge has been inhabited since time immemorial by Native Americans. Carbon dating has documented human settlements dating back over 10,000 years. This continuous human presence has left countless cultural resource sites throughout the Gorge. Native American governments' treaties with the Unites States retained rights protecting cultural resources and

hunting, fishing, and gathering sites. The EIS must disclose whether all required intergovernmental consultation with affected tribes has been completed in order to ensure that Native American cultural resources are protected. (2508)

### Response to CR-20

Final EIS, Chapter 3, Section 3.4.3.3, *Agency and Tribal Consultation*, describes the status of consultation activities as of publication of the Final EIS.

## Comment CR-21

One major cultural resource that is not being addressed in the EIS is the petroglyphs along the Columbia River Basin. (TRANS-SPOKANE-M2-00016)

### Response to CR-21

Draft EIS Chapter 3, Section 3.4, *Cultural Resources*, addressed potential impacts on cultural resources that could occur as a result of construction and operation of the Proposed Action. The study area evaluated in the Draft EIS was consistent with the study area defined by the Corps in accordance with Section 106 of the National Historic Preservation Act (Section 106). The petroglyphs at Columbia Hills State Park, Washington, are outside the cultural resources study area. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

## Comment CR-22

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| A | Summary<br>Page S-15, Cultural Resources, third paragraph | The sentence beginning "No archaeological resources…." should be modified to read "No precontact archaeological resources…." | Sentence not accurate as written |
| B | Summary<br>Page S-41 Cultural Resources | Language should be updated to reflect agreed to language in Section 106 MOA | Section 106 MOA is intended to mitigate for the loss of the Historic District |
| C | Summary<br>Page S-46, Section 3.4, Cultural Resources, MM CR-1 | Language should be made consistent with language stated in Section 106 MOA Stipulation: *"Archaeological Monitoring. MBT-Longview does not anticipate excavating into potentially intact sediments, but if they do, the work will be conducted under a monitoring plan/inadvertent discovery plan (IDP) reviewed by the Consulting Parties and approved by the Corps and DAHP prior to ground-disturbing work in the Project area. Prior to approval of the plan, MBT-* | Section 106 MOA will be the controlling measure |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| | | *Longview can coordinate with DAHP and the Corps to determine if proposed ground-disturbing work would require monitoring/IDP on a case-by-case basis (e.g., demolition of a building on 10+ feet of verified fill would not likely require archaeological monitoring)."* | |
| D | Summary<br>Page S-46, Section 3.4 Cultural Resources | Additional stipulations from agreed upon Section 106 MOA should be added | Text should be updated to reflect status as of time of FEIS |
| E | 3.4 Cultural Resources<br>Cultural Resources | General Comment - Language should be updated to reflect agreed to language in Section 106 MOA | Section 106 MOA is intended to mitigate for the loss of the Historic District |
| F | 3.4 Cultural Resources<br>Page 3.4-8, Ethnographic Context, third paragraph, last sentence | It is requested that the word *"entirely"* be deleted so sentence would read: *"….quarrying of Mount Coffin's volcanic rock gradually reduced the landform in size until it was ~~entirely~~ removed."* | Remnants could exist |
| G | 3.4 Cultural Resources<br>Page 3.4-19, 3.4.7.1 Applicant Mitigation, MMCR-1 | Language should be made consistent with language stated in Section 106 MOA Stipulation: *"Archaeological Monitoring. MBT-Longview does not anticipate excavating into potentially intact sediments, but if they do, the work will be conducted under a monitoring plan/inadvertent discovery plan (IDP) reviewed by the Consulting Parties and approved by the Corps and DAHP prior to ground-disturbing work in the Project area. Prior to approval of the plan, MBT-Longview can coordinate with DAHP and the Corps to determine if proposed ground-disturbing work would require monitoring/IDP on a case-by-case basis (e.g., demolition of a building on 10+ feet of verified fill would not likely require archaeological monitoring)."* | Section 106 MOA will be the controlling measure |
| H | 3.4 Cultural Resources<br>Page 3.4-19, MMCR-1 | Update language on Unavoidable and Significant Adverse Environmental Impact to reflect completion of Section 106 MOA and the mitigation agreed to for the loss of the Historic District; reducing impacts to less than significant | Text should be updated to reflect status as of time of FEIS |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| I | 3.4 Cultural Resources<br>Page 3.4-19, 3.4.7.1 Applicant Mitigation | Additional stipulations from agreed upon Section 106 MOA should be added | Text should be updated to reflect status as of time of FEIS |
| J | 3.4 Cultural Resources<br>Page 3.4-16, Section 3.4.8 | Language should be updated to reflect agreed to language in Section 106 MOA (same comment as on page S-41 above) | Section 106 MOA is intended to mitigate for the loss of the Historic District |

(3070)

## Response to CR-22

The following describes the changes made to Final EIS Section 3.4, *Cultural Resources*, and the *Summary* in response to these comments. Refer to the left-most column of the above table for lettering used to identify each comment.

- **Comment A:** The sentence referenced in Final EIS Summary Section S.6.2.1, *Built Environment, Cultural Resources*, has been updated to state "No precontact archaeological resources…"
- **Comment B, C, D, E, G, H, I, and J:** Section 106 of the National Historic Preservation Act (Section 106) is separate from the SEPA review process. The Corps is carrying out the Section 106 review concurrent to the NEPA review process. The referenced Section 106 Memorandum of Agreement is currently being negotiated and was not finalized at the time of publication of the Final EIS.
- **Comment F:** The word "entirely" has been removed from the sentence regarding the quarrying of Mount Coffin in Final EIS Chapter 3, Section 3.4.4.1, *Setting, Ethnographic Context*.

# 3.5 Tribal Resources

This section presents responses to substantive comments related to tribal resources.

## Comment TR-1

I am opposed to the MBT because as a person who lives on the Umatilla reservation I am concerned about its effects and on the impacts to tribal Treaty Rights, traditional use areas and the near and long-term health and sustainability of tribal First Foods. The EIS should also address how the federal government would be fulfilling it Trust Responsibility to the CTUIR and other Indian Tribes if a federal agency was to ultimately authorize this Project. (0080)

### Response to TR-1

Draft EIS Chapter 3, Section 3.5, *Tribal Resources*, evaluated potential impacts on tribal resources, including tribal fishing and gathering practices and treaty rights; and Draft EIS Chapter 4, Sections 4.5, *Water Quality*, and 4.7, *Fish*, evaluated potential impacts on habitat, behavior, or survival of fish, including salmon, steelhead, and lamprey. The potential impacts evaluated in these sections included those from construction and operation of the Proposed Action and rail and vessel transport related to the Proposed Action.

Potential impacts on tribal treaty rights and trust responsibilities resulting from federal permits for the Proposed Action were evaluated in the NEPA Draft EIS prepared by the Corps. The NEPA Draft EIS was published on September 30, 2016.

## Comment TR-2

The Project will potentially negatively impact these sites and the fish that migrate past them. The additional trains may also adversely affect the ability of tribal members to access treaty reserved fishing sites along the Columbia River and other tributaries due to the increased danger at crossings. The EIS should assess these potential impacts. (0125)

### Response to TR-2

Refer to Response to TR-1 regarding the evaluation of potential impacts on tribal resources and fish in the Draft EIS. Draft EIS Chapter 3, Section 3.5, *Tribal Resources*, included an evaluation of the potential for Proposed Action-related trains to disrupt of access to Columbia River tribal fishing areas. The analysis concluded Proposed Action-related trains would travel through areas adjacent to and within the usual and accustomed fishing areas and could restrict access to tribal fishing areas in the Columbia River.

## Comment TR-3

Please consider the historic Bolt decision and our promise of salmon for the tribes from usual and accustomed fishing places. (0176)

## Response to TR-3

Draft EIS Chapter 3, Section 3.5, *Tribal Resources*, evaluated potential impacts on tribal resources such as salmon that could occur as a result of construction and operation of the Proposed Action. The laws, regulations, court cases (including the Boldt decision), and treaties relevant to tribal resources and are presented in Draft EIS Chapter 3, Section 3.5, *Tribal Resources*, Table 3.5-1.

# Comment TR-4

Your document states accurately: "Tribal Resources Activities related to the Proposed Action would cause physical or behavioral responses in fish or affect aquatic habitat in the Columbia River. These impacts could reduce the number of fish surviving to adulthood and returning to areas upstream of Bonneville Dam, thereby affecting the number of fish available for harvest by the tribes. But because of other on-going impacts to the resource you conclude that quantifying impacts is difficult and "Making a determination of significance related to treaty reserved rights related to traditional fishing sites on the Columbia River is not determined in this SEPA Draft EIS." Yet this is a key question that needs to be answered. RE: Fish resource: When you have an at-risk resource guaranteed by treaty and also in public ownership, how many cumulative cuts or reductions to that resource leads to extinction of those resources? (0364)

## Response to TR-4

As noted in Final EIS Chapter 3, Section 3.5, *Tribal Resources*, the EIS does not make a determination of significance for treaty reserved rights related to traditional fishing sites on the Columbia River. As noted in Draft EIS Chapter 3, Section 3.5, *Tribal Resources*, the Corps is conducting an analysis related to potential impacts of the Proposed Action on tribal resources, including treaty rights and trust responsibilities, pursuant to NEPA, and is also consulting with potentially affected tribes as described in the NEPA Draft EIS published on September 30, 2016.

The Final EIS has been revised to more clearly identify how permit requirements and the proposed mitigation measures identified in Final EIS Chapter 4, Section 4.7, *Fish*, would minimize but not eliminate impacts on fish. Draft EIS Chapter 6, *Cumulative Impacts*, presents the analysis of the incremental addition of impacts from the Proposed Action to impacts from past, present, and reasonably foreseeable future actions.

# Comment TR-5

Millennium Bulk Terminals-Longview evaluates a project that would clearly have significant environmental impacts and would almost certainly violate treaty-guaranteed fishing rights of tribal members. I live approximately 15 miles from Cherry Point, the site of a proposed coal terminal that would export up to 48 million tons per year. The Corps of Engineers concluded last month that the proposed project would interfere with the rights of Lummi tribal members to fish in their traditional grounds, denying a federal permit for the project. The Millennium Bulk Terminals DEIS does not adequately assess the impact of the project on tribal fisheries and treaty rights. (2537)

## Response to TR-5

Refer to Response to TR-1 regarding the evaluation of potential impacts on tribal resources and fish in the Draft EIS. Refer to Response to TR-4 regarding the determination of significance of impacts on treaty rights.

# Comment TR-6

By discussing unsubstantiated Zone 6 harvest impacts that "could" occur, the Draft EIS inappropriately engages in speculation concerning impacts to tribal fishery resources. For example, and as documented in the attached Grette Associates report, minor changes in fish behavior for any fish present during construction, such as avoiding the immediate vicinity of locations where pile driving is temporarily causing high noise levels, should not result in fish mortality. This is especially true in an extremely large river like the Columbia. In the absence of information demonstrating likely fish mortality from planned construction activities, the Draft EIS should not speculate concerning the possibility that construction related activities will directly or indirectly result in a decreased number of returning adults and fewer fish available for Zone 6 harvest. Further, Section 3.5.8, which identifies "unavoidable and significant adverse environmental impacts," should not discuss impacts that have not been shown to be likely to occur, and the Final EIS text should reflect this difference.

The Draft EIS should acknowledge that other permitting programs take into account potential impacts to fish and impose conditions that limit those impacts. In this case, many of the fish harvested by tribes in Zone 6 are protected under the ESA, and the Corps of Engineers must undergo consultation with the U.S. Fish and Wildlife Service and NMFS before issuing a permit for in-water work. Permit conditions to ensure that "harm" to those fish is avoided will be added to permits based on this ESA consultation. (3070)

## Response to TR-6

Draft EIS Chapter 4, Section 4.7, *Fish*, discussed design features, best management practices, and potential mitigation measures that could be implemented during construction and operation of the Proposed Action to reduce impacts on fish. Draft EIS Chapter 3, Section 3.5.5.1, *Proposed Action*, concluded that activities related to the Proposed Action would cause physical or behavioral responses in fish and affect aquatic habitat in the Columbia River during construction and operation. These responses could reduce the number of fish surviving to adulthood and returning to Zone 6, and could affect the number of fish available for harvest by the tribes in the Columbia River. The EIS does not make a determination of significance for treaty reserved rights related to traditional fishing sites on the Columbia River.

The Final EIS has been revised to state adherence to permit requirements and the mitigation measures identified in Final EIS Chapter 4, Section 4.7, *Fish*, would minimize but not eliminate impacts on fish.

The Corps, as the federal lead agency, is conducting a review of the Proposed Action pursuant to NEPA and Section 7 of the federal Endangered Species Act (ESA). Additional measures may be identified under one or both of these processes that could further reduce potential impacts on fish and fish habitat.

# Comment TR-7

The Draft EIS improperly attributes to the Project impacts on access to tribal harvest locations along the Columbia River upstream of Bonneville Dam. The Draft EIS concludes that these impacts result from rail operations on the mainline which cause tribal fishers to have to wait to access 20 managed fishing sites on the Washington side of the river (managed by CRITFC5), and at an unknown number of unmapped, unimproved access locations. But these impacts result from the No Action Alternative-not the Project. Again, the rail system operating at capacity is, part of the No-Action Alternative. The State Rail Plan forecasts that the rail system will reach capacity without the Project. Thus, impacts on access to traditional fishing sites from the No Action Alternative will be no different from impacts resulting from the Project. (3070)

## Response to TR-7

As described in Draft EIS Chapter 5, Section 5.1.3.1, *Information Sources*, the types and number of baseline train traffic beyond on main line routes were developed from the *Washington State Rail Plan*. Increased rail traffic from Proposed Action-related trains (8 trains per day through the Columbia River Gorge) would be in addition to baseline rail traffic, and potential impacts on access to traditional fishing sites would be different from conditions under the No-Action Alternative evaluated in the Draft EIS. Final EIS Chapter 3, Section 3.5, *Tribal Resources*, has been revised to note Proposed Action-related trains would result in an increase in delay at grade crossings compared to the No-Action Alternative evaluated in the Draft EIS. Draft EIS Chapter 3, Section 3.5.5.2, *No-Action Alternative*, acknowledged that access to tribal fishing areas could be affected by the increase in rail traffic under the No-Action Alternative if trains travel through the Columbia River Gorge.

# Comment TR-8

The Draft EIS included a series of "to be considered" mitigation measures that are programmatic rather than site specific in nature. Many are beyond the authority of the applicant to implement, including, for example, the suggestion that the U.S. Corps of Engineers "could continue consultations with treaty tribes to identify potential impacts and resolve conflicts related to the Proposed Action." This suggestion amounts to nothing more than additional governmental process on top of the anticipated total five-year SEPA and NEPA process that does not directly mitigate any established impacts and could neither be required through a Shorelines permit nor voluntarily implemented by MBT-Longview. Similarly, coordinating with CRITFC to identify and address access issues is a process suggestion, rather than a mitigation measure. These programmatic measures should be removed from the list of mitigation measures. (3070)

## Response to TR-8

As stated in Draft EIS Chapter 3, Section 3.0, *Introduction*, the mitigation measures identified as "Other Measures to be Considered" are measures to be considered by other agencies, groups, or companies; they are beyond the Applicant's control or authority and would not be enforceable through a permit specific to the Applicant's proposal. Inclusion of these measures in the EIS is intended to help decision-makers and planners establish priorities for actions within their authority and jurisdiction to implement. For more information about the development and types of mitigation measures presented in the EIS, refer to the Master Response for Mitigation Framework.

# Comment TR-9

Section 4.7 of the DEIS did not identify any construction or operational aspect of the Proposed Action that would yield significant unavoidable adverse impacts on fish. However, DEIS Section 3.5 references the analysis in Section 4.7 to state that some construction- and operations related direct and indirect effects could reduce the number of fish surviving to adulthood and returning to areas upstream of Bonneville Dam, thereby affecting the number of fish available for harvest by tribal fishers. Section 3.5.8 of the DEIS draws the same conclusions, implying unavoidable and significant impacts to tribal fisheries in Zone 6. This is not supported by the analysis in Section 4.7.

The analysis in DEIS Section 4.7 speculated that impacts could occur to fish. The supplemental analysis presented above identified only two impact mechanisms with a likelihood of causing injury or mortality to juvenile salmonids: impact pile driving (construction) and wake stranding (operations). Neither of these mechanisms is likely to cause mortality to adult fish.

Impact pile driving has the potential to injure or affect the behavior of only a very small number of juvenile fish due to in-water work timing restrictions the protective nature of the timing restrictions, and the low risk posed by pile driving. Based on the minor impacts, pile driving would not affect the adult population, and would not affect fish resources available to tribal fishers in Zone 6.

Further, wake stranding does not present a pathway by which tribal fisheries in Zone 6 could be affected by the project. This is based on beach seining and DNA data which shows that the ESU of salmon present in the shallow water margins and thereby vulnerable to wake stranding (Lower Columbia River Chinook) do not originate above Bonneville Dam and are not part of the tribal fishery.

Based on the conclusions presented in Section 4.7 of the DEIS and analysis presented above, the Proposed Action would not adversely impact tribal fisheries in Zone 6. (3070)

## Response to TR-9

Refer to Response to TR-6 regarding the rationale for considering impacts in Zone 6 and determination of impacts on fish survival.

# Comment TR-10

Overall, the State DEIS finds that the Proposed-Action would lead to a 17% increase in train traffic along the BNSF main line adjacent to the Columbia River, and, 38% increase in Columbia River vessel traffic. We suggest that the Final EIS consider how those additional trains and vessels could affect tribal fishers' ability to access fishing locations, and how terminal construction and vessel traffic related to the Proposed Action could indirectly affect tribal resources through physical or behavioral responses of fish, or by affecting habitat. To address tribal resource impacts, we strongly encourage the Co-Lead agencies to continue to actively engage and consult with affected tribes. (3306)

### Response to TR-10

Refer to Response to TR-1 regarding the evaluation of potential impacts on tribal resources and fish in the Draft EIS. Draft EIS Chapter 3, Section 3.5, *Tribal Resources*, included an evaluation of the potential for Proposed Action-related trains to disrupt of access to Columbia River tribal fishing areas.

## Comment TR-11

On the Washington side of the Columbia River there are nine In-lieu and Treaty Fishing Access sites with at grade crossings, four more sites adjacent to the railroad tracks, and all other sites within the vicinity of the railroad. On the Oregon side of the Columbia River, there are 10 more in lieu and treaty fishing access sites. These sites provide vital access to the river for treaty fishers, they are key sites for commercial buyers and several of the sites are occupied year round by tribal members and their families. The ability to cross the railroad to get on these sites or access the River is already encumbered by rail transportation through the corridor. Adding more trains could further reduce access to the sites affecting tribal members' commercial enterprises. (3287)

### Response to TR-11

Draft EIS, Chapter 3 Section 3.5, *Tribal Resources*, evaluated potential impacts on tribal resources that could occur as a result of construction and operation of the Proposed Action, including indirect impacts on access to Columbia River tribal fishing areas from Proposed Action-related trains. The analysis concluded Proposed Action-related trains would travel through areas adjacent to and within the usual and accustomed fishing areas and could restrict access to tribal fishing areas in the Columbia River.

## Comment TR-12

The DEIS acknowledges impacts to fish populations and to Tribal fishing access across rail lines, but fails to fully analyze or propose mitigation to avoid significant adverse impacts. The DEIS notes that to mitigate impacts on access to tribal treaty fishing areas, the Applicant may initiate a process with Columbia River Inter-Tribal Fish Commission officials to discuss and identify mitigation measures prior to beginning operations. This does not provide certainty that impacts to fishing access will be avoided or mitigated. (3253)

### Response to TR-12

Potential mitigation measures that would reduce impacts on fish from construction and operation of the Proposed Action were described in Draft EIS Chapter 4, Sections 4.5, *Water Quality*, and 4.7, *Fish*. Draft EIS Chapter 3, Section 3.5, *Tribal Resources,* identified measures that could be considered by other agencies, groups, or companies to mitigate impacts on access to tribal fishing areas. The Final EIS identifies proposed mitigation measures. Mitigation measures implemented for the Proposed Action would also reduce potential cumulative impacts on tribal resources. These measures were developed within the limits of the SEPA regulatory framework described in the Master Response for Mitigation Framework. The proposed mitigation measures may reduce impacts, but as stated in Final EIS Chapter 3, Section 3.5.8, *Unavoidable and Significant Adverse Environmental Impacts*, construction and operation of the Proposed Action could result in indirect impacts on tribal

resources through Proposed Action-related activities causing physical or behavioral responses and by affecting aquatic habitat.

# Comment TR-13

Potential impacts to tribal resources are identified in the DEIS as:

- Delays or other effects on tribal access to Columbia River fishing sites;
- Vessel traffic impacts to fish habitat; and
- Coal dust from rail and terminal operations.

The CTUIR DNR believes there are many additional potential impacts. The DEIS found that mitigation "may" reduce impacts to tribal resources "but would not eliminate them." There is a legal obligation to maintain certain habitat conditions necessary for the survival and health of viable Northwest salmon populations that are the subject of more than 160-year-old treaties with multiple Indian tribes. This legal obligation applies to not just the federal government, but to the individual states as well. Thus it would appear that approval of the Millennium Bulk Coal Terminal, impacting tribal resources—and, consequently, tribal rights—that no mitigation can eliminate, would be questionable and highly problematic, at the very least. (3302)

## Response to TR-13

Refer to Response to TR-12 regarding mitigation related to potential impacts on tribal resources. Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used along with other information from Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

# Comment TR-14

The DEIS acknowledges impacts to fish populations and to Tribal fishing access across rail lines, but fails to fully analyze or propose mitigation to avoid significant adverse impacts. The DEIS notes that to mitigate impacts on access to tribal treaty fishing areas, the Applicant may initiate a process with Columbia River Inter-Tribal Fish Commission officials to discuss and identify mitigation measures prior to beginning operations. This does not provide certainty that impacts to fishing access will be avoided or mitigated. (2449)

## Response to TR-14

Refer to Response to TR-12.

# Comment TR-15

The combined and cumulative harm that could come to fisheries from both oil and coal transport along Northwest waterways such as the Columbia River must be more fully considered. The DEIS understates the negative impacts of MBT to food and culture to tribes. "Operation of the Proposed Action would result in impacts on tribal resources through activities related to the Proposed Action causing physical or behavioral responses in fish, or affecting aquatic habitat. These impacts could reduce the number of fish surviving to adulthood and returning to areas upstream of Bonneville

Dam, thereby affecting the number of fish available for harvest by the tribes." We object to any project that causes significant impacts to tribal fishing. (3327)

### Response to TR-15

Draft EIS Chapter 6, *Cumulative Impacts*, provided an analysis of the incremental addition of impacts from the Proposed Action on tribal resources to impacts from past, present, and reasonably foreseeable future actions. The analysis accounted for several proposed coal or oil export terminal projects that would use the same rail and vessel transportation corridors as the Proposed Action. Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used along with other information from Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

## Comment TR-16

As Special Counsel to the Office of Tribal Attorney for the Swinomish Indian Tribal Community, we submit this card on behalf of Swinomish to create a record of support for the Columbia River Intertribal Fish Commission and its member tribes as they comment upon the Draft EIS for the Millennium Bulk Terminals. Swinomish supports and incorporates by reference CRITFC's comments concerning the impacts of this proposal, especially with respect to impacts to treaty resources. (3424)

### Response to TR-16

Refer to Final EIS Volume IV, Chapter 8, *Responses to Comment Index*, to find the comments provided by the Columbia River Intertribal Fish Commission.

## Comment TR-17

The DEIS is inadequate by not including the impacts to the UCUT. The UCUT tribal rights are jeopardized by this failure. The DEIS fails to consider anadromous fish migrations, which will be of even more importance as we are examining the feasibility of fish passage into blocked habitat in the upper Columbia River. (3468)

### Response to TR-17

Draft EIS Chapter 3, Section 3.5, *Tribal Resources*, evaluated potential direct and indirect impacts on tribal resources that could occur as a result of construction and operation of the Proposed Action. Draft EIS Chapter 3, Section 3.5, *Tribal Resources*, Figure 3.5-1 depicted the study areas for direct and indirect impacts, including portions of Upper Columbia United Tribes territory. Draft EIS Chapter 4, Section 4.7, *Fish*, evaluated potential direct and indirect impacts on fish—including anadromous fish species that support tribal, commercial, and recreational fisheries—that could occur as a result of construction and operation of the Proposed Action.

## Comment TR-18

Tribal and Other Access to Fish Resources - The DEIS acknowledges that the expected waits at train crossings from increased rail traffic will have an adverse effect on tribal access to traditional fishing locations when all cumulative projects are included. Moreover, the OBIS states that there will be

adverse effects on tribal access to fish themselves from collision, noise, oil leaks and fish stranding from the projected cumulative increase in vessel traffic from all projects. By implication, fewer fish for tribes means fewer fish overall-for commercial and recreational fishing and for the survival of listed species. However, the DEIS does not suggest any mitigation for Millennium's part in these cumulative adverse effects on access for tribal, commercial or recreational fisherman, nor for future generations which may lose these fish species. (3465)

### Response to TR-18

Refer to Response to TR-12 regarding mitigation related to potential impacts on tribal resources.

Refer to Response to TR-8 regarding the identification of measures to be considered by agencies, groups, or companies other than the Applicant.

## Comment TR-19

Activities related to the Proposed Action would cause physical or behavioral responses in fish or affect aquatic habitat in the Columbia River. These impacts could reduce the number of fish surviving to adulthood and returning to areas upstream of Bonneville Dam, thereby affecting the number of fish available for harvest by the tribes. Trains related to the Proposed Action would travel through areas adjacent to and within the usual and accustomed fishing areas of Native American Tribes and could restrict access to tribal fishing areas in the Columbia River. Because other factors besides rail operations affect fishing opportunities, such as the number of fishers, fish distribution, timing, and duration of fish migration periods and seasons, the extent to which rail operations related to the Proposed Action would affect tribal fishing is difficult to quantify. Making a determination of significance related to treaty reserved rights related to traditional fishing sites on the Columbia River is not determined in this SEPA Draft EIS.

Based on the Longview Public Testimony on May 24, 2016 from the Cowlitz, Warm Springs, Crow, and Cheyanne Tribal Officials and membership, it appears that tribal rights have been basically ignored and undetermined in the relation between the proposed Coal Export Terminal and the Tribal rights of usual and accustomed activities. (1169)

### Response to TR-19

Refer to Response to TR-1 regarding the evaluation of potential impacts on tribal resources and fish in the Draft EIS.

## Comment TR-20

The Table 3.5-2 for the Annual Catch of Salmon, Steelhead, and White Sturgeon in Treaty Commercial, Ceremonial, and Subsistence Fisheries in Zone 6 of the Columbia River only has data for the period 2000 through 2009. Since this is 2016, this data is 8 years old at best. It is requested the data be updated to at least 2015 to better understand the tribal fishing success rates. It is also interesting that no data is collected downstream of Bonneville Dam and the proposed Coal Export Terminal Site is some 83 miles away. Page 3.5-8 SEPA DEIS pdf 110/147. (2572)

### Response to TR-20

Final EIS Chapter 3, Section 3.5, *Tribal Resources*, Table 3.5-2 has been updated to provide data through 2015. Draft EIS Chapter 3, Section 3.5, *Tribal Resources,* Table 3.5-2 presented data on the annual catch of salmon, steelhead, and white sturgeon for treaty commercial, ceremonial, and subsistence fisheries in Zone 6 of the Columbia River. Zone 6 is set aside for exclusive use by treaty commercial fishers and stretches from approximately Bonneville Dam to McNary Dam. The Columbia River below Bonneville Dam is open to non-treaty commercial fishers and sport fishers. Therefore, Zone 6 was determined to be the appropriate fishing zone for consideration of tribal fishing impacts.

## Comment TR-21

The DEIS is flawed when it looks at resources and the cultural reparcation [sic]. There will be no mitigation, no cost will replace anything that could happen to our beautiful rivers. (TRANS-PASCO-M2-00004)

### Response to TR-21

Draft EIS Chapter 3, Sections 3.5, *Tribal Resources,* and 3.4, *Cultural Resources*, evaluated potential impacts on tribal resources and cultural resources, respectively. Draft EIS Chapter 4, Sections 4.5, *Water Quality*, and 4.7, *Fish*, evaluated potential impacts on water quality and fish.

## Comment TR-22

While the Draft Environmental Impact Statement states that there are no effects from coal dust, it does say that the cumulative effect of all the new traffic on the river, 27 percent which will be from the Millennium Project, will be detrimental to the tribes' ability to fish because of the negative effects of so many vessels of such huge size.

However, the DEIS does not suggest any mitigation for this loss. This loss will not be just for the tribes' access to fish but to the fish themselves which benefit commercial and recreation fishing, and all of us in this region, as they are integral to all ecology. (TRANS-LV-Q3-00031)

### Response to TR-22

Refer to Response to TR-12.

## Comment TR-23

We need to know how these trains are going to effect tribal treaties and fishing rights. (3745)

### Response to TR-23

Refer to Response to TR-1 regarding the evaluation of potential impacts on tribal resources and fish in the Draft EIS.

## Comment TR-24

The DEIS does not address Indian treaty rights and it should. (3414)

### Response to TR-24

Refer to Response to TR-1 regarding the evaluation of potential impacts on tribal resources and fish in the Draft EIS. Refer to Response to TR-4 regarding the determination of significance of impacts on treaty rights.

## Comment TR-25

The DEIS says: 3.5.8 Unavoidable and Significant Adverse Environmental Impacts Activities related to the Proposed Action would cause physical or behavioral responses in fish or affect aquatic habitat in the Columbia River. These impacts could reduce the number of fish surviving to adulthood and returning to areas upstream of Bonneville Dam, thereby affecting the number of fish available for harvest by the tribes in the Columbia River. Proposed Action-related trains would travel through areas adjacent and within the usual and accustomed fishing areas and could restrict access to tribal fishing areas in the Columbia River. Because other factors besides rail operations affect fishing opportunities, such as the number of fishers, fish distribution, timing, and duration of fish migration periods and seasons, the extent to which rail operations related to the Proposed Action would affect tribal fishing is difficult to quantify. Making a determination of significance related to treaty reserved rights related to traditional fishing sites on the Columbia River is not determined in this Draft EIS. Even the DEIS doesn't consider the treaty rights of the Indian tribes. This should be included in the EIS or the No Action alternative chosen right now to avoid any further expense for all parties involved. (3399)

### Response to TR-25

Refer to Response to TR-4 regarding the determination of significance of impacts on treaty rights.

## Comment TR-26

The DEIS acknowledges impacts to Tribal fishing access and fish populations, but fails to fully analyze or propose mitigation to avoid significant adverse impacts. The DEIS does not address impacts to treaty fishing rights. Further decision-making on this proposal should not move forward without a robust assessment of impacts to Treaty fishing rights. (3127)

### Response to TR-26

Refer to Response to TR-12 regarding mitigation related to potential impacts on tribal resources. Refer to Response to TR-4 regarding the determination of significance of impacts on treaty rights.

## Comment TR-27

Historic and Cultural Resources: The DEIS suggests that trains may block access to culturally-important areas, such as Usual and Accustomed (U&A) Places. BNSF knows of no instance in which access to U&A Places has been blocked, or where parties have not had access over public or private crossings. BNSF works regularly with tribes to identify and address concerns, and would certainly work with any tribe who could not access U&A Places by the use of a public or private crossing. (3218)

### Response to TR-27

Draft EIS Chapter 3, Section 3.5.5.1, *Proposed Action*, acknowledged "a majority of the access road crossings are not at-grade with the rail line, or the rail line is inland from the highway and river access site, but trains could affect tribal fishers' access to the established access sites managed by CRITFC." Because some access road crossings to fishing sites would be blocked by Proposed Action-related trains, rail transport could result in delays to tribal fishers' access to traditional fishing sites.

## Comment TR-28

Along the length of the rail routes from the Powder River Basin to this proposal, dozens of indigenous tribes' hunting and fishing rights could be impacted obstruction of access to rivers and hunting grounds. With millennia of traditional access to fish and wildlife for subsistence harvest, any further degradation of fishing and hunting rights by new industrial projects must be taken into account. (3353)

### Response to TR-28

Other new industrial projects were accounted for in the analysis of potential cumulative impacts on tribal resources in Draft EIS Chapter 6, *Cumulative Impacts*. The study area for the analysis of tribal resources in Draft EIS Chapter 3, Section 3.5, *Tribal Resources*, and Chapter 6 included the expected rail routes for Proposed Action-related trains in Washington State. Rail routes outside Washington State were outside the tribal resources study area. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

## Comment TR-29

The UCUT scoping comments on this proposal, dated November 14, 2013, stated our support of the Affiliated Tribes of Northwest Indians Resolution #12-53 and Resolution #13-47 (Attached) for a comprehensive Programmatic EIS (PElS) pursuant to the National Environmental Policy Act (NEPA) that deals with the cumulative effects and impacts throughout the entire Northwest and internationally, including direct and indirect impacts on tribal resources, tribal rights, and interests. The Longview DEIS does not adequately respond to the UCUT concerns, and as such does not address broader regional, programmatic, comprehensive issues. (3468)

### Response to TR-29

The Proposed Action is not part of a broader plan, policy, or program that could be evaluated as a nonproject (i.e., programmatic) proposal under SEPA (WAC 197-11-774). Refer to the Master Response for Connected or Similar Actions. A separate Draft EIS was prepared by the U.S. Army Corps of Engineers under NEPA (33 CFR 230) to support federal permit decisions related to the Proposed Action. The NEPA Draft EIS was published on September 30, 2016.

## Comment TR-30

The UCUT is concerned that the scope of the study area is limited to the terminal. The study area should include all rail routes to and from the places where the trains would originate and all potential impacts. The DEIS is not adequate in its analysis of the impacts on Tribes in the region, especially in terms of tribal resources such as fish, wildlife, water and health impacts specific to

UCUT. The UCUT concerns were not adequately addressed or analyzed in the DEIS, even at the local level. (3468)

### Response to TR-30

As described in Draft EIS Chapter 3, Section 3.5.2, *Study Area*, the study area for indirect impacts on tribal resources includes resources and access to those resources that could be affected by rail transport in Washington State and vessel transport along the Columbia River and out 3 nautical miles from the mouth of the river, including tribal fishing resources in Zone 6. Rail routes outside Washington State were outside the tribal resources study area. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

## Comment TR-31

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| A | Summary<br>Page S-17, Tribal Resources, Operations | Operations under Tribal Resources: Revise the discussion to discuss increased freight trains in general, not specific to coal trains. | The reference to trains here should not be one specific to coal trains. The impact would occur due to more trains on the track, and this is a normal and expected result of expanding freight by rail, not specifically because of trains carrying coal to the MBT-Longview terminal. |
| B | Summary<br>Page S-17, Tribal Resources, Operations, second paragraph, first line | Replace "would" with "could." | The technical reports do not show or conclude that operation of the Proposed Action would result in impacts on tribal resources. See Attachment 2 *Technical Response Analysis of Population-level Impacts on Tribal Fish Resources in Zone 6* to Comment Letter. |
| C | Summary<br>Page S-17, Tribal Resources, Operations, third paragraph | Rewrite "Coal dust particles from trains related to the Proposed Action would" to "If coal dust particles were to come from trains…" | Modify so consistent with conclusions of coal dust portion, which do not establish dust particles coming from trains sufficient to cause impact. |
| D | Summary<br>Page S-46, Section 3.5, Tribal Resources, MM FISH-3 | We suggest that the proposed mitigation measure to monitor wildlife during dredging and pile driving be removed.<br><br>*"MM FISH-3. Monitor Pile-Driving and Dredging Activities for Distress to Fish and Wildlife. See discussion in Section 4.7, Fish, in this table."* | We disagree that monitoring for wildlife distress during maintenance dredging would be a necessary or effective mitigation measure. Impacts would be sufficiently minimized through timing restrictions of the work, construction BMPs, and noise mitigation measures, as required at other similar dredging projects along the Columbia. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| E | 3.5 Tribal Resources Page 3.5-1, and throughout | Most instances of the word "would" should be changed to "could" | There is not an absolute statement of cause to support the use of would. Eg "3.5.8 Activities related to the Proposed Action would cause physical or behavioral responses in fish" |
| F | 3.5 Tribal Resources Page 3.5-4, Figure 3.5-1 | Verify the Figure 3.5-4 is accurate in showing the Zone 6 Treaty Commercial fishery extending below the Bonneville Dam. Edit if needed. | Figure 3.5-4 shows the Zone 6 Treaty Commercial fishery extending below the Bonneville. |

(3070)

## Response to TR-31

The following describes the changes made to Final EIS *Summary* and Chapter 3, Section 3.5, *Tribal Resources*, in response to these comments. Refer to the left-most column of the above table for lettering used to identify each comment.

- **Comment A:** Final EIS Chapter 3, Section 3.5, *Tribal Resources*, has been revised to note Proposed Action-related trains would result in an increase in delay at grade crossings compared to the No-Action Alternative.
- **Comment B:** Final EIS Summary Section S.6.2.1, *Built Environment, Tribal Resources, Operations*, has been revised to clarify that impacts on fish and habitat could affect tribal fishing, consistent with the analysis presented in Draft EIS Chapter 3, Section 3.5, *Tribal Resources*.
- **Comment C:** The text regarding coal dust particles from trains in Final EIS Summary Section S.6.2.1, *Built Environment, Tribal Resources, Operations*, has not been revised as requested. The text "trains related to" has been deleted so the text discusses coal dust particles from the Proposed Action in general. The analysis presented in Final EIS Chapter 5, Section 5.7, *Coal Dust*, indicates the Proposed Action would result in the deposition of coal dust particles to the aquatic environment.
- **Comment D:** The mitigation measure regarding monitoring during dredging and pile-driving activity has been retained; it is a typical mitigation measure when sensitive species could be present.
- **Comment E:** The use of "could" and "would" has been reviewed. As discussed in Draft EIS Chapter 4, Section 4.7, *Fish*, the Proposed Action would exceed the noise thresholds for behavioral impacts from pile-driving activities, and pile-driving and dredging activities would alter aquatic habitat. The statement referenced by the commenter in Final EIS Chapter 3, Section 3.5.8, *Unavoidable and Significant Impacts*, has been revised to improve clarity.
- **Comment F:** Draft EIS Chapter 3, Section 3.5, *Tribal Resources*, Figure 3.5-4 is accurate. The Zone 6 tribal fishing zone on the Columbia River extends west of Bonneville Dam. As noted in Draft EIS Chapter 3, Section 3.5, *Tribal Resources*, the western boundary between Zone 5 and Zone 6 is at Beacon Rock, west of Bonneville Dam.

# 3.6 Hazardous Materials

This section presents responses to substantive comments related to hazardous materials.

## Comment HZ-1

This is a historic location in Cowlitz County and worth documenting for history purposes but more importantly, it is idle buildings and equipment that is a "Toxic Stew" and needs to be properly cleaned up. To build on top of this "Toxic Stew" only adds to the long term cleanup efforts and clean up should be the first priority and not to build on top of this and add to the problems to be cleaned up between 30 and 100 years from now with no one but the Taxpayers paying for these actions. It is my recommendation to issue a "No Action Alternative" for the MBTL Coal Terminal and expedite the cleanup and demolition of the Reynolds Metal Reduction Plant. Then and Only Then should proposals for the use of the 540 acres of land or 190 acres of useable land be initiated. (0623)

### Response to HZ-1

As discussed in Draft EIS Chapter 3, Section 3.6, *Hazardous Materials*, the Applicant's leased area is subject to ongoing hazardous materials cleanup activities. Construction and operation of the Proposed Action would occur concurrently with, but independent of, these ongoing cleanup activities. Section 3.6 and Draft EIS Appendix H, *Hazardous Materials Remediation History*, described the remedial activities, cleanup actions, and closure activities already completed in the Applicant's leased area. As stated in Section 3.6, remediation would be ongoing at two locations in the project area while the Proposed Action is under construction. At these two locations, construction of the Proposed Action and remediation of the project area would be coordinated to avoid and minimize conflicts, prevent potential exposure to construction personnel, and prevent spreading contaminants into the environment.

Draft EIS Chapter 3, Section 3.4, *Cultural Resources*, described historic resources in the study area.

## Comment HZ-2

The Draft EIS incorrectly categorizes coal as a hazardous material. The Draft EIS also mistakenly includes a list of chemicals that would be used in an on-site laboratory. MBT-Longview is not proposing to include an on-site laboratory. Coal samples would be collected and sent to an off-site lab for any required testing. Finally, the Draft EIS incorrectly identifies water treatment chemicals and chemical categories that MBT-Longview does not expect to use during normal operations.

The errors noted above are also present in the SEPA Hazardous Materials Technical Report. The errors are found on Page 3.6-22 of the Draft EIS and emphasized in bold below. Each of the words in bold below, including the description of onsite coal handling, should be deleted from Section 3.6 of the EIS.

> The following hazardous materials are expected to be used during normal operations of the Proposed Action.
>
> - Diesel fuel, gasoline, oils, greases, hydraulic fluids, antifreeze/coolants, and solvents used for equipment operation and maintenance.

- **Sulfuric acid, calcium hydroxide**, flocculants, **lime, and antiscalants** used for water treatment.
- **Chemicals used in the on-site laboratory (generally in small quantities of 5 gallons or less) could include methylene chloride, toluene, acetone, and 2-butanone.**
- Wastes classified as hazardous and nonhazardous waste and sanitary sewer waste.
- **Coal handled during facility operations and during transportation**.

(3070)

### Response to HZ-2

Final EIS Chapter 3, Section 3.6, *Hazardous Materials*, and the *SEPA Hazardous Materials Technical Report*, have been revised and updated. Text categorizing coal as a hazardous material has been removed. References to "antiscalants" were not removed because, according to the Applicant (Comment HZ-4), water distribution systems for the Proposed Action may add antiscalants to manage hardness in process water.

## Comment HZ-3

Coal is not a "Hazardous Material." The Hazardous Materials section begins with the broad definition of hazardous materials found on page 3.6-5. The definition focuses on "contaminated environmental media, dangerous waste, solid waste, hazardous substances and petroleum products" and includes a list of federal and state regulatory programs that define and regulate these hazardous materials. Despite the Draft EIS's page-long definition of hazardous materials, none of the identified programs regulates coal or defines coal as a hazardous substance or a hazardous material. Further, federal and state regulatory definitions not included in Draft EIS do not identify coal as a hazardous material. (3070)

### Response to HZ-3

Final EIS Chapter 3, Section 3.6, *Hazardous Materials*, and the *SEPA Hazardous Materials Technical Report* have been revised. Text categorizing coal as a hazardous material has been removed.

## Comment HZ-4

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| A | 3.6 Hazardous Materials<br>Page 3.6-9, Cryolite Recovery Plant | Correct this language: *"the cryolite recovery plant also recovered reusable fluorides compounds call "underflow solids" which were eventually used to control air emissions that occurred during the aluminum manufacturing process"*<br>The correct statement would be: *"the cryolite recovery plant also recovered reusable fluoride compounds called "underflow solids" which were generated from the air emission control systems that occurred during the* | Statement is incorrect |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| | | *aluminum manufacturing process."* | |
| B | 3.6 Hazardous Materials<br>Page 3.6-11, 3.6.4.2 Remediation History | 3.6.4.2 "In 2007, Northwest Alloys ~~and the Applicant~~ signed an agreed order with Ecology…" (delete reference to the Applicant) | MBT-Longview (Applicant) did not exist in 2007. Chinook Ventures signed the agreed order with NWA in 2007. |
| C | 3.6 Hazardous Materials<br>Page 3.6-19, Caulking and Sealants, third paragraph | The section starting with "Project area preparations would involve preloading…" does not seem to fit in this section Caulking and Sealants. | |
| D | 3.6 Hazardous Materials<br>Page 3.6-22, Operations – Direct Impacts, bulleted list | Delete from bullet references to sulfuric acid, calcium hydroxide, and lime | The water treatment ponds are used to settle out sediment. Flocculants would be used. There is a chance that the water distribution systems may need the addition of an antiscalant to manage the hardness in the process waters. |
| E | 3.6 Hazardous Materials<br>Page 3.6-22, Operations – Direct Impacts, bulleted list | Delete the bullet: "Chemicals used in the on-site laboratory…" | There is no on-site laboratory as part of the Proposed Action. |
| F | 3.6 Hazardous Materials<br>Page 3.6-22, Operations – Direct Impacts, bulleted list | Delete reference to coal handled during operation as a hazardous material. | See substantive comments above in Comment Letter. Coal is not classified as a hazardous material under any definition. |
| G | SEPA Hazardous Materials Technical Report (Page 3-4) | The section starting with " Project area preparations would involve preloading…"does not seem to fit in this section Caulking and Sealants | |
| H | SEPA Hazardous Materials Technical Report (Page 3-8) | Delete from bullet references to sulfuric acid, calcium hydroxide, and lime | The water treatment ponds are used to settle out sediment. Flocculants would be used. There is a chance that the water distribution systems may need the addition of an antiscalant to manage the hardness in the process waters. |
| I | SEPA Hazardous Materials Technical Report (Page 3-8) | Delete the bullet: "Chemicals used in the on-site laboratory…" | There is no on-site laboratory as part of the Proposed Action. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| J | SEPA Hazardous Materials Technical Report (Page 3-8) | Delete reference to coal handled during operation as a hazardous material | See substantive comments above in Comment Letter. Coal is not classified as a hazardous material, under any definition. |
| K | Appendix H (H-5) | Wrong table number. Should be Table H-2 | typo |

(3070)

## Response to HZ-4

The following describes changes made to Final EIS Chapter 3, Section 3.6, *Hazardous Materials*, and the *SEPA Hazardous Materials Technical Report* in response to these comments. Refer to the left-most column of the above table for lettering used to identify each comment.

- **Comment A:** The description of the cryolite recovery plant has been revised.
- **Comment B:** The mention of the Applicant has been removed from the statement regarding the signed order.
- **Comment C and G:** The text describing preloading activities has been moved to the introductory text of the subsection.
- **Comment D and H:** Reference to sulfuric acid, calcium hydroxide, and lime has been deleted.
- **Comment E and I:** Reference to the on-site laboratory has been deleted.
- **Comment F and J:** Text categorizing coal as a hazardous material has been removed.
- **Comment K:** The table number in Appendix H has been revised.

# Comment HZ-5

Assuming there will be demand for coal in ten to 20 years, the Draft EIS should include bankruptcy of the applicant and additional effect that will result with cleanup costs associated with this project. (TRANS-PASCO-M1-00062)

## Response to HZ-5

As noted in the Master Response for Project Objectives and Alternatives, the Proposed Action is a private project; as such, the objectives and proposal are defined by the Applicant. Under SEPA, an EIS is required to focus on the environmental impacts of a proposal and its alternatives. SEPA does not require an EIS to analyze the economic or social policy impacts of an action or discuss economic competition or profits (WAC 197-11-448(3)). Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used along with other information by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

# Comment HZ-6

What mechanism (e.g. trust deposit) will ensure cleanup as the owners face bankruptcy in the unstable [?] global coal market? (3545)

## Response to HZ-6

Refer to Response to HZ-5.

# Chapter 4
# Responses to Comments—Natural Environment

This chapter presents responses to substantive comments related to the natural environment: geology and soils, surface water and floodplains, wetlands, groundwater, water quality, vegetation, fish, wildlife, energy and natural resources, and coal spills.

## 4.1 Geology and Soils

This section presents responses to substantive comments related to geology and soils.

### Comment GS-1

We believe that the Draft EIS does a poor job in characterizing and analyzing the threats of a geologic event that may cause significant damage if the proposed action was allowed to be built. The Applicant bases their risk assessment on regional earthquakes in the 6.8 to 7.1 range, noting that these Puget Sound earthquakes did not cause substantial damage in the Longview area. The cited earthquakes occurred at a distance of approximately 70 miles. (Appendix Volume IIIb, pg. 15) **This is a misinterpretation of data.** The Draft EIS should have characterized—basing their earthquake environmental review on the worst case scenario, a subduction zone earthquake. A subduction zone earthquake can be as powerful as 9.0. A magnitude 9.0 earthquake has 1,000 times greater energy released than a 7.0 earthquake and may last from 3 to 5 minutes. (3227)

#### Response to GS-1

Draft EIS Chapter 4, Section 4.1.4.1, *Geology in the Project Area and Vicinity*, discussed potential earthquake activity in the vicinity of the project area, including the potential for a Cascadia Subduction Zone (CSZ) earthquake. The analysis also noted that more than 10 earthquakes of magnitude 8.0 to 9.0 or higher have occurred in the CSZ over the last 5,000 years, according to the geologic record. The Draft EIS also described earthquakes that have occurred within the historical record (as opposed to the geologic record) because the potential impacts associated with these earthquakes are better understood, having occurred more recently.

The Draft EIS identified potential impacts associated with an earthquake, including ground shaking, liquefaction, landslides, and tsunamis. Draft EIS Chapter 4, Section 4.1.5.1. *Proposed Action; Operations Direct Impacts, Seismic-Related Ground Failure (Liquefaction)*, described project facilities and infrastructure would be constructed in accordance with current building codes and seismic requirements, which would reduce the risk of catastrophic damage. Additionally, preloading of the stockpile pads would expel water and consolidate soils beneath the stockpile pads, reducing the potential risk of liquefaction of the ground beneath the stockpile pads. Risk of geological hazards and potential impacts on rail and vessel corridors were discussed in Draft EIS Appendix F, *Rail and Vessel Corridor Information*.

# Comment GS-2

The Columbia River is on a major earthquake fault line. What will happen if we have the earthquake the scientists are predicting will happen? There is a potential for impacts [from] the Pacific Ocean [subduction] zones. (1177)

## Response to GS-2

Refer to Response to GS-1.

# Comment GS-3

I haven't seen anything addressing the Cascadia Subduction Zone earthquake. (3571)

## Response to GS-3

Refer to Response to GS-1.

# Comment GS-4

Seismic: The DEIS [understates] the likelihood of a subduction earthquake event. The average recurrence interval of a magnitude 8 to 9 earthquake on the Cascadia subduction zone is estimated at 240 years, and the last major earthquake occurred in 1700. A recent study estimates a 37% probability (i.e., greater than 1 in 3) that a magnitude 8 to 9 or greater earthquake will occur somewhere along the Cascadia fault in the next 50 years (Goldfinger, C. et al. 2012). This affects operations, as it would result in direct impacts related to ground shaking, landslides, and liquefaction, and should be analyzed in the Operations-Direct Impacts section of the FEIS.

- Please provide mitigation measures to ensure that the facility, including coal storage and handling processes and structures (including loading and offloading), are resilient under a magnitude 8 to 9 earthquake along the Cascadia fault.
- Please provide mitigation measures to address coal train derailments and resulting coal spills both in the Project Area and along the rail routes in the event of a magnitude 8 to 9 earthquake along the Cascadia fault. (2691)

## Response to GS-4

Refer to Response to GS-1.

The 240-year interval for a large CSZ earthquake identified in Goldfinger et al. (2012) applies to the southern segment (Segment D) of the CSZ. The Proposed Action is in the northern segment (Segment A), which has a 500- to 530-year recurrence interval (Goldfinger et al. 2012). Currently, the northern segment is not overdue for a major earthquake assuming the last subduction zone earthquake occurred around 1700. Additionally, Goldfinger et al. (2012) estimates approximately a 7–12% chance of an earthquake occurring in the next 50 years in Segment A, compared to an approximate 37–43% chance of occurring in Segment D.

# Comment GS-5

The Draft EIS does not discuss how liquefaction risks affect coal stockpiles or other infrastructure, including the loading booms. (3227)

## Response to GS-5

Liquefaction risks were discussed in Draft EIS Chapter 4, Section 4.1.5.1, *Proposed Action*, *Operations—Direct Impacts; Seismic-Related Ground Failure (Liquefaction)*. This section stated the risk of liquefaction would be reduced for the stockpile areas as a result of the preloading the stockpile pads during construction (Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, described the preloading process). Preloading would expel groundwater and consolidate the soils beneath the stockpile pads, reducing the potential susceptibility of the stockpile pads to liquefaction.

Other elements of the Proposed Action, such as buildings, conveyors, transfer towers, trestle and docks, would be constructed in accordance with existing building requirements and codes, as mentioned in Section 4.1.5.1, *Proposed Action*. Such building requirements and codes are intended to reduce the risk of earthquake damage.

# Comment GS-6

The water table in the area is between 3 and 20 feet below grade. Additionally the potential for earthquakes with significant damage potential exists with settling between 7 and 16 inches in the area. These factors indicate the existing soil does not have sufficient strength to hold the weight of this proposed project. Significant weakness exists and the No Action Alternative is recommended. (2572)

## Response to GS-6

Refer to Response to GS-5.

# Comment GS-7

The Draft EIS states there are no earthquake faults in the area. The Draft EIS should be modified to further clarify with references that there are no *known* earthquake faults in the area. (3227)

## Response to GS-7

Final EIS Section 4.1.5.4, *Proposed Action; Operations—Direct Impacts, Earthquake Faults,* has been revised to state there are no known earthquake faults in the study area.

# Comment GS-8

As stated in the Draft EIS, there is little risk of the operations of the project causing landslides but does not consider the potential increase in Columbia River bank failure, slumping or erosion from the increased in large vessel transport. This is a continuing issue in the lower Columbia, particularly in areas of Wahkiakum County (Babcock, 1989 & Wahkiakum County) and should be assessed in the FEIS. (2691)

## Response to GS-8

Draft EIS, Chapter 4, Section 4.1, *Geology and Soils,* stated much of the shoreline of the Columbia River in the study area has been armored with riprap along the length of the levee adjacent to the Proposed Action. The riprap protects the levee from erosion, while the levee itself disconnects the floodplain from the river. Therefore, the risk of bank failure, slumping or erosion in the study area would be unlikely as the levee is maintained to ensure such impacts do not occur or compromise the integrity of the levee.

# Comment GS-9

Increased wet season precipitation and increased frequency and magnitude of extreme storms due to climate change is projected to increase the frequency of landslides. Please assess the likelihood of additional landslides on the project area and rail lines along the entire rail route or routes. If an increased likelihood of landslides is found, please assess the effect on the likelihood of derailment and spills into the Columbia River or other state-owned aquatic land or state-owned upland. If additional risk is identified, please provide appropriate mitigation measures for the project area and all relevant rail routes. (2691)

## Response to GS-9

Draft EIS Chapter 4, Section 4.1, *Geology and Soils*, evaluated potential impacts related to landslides in the study area. The project area is near the active deep-seated landslide on the south side of Mount Solo, but the analysis concluded the Proposed Action would not increase the risk that a landslide would occur. The study area for geology and soils is shown in Figure 4.1-1. The rail lines along the entire rail route(s) are not within the defined study area for the geology and soils analysis. The Master Response for Geographic Study Areas of the EIS addresses the commenter's request for an assessment of the entire rail route and explains why such an assessment is outside the scope of the EIS.

# Comment GS-10

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| A | **4.1 Geology and Soils**<br>Page 4.1-13, last paragraph | Revise: *"However, imported preload and rail ballast materials would be washed prior to delivery to the project area."* | There is no requirement nor intention on the part of the Applicant to wash ballast and preload materials before delivery. |
| B | **4.1 Geology and Soils**<br>Page 4.1-15, Ground Shaking | Suggest that the second sentence be changed to read: "*…between 0.4 to 0.5 g, which has a 2% chance of being exceeded in 50 years*" | Current text is missing the time period in reference to the per cent risk |

(3070)

## Response to GS-10

The following describes the changes made to Final EIS Chapter 4, Section 4.1, *Geology and Soils,* in response to these comments. Refer to the left-most column of the above table for lettering used to identify each comment.

- **Comment A:** The statement regarding preload and rail ballast materials has been deleted.

  **Comment B:** The time period for the risk percentage has been provided.

# 4.2 Surface Water and Floodplains

This section presents responses to substantive comments related to surface water and floodplains.

## Comment SWF-1

On page 39, 4.2-16, in the paragraphs under "Temporarily increased Turbidity and impact on benthic habitats," removal of 225 linear feet of the current levee is discussed; what flood controls will be in place with the newly constructed docks and loading facilities after removal of the levee? Will the proposed facility be built up to be above grade, or above the current 16' elevation of the property? Was the levee made redundant by upstream channel-spanning dams providing flood control in this lower section of the river? (0810)

### Response to SWF-1

The 225 linear feet of levee to be removed is not part of the Consolidated Diking Improvement District No. 1 (CDID #1) levee system that protects the project area from flood events. The levee to be removed is part of two timber pile dikes (a western pile dike and eastern pile dike) that extend into the Columbia River perpendicular to the shoreline. Many of these pile dikes were constructed by the Corps in the lower Columbia River between 1885 to 1969 to trap sediment and redirect flow toward the Columbia River navigation channel. The two existing timber pile dikes are located in the areas where dredging and dock and trestle construction would occur. As part of this construction, approximately 225 linear feet of these pile dikes would be removed—the waterward-most 125 feet from the western pile dike and waterward-most 100 feet from the eastern pile dike. The discussion of the pile "levees" has been revised in the Final EIS to pile "dikes," to improve clarity. Final EIS Chapter 4, Section 4.2, *Surface Water and Floodplains,* Figure 4.2-4, has also been revised to show the location of the pile dikes and a reference the figure has been added to the discussion of the existing pile dikes.

The elevation of the Proposed Action would be determined during final engineering and design. The project area behind the CDID levee is not within the regulatory floodplain (i.e., the Federal Emergency Management Agency [FEMA]-mapped 100-year floodplain) and the Proposed Action would not be required to be raised in elevation or developed per local floodplain development ordinance or FEMA requirements.

## Comment SWF-2

EO 11988, Floodplain Management requires federal agencies to avoid short and long term impacts associated with floodplain occupancy and modification wherever there is a practicable alternative. The Draft EIS states that because the proposed project site does not currently function as a floodplain, the project does not decrease Columbia River's floodplain capacity. **The Draft EIS does not provide any discussion about how the site selected, or how the Applicant attempted to avoid direct or indirect floodplain development.** The Applicant infers repeatedly that the levee system exempts them from considering the floodplain as a floodplain. However, a levee system is necessary because the site is entirely within a historic floodplain (Pages 4.2-8, 12, 16). Additionally, the Draft EIS presents the Columbia River Levee as a permanent structure that protects the project area indefinitely from the Columbia River. No discussion is provided about the existing levee

condition, the expected life expectancy of the levee, pump, or ditching system, the project's investment into the CDID #1 utility, how climate change and sea level rise may impact the levee, or any additional information that allows reviewers to evaluate the safety of the levee system. We are disappointed with the Draft EIS's characterization and again it shows the bias of this document in favor of the Applicant's proposed action. (3227)

## Response to SWF-2

Executive Order 11988 applies to federal agencies; therefore, this Executive Order does not apply to Ecology or Cowlitz County for the Proposed Action under this SEPA review.

While the Proposed Action would be located within a historic floodplain, the project area currently does not function as a natural floodplain and is disconnected from Columbia River high water flows because of the CDID #1 levee. The levee, pumping systems, drains and ditches that protect the project area are the responsibility of CDID #1 and not the Applicant. CDID #1 is responsible for operating and maintaining the CDID #1 levee for the purpose of flood protection against external flooding from the Columbia River and internal flooding from storm drainage runoff from lands adjacent to and inside the CDID #1 levee system. The CDID #1 stated mission is to "protect life, property, and environment by providing comprehensive flood protection."

As stated by CDID #1, district personnel routinely inspect the CDID #1 levee for issues that may affect the levee's structural integrity and its ability to perform adequately during storm events (Consolidated Diking Improvement District No. 1 2016). These issues include, but are not limited to, vehicular damage, root intrusion, erosion, unauthorized construction activities, and animal burrows. Issues of significance are repaired in consultation with the CDID #1 diking engineer and the Corps. Inspection intervals are increased during periods where high water is predicted and encountered, as well as after high water events to ensure no related damage is unaccounted for. In addition to ongoing inspections conducted by CDID #1 personnel, the district participates in two of the Corps' inspection programs. These programs ensure that the operations and maintenance work undertaken by CDID #1 is in conformance with federal standards.

# Comment SWF-3

The Draft EIS also fails to recognize pending re-negotiation of the Columbia River Treaty between the U.S. and Canada. The Proposed Action is likely to have a considerable impact toward negotiation efforts. We request an analysis of the potential impacts that the Proposed Coal terminal would have on this Columbia River management Treaty as it pertains to ability of increasing river flows for a better ecosystem function of the Columbia River. Also, if a future amended Treaty that increases water flows of the Columbia River happens, what impact would that potentially have on the Proposed Action? (3227)

## Response to SWF-3

The Columbia River Treaty is an international agreement between Canada and the United States for the cooperative development and operation of the water resources of the Columbia River Basin for the benefit of both countries. The Proposed Action would not affect development or operation of water resources in the Columbia River basin, and would not use water from the Columbia River for construction or operations. Because the Proposed Action would not increase or decrease flow of the Columbia River, there would be no potential for impacts related to the Proposed Action. The Master

Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

# Comment SWF-4

The DEIS describes the levees built in the 1920s at a height of 36 feet above sea level. Please define the height of the lowest point of the levee above the highest tide. What is the likelihood of this point being overtopped at the end of the facility's expected life when considering projected sea level rise, high highest tide, storm surge, erosion, and the seismic uplift or subsidence?

Also, the DEIS does not define whether these levees are certified by FEMA to withstand a 1% annual chance of flood. Please state whether the levees are—or are not—FEMA certified. If not, the levees should not be considered as protective against inundation. The project area is currently in Zone X, which may be inundated by up to 1 foot of water in a 100 year flood. How will this change by the end of the facility's life when considering projected sea level rise, highest high tide, storm surge, erosion, and seismic uplift or subsidence? If the levees are not currently certified by FEMA to withstand a 1% annual chance of historic flood, please provide appropriate mitigation measures. If, given climate change impacts, the risk of levee overtopping at the end of the facility's life is greater than 1% annual chance, please provide appropriate mitigation measures. (2691)

## Response to SWF-4

Draft EIS Chapter 4, Section 4.2, *Surface Water and Floodplains*, noted the CDID #1 levee along the project area averages 36.4 feet Columbia River Datum (CRD). The mean higher high water (MHHW) tidal elevation at the National Oceanic Atmospheric Administration Longview Columbia River monitoring station (Station ID 9440422) is 6.991 feet CRD. The highest Columbia River flow recorded at the monitoring station was 13.36 feet CRD on January 2, 2006 (National Oceanic Atmospheric Administration 2016). This station is approximately 3 miles upstream from the project area. Based on these data, the top of the CDID #1 levee is 29.409 feet above the MHHW and 23.04 feet above the highest river flow recorded at the monitoring station.

FEMA does not build, own, operate, maintain, or certify levees. However, FEMA can accredit levees that provide protection from the 1% annual-chance flood (i.e., 100-year flood or base flood). This is the minimum protection level federally required to accredit a levee, which allows FEMA to remove the high-risk 100-year flood area behind a levee from a Flood Insurance Rate Map (FIRM). The CDID #1 levee that protects the project area has been provisionally accredited by FEMA, and the current FIRM states the Zone X area behind the CDID #1 levee is protected from the 1% annual-chance or greater flood hazard by a levee system that has been provisionally accredited (Federal Emergency Management Agency 2015). When a community with an existing accredited levee is being remapped, the levee owner must provide the proper documentation to certify the levee still meets the federal requirements. The community has 24 months to provide FEMA with the documentation that the levee continues to provide protection from at least the 100-year flood; during this period FEMA provisionally accredits the levee. The FIRMs that cover the study area were remapped in December 2015; as a result, the CDID #1 levee is currently provisionally accredited to withstand the 100-year flood, as shown in the 2015 FIRM. It is anticipated that the provisional status will be removed at some point within the 24-month period once the documentation is submitted to FEMA to obtain full accreditation. FEMA states that overtopping or failure of any levee is always possible, regardless of accreditation. The CDID #1 levee is substantially higher (more than 23 feet) than the highest flows recorded at the Longview Columbia River monitoring station.

Draft EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, noted the impacts of sea-level rise at the project area are expected to be minimal because the area is 50 miles inland from the Columbia River estuary. Potential future sea level rise is not anticipated to affect the CDID #1 levee that protects the project area if CDID #1 operates and maintains the levee system to account for such future events. FEMA does not map flood hazards based on anticipated future sea levels or climate change because over the lifespan of a flood insurance study, changes in flood hazards from sea level rise and climate change are typically not large enough to affect the validity of the study results (Federal Emergency Management Agency 2016).

# Comment SWF-5

The EIS should assess the potential for construction of the project to "redirect sheetflow and potentially lead to localized flooding on or off site" to increase sediment loads and changes in downstream channel sinuosity as both direct and INDIRECT impacts. Water storage and treatment within the coal storage area discussed on page 15 needs to develop a treatment option for large storm events that eliminates potential discharge of contaminants for existing outfall 002A in to the Columbia River. (2691)

## Response to SWF-5

The Draft EIS assessed potential impacts related to increasing sediment loads and changes in downstream channel sinuosity. The analysis concluded the potential for this impact would be limited because of the existing drainage ditches, detention system, and discharge system that currently exist and control runoff at the project site. Because runoff would be regulated by strict stormwater requirements, runoff would be highly controlled at the project area. Compliance with legal requirements would prevent the discharge of sediment loads that could change downstream channel sinuosity during construction or operations.

As stated in Draft EIS Chapter 4, Section 4.2, *Surface Water and Floodplains*, *Alter Drainage from Heavy Equipment and Staging Areas*, direct impacts from redirection of sheetflow and localized flooding during construction would be unlikely because the Applicant must comply with erosion and sediment control best management practices and the requirements of the National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit that would be obtained for the Proposed Action. Compliance with these measures would avoid and minimize potential impacts related to sheetflow and localized flooding during construction. All measures would be monitored to ensure effectiveness. Weekly inspection and an inspection within 24 hours of a rain event would likely be required under the NPDES Construction Stormwater Permit, and the inspections must be performed by a Certified Erosion and Sediment Control Lead. In addition, The CDID #1 system currently operating at the project area controls local stormwater runoff and depresses the groundwater elevation to prevent and manage localized flooding. Water levels in the CDID #1 ditches are maintained below the water surface elevation of the Columbia River. Groundwater that discharges into the CDID #1 ditches and stormwater that is collected in the CDID #1 ditches is actively pumped by the CDID #1 system to the Columbia River through a network of pump stations and valves to maintain water levels below the level of the Columbia River. Therefore, construction of the Proposed Action would not result in offsite discharges or indirect impacts on surface waters due to the containment and management of stormwater runoff. The CDID #1 system would continue to be in place and perform the same function during operations.

# Comment SWF-6

Discharges of stormwater and process water from the Proposed Action during operations would comply with the conditions outlined in a National Pollutant Discharge Elimination System (NPDES) Industrial Stormwater Permit that would be required prior to operations. As stated in Draft EIS Chapter 4, Section 4.2 *Surface Water and Floodplains*, Ecology's criteria would be used as the basis of design for storage and treatment of stormwater runoff, which uses the Western Washington Hydrology Model computer simulation for facility sizing; and additional water storage would be provided in the coal storage area in the event of a larger storm. All water discharged to the Columbia River would be required to meet specific water quality standards set forth in the NPDES permit prior to discharge.

The Columbia River below Bonneville Dam is considered a wild and uncontrolled river with many rivers, creeks, waterfalls, and streams making a direct connection to the Columbia River. The Columbia River has 17 major tributaries and the Willamette has 14 major tributaries and both systems have numerous lesser connections. Combined there are 67 supply inputs below Bonneville Dam and make this a very wild and dynamic river system. The SEPA DEIS fails to mention this fact that the river is a wild river system with flood and hydroelectric power dams below Bonneville only of a limited number. (2572)

## Response to SWF-6

The study areas for the surface water and floodplains analysis were described in Draft EIS Chapter 4, Section 4.2.2, *Study Area*, and shown in Figures 4.2-1 and 4.2-2. These study areas include a small portion of the Columbia River; therefore, descriptions of the greater Columbia River, its tributaries, and other elements of the Columbia River basin outside the study area are not provided.

# Comment SWF-7

CDID #1 operates the slough, ditch, and drain system several feet lower than the low-flow elevation of the Columbia River throughout the year. This strategy provides necessary storm water storage capacity and allows the pump system to maximize the flood control potential of the levee's interior drainage. The combined capacity of the seven CDID #1 pump stations (a total of 19 pumps) is 700,000 gallons per minute. These pump stations are instrumental for removing storm water and preventing local and area-wide flooding. The need for this pumping capacity is apparent when considering that 1 inch of rainfall on the 16,000-acre watershed is equivalent to 434 million gallons of water. Removal of 4.8 inches of rain deposited in a 1986 storm required 54 hours of continuous pumping. There has been many times since 1986 that large single event rains are greater than 4.8 inches. The past 30 year data needs to be fact checked for additional high flow events. (2572)

## Response to SWF-7

The Final EIS has been updated to clarify that the 1986 storm is an example of how the system handles rain events. Including additional higher or lower flow events would not change the analysis or conclusions in the Draft EIS. The CDID #1 system would remain in place and would address rain events with or without the Proposed Action.

# Comment SWF-8

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| A | **4.2 Surface Water and Floodplains**<br>Page 4.2-4 & 5, Figures 4.2-1 and 4.2-2 | "*……. Downstream 1 mile from the project area"* | Figure 4.2.1 and 4.2.2 show the indirect study area extending 2 miles downstream of the project area, not 1 mile as in the text. |
| B | **4.2 Surface Water and Floodplains**<br>Page 4.2-14, Section 4.2.5.1, second bullet | *"Based on site grading and drainage areas, five water quality ponds (Wetponds) will treat runoff based on Ecology's requirements"* | This needs to be checked against the Water Management Plan. There are not five ponds planned. |
| C | **4.2 Surface Water and Floodplains**<br>Page 4.2-15, top of the page | *"some surface ponding will occur in both the yard areas and open conveyance systems."* | The open conveyors are designed to drain water not hold water. |
| D | **4.2 Surface Water and Floodplains**<br>Page 4.2-15, top of the page | *"The piped conveyance systems will be sloped at a 0.50% minimum."* | The proposed conveyance system is not considered a "piped conveyance system." |
| E | **4.2 Surface Water and Floodplains**<br>Page 4.2-17, Operations – Direct Impacts, Alter Water Collection and Discharge, first paragraph, last sentence | This statement is incorrect *"The Proposed Action would include modifications to the existing stormwater management system to address the anticipated need."*<br>We suggest that this be rewritten: *"The Proposed Action would develop a water management system, including capture of stormwater from the project area, separate from the existing stormwater management system and isolated from it."* | The statement as written is incorrect. |
| F | **4.2 Surface Water and Floodplains**<br>Page 4.2-17, Operations – Direct Impacts, Alter Water Collection and Discharge, second paragraph, first sentence | *"The proposed modifications to the water management system would……"* Change this to read "The Project Water Management System would ….." | A new Water Management System would be developed for the project. |

(3070)

## Response to SWF-8

The following describes the changes made to Final EIS Chapter 4, Section 4.2, *Surface Water and Floodplains*, in response to these comments. Refer to the left-most column of the above table for lettering used to identify each comment.

- **Comment A:** Figure 4.2-1 has been revised to show the indirect impacts study area for surface water extending 1 mile downstream of the project area. The extent of the indirect impacts study area for floodplains shown in Figure 4.2-2 is accurately based on the 500-year floodplain surrounding the project area and has not been revised.
- **Comment B:** The number of water quality ponds presented in the Draft EIS was consistent with information received from the Applicant on July 31, 2014, as well as the *Summary of Applicant Provided Design Features and Mitigation Measures – Revised September 10, 2015,* prepared by the Applicant.
- **Comment C:** The statement regarding surface ponding in the open conveyance system was based on information received from the Applicant on July 31, 2014, as well as the *Summary of Applicant Provided Design Features and Mitigation Measures – Revised September 10, 2015,* prepared by the Applicant.
- **Comment D:** The use of a piped conveyance system for the proposed conveyance system was based on information received from the Applicant on July 31, 2014, as well as the *Summary of Applicant Provided Design Features and Mitigation Measures – Revised September 10, 2015,* prepared by the Applicant.
- **Comment E:** The statement regarding the stormwater management system has been revised in the Final EIS.
- **Comment F:** The statement regarding the water management system has been revised in the Final EIS.

# Comment SWF-9

I want to know how the proposed new routes are going to effect the Columbia River and its tributaries along these routes. (3765)

## Response to SWF-9

The Proposed Action would not create new rail routes. The study areas for the surface water and floodplains analysis were described in Draft EIS Chapter 4, Section 4.2.2, *Study Area*, and shown in Figures 4.2-1 and 4.2-2. The Master Response for Geographic Study Areas of the EIS explains the rationale for the limits of the study areas analyzed in the EIS.

# 4.3 Wetlands

This section presents responses to substantive comments related to wetlands.

## Comment WTL-1

Wetlands will likely be evaluated in greater detail in the US Army Corps of Engineer's NEPA document. However, the Cowlitz Indian Tribe would like to note the following omissions or inappropriate characterization with the Draft EIS document:

- The proposed project will impact 24.10 of 86.95 acres of wetlands within the overall study area. The wetlands in the project area are "primarily supported by high groundwater and direct precipitation." (page 4.3-12)
- The Draft EIS inappropriately classes the wetlands' wildlife and hydraulic functions as 'limited' or 'low' because of the existing heavy industrial land use on the site and in adjacent areas. (page 4.3-16)
- The Draft EIS does not address impacts to buffers; identify buffer widths, or areal buffer impacts. (page 4.3-18)
- The Draft EIS does not provide any information about mitigation proposals, instead noting that mitigation plan 'will be developed.' (page 4.3-18)
- Tidal wetland habitat is the most impacted habitat type in the Lower Columbia River estuary, with up to 71% loss since 1870.
- Mitigation opportunities are rare and both federal and state regulations require no net loss of wetland habitat.
- The Draft EIS does not evaluate wetland loss as required by Washington State Department of Ecology's matrix to avoid, minimize, mitigate. The Applicant provides no discussion about the first two options, and does not provide a path to mitigate other than "mitigation actions may be implemented at one or several locations."
- The Draft EIS does not appropriately provide a negotiated mitigation ratio, or offer to mitigate on-site which is preferred option to off-site mitigation.
- The Draft EIS inappropriately states that 24.10 acres of direct wetland fill, plus associated buffer impacts, qualifies as "no unavoidable or significant adverse environmental impact."(page 4.3-18)

(3227)

### Response to WTL-1

The wildlife, hydrology, and water quality functions of each wetland in the study area were determined using the Washington State Wetland Rating System for Western Washington (Hruby 2006). This method involved answering questions on a rating form regarding each wetland's characteristics (e.g., soil, vegetation, hydrology) and characteristics on the surrounding environment of the wetland. The summary of ratings and functions of wetlands in the study area was provided in Draft EIS Chapter 4, Section 4.3, Section 4.3.4.4, *Wetland Ratings and Functions*, and the supporting documentation and rating forms are found in the cited Grette documents that informed the *SEPA*

*Vegetation Technical Report*, and the Draft EIS. Each wetland's habitat, hydraulic, and water quality function were determined using standard methods appropriate for the SEPA EIS. According to the survey, no tidally influenced wetlands are present within the study area. More detailed wetland analyses would be part of future Clean Water Act permit processes.

Wetland buffers in relation to wetland ratings were described in Draft EIS Chapter 4, Section 4.3, *Wetlands*, Section 4.3.4, *Existing Conditions*. Buffer distances will be required to be maintained for remaining wetlands identified in the study area (all Category III and IV wetlands) which were identified in Draft EIS Chapter 4, Section 4.3, Section 4.3.5.1, *Proposed Action, Construction—Direct Impacts*. Impacts on buffers of wetlands that would be eliminated in the project area were not addressed in detail because construction would permanently fill four wetlands, making a wetland buffer impact analysis unnecessary because there would no longer be any wetland for a wetland buffer to exist. The one wetland that would be partially filled (identified as Wetland Y in the Draft EIS), has an associated buffer that would also be partially filled. The unfilled portion of Wetland Y would maintain its wetland buffer (i.e., not be affected) around the unfilled portion of the wetland. The Final EIS has updated information clarifying that there is no requirement for buffers if wetlands are permanently filled.

Mitigation to ensure no net loss of wetlands may be satisfied in several ways by the Applicant, and may include purchasing credits in a wetland bank, or permittee-responsible mitigation (e.g., creating or restoring a wetland). The type of wetland mitigation would be determined during the Section 404/401 permitting process, and a comprehensive mitigation plan would be prepared in coordination with the Corps, Cowlitz County, and Ecology. The proposed mitigation plan would undergo public review and agencies would consider public comment as part of the regulatory review process. A comprehensive wetland mitigation plan is not required as part of the SEPA environmental review process. Rather, the comprehensive mitigation plan would be prepared as part of the permitting processes for the Proposed Action.

Wetland avoidance and minimization under Clean Water Act Section 404 regulations and Washington regulations would be demonstrated during final engineering and design and during the Section 404 permitting process. Mitigation ratios, if used to determine adequacy of mitigation, would be developed consistent with current local, state, and federal guidance and regulations.

Although construction of the Proposed Action would result in the unavoidable loss of wetlands in the project area as a result of direct fill, regulatory requirements for no net loss of wetland functions and values would compensate for impacts on wetlands.

# Comment WTL-2

No consideration is given to coal dust impacts to the remaining 62+ acres of wetlands at the site due to smothering (which could be considered another method of "fill"), changes in pH (increased acidity), nutrient status, in the EIS. The importance of the wetlands at this location adjacent to the Columbia river in providing water storage during lower flow times and during flood stages and the loss of floodplain function at this site is not considered by the EIS, as well as the water quality impacts of water seeping into the Columbia via groundwater recharge from the adjacent remaining wetlands. The EIS ridiculously asserts no significant unavoidable adverse impacts from the project. Impacts to the remaining 62 acres of wetlands adjacent to a major river estuary being converted to a major dirty polluted industrial site is not insignificant, especially since the EIS has not identified a suitable mitigation site that could adequately replace the existing wetlands. (3426)

## Response to WTL-2

Wetland impacts are evaluated for wetlands identified in the direct and indirect impacts study areas established by the SEPA co-lead agencies and the Corps. The indirect impacts study area presented in the Draft EIS has been revised in the Final EIS for consistency with the NEPA Draft EIS, which the Corps published on September 30, 2016, after the SEPA Draft EIS. The Corps, as the lead federal agency under the Clean Water Act with jurisdiction of waters of the United States, defined the direct and indirect impacts study areas for the wetlands analysis. The SEPA co-lead agencies coordinated with the Corps to establish the indirect impacts study area. Thus, the study area for indirect impacts has been revised in the Final EIS in coordination with the Corps. Of the 62+ acres of wetland area referenced by the commenter, only Wetland Y (approximately 3 acres) is within the indirect impacts study area for wetlands. The remaining acres are outside the wetland study areas for the EIS. The Master Response for Geographic Study Areas of the EIS explains the rationale for the geographic limits of the study areas analyzed in the EIS.

Impacts on wetlands in the direct impacts study area (i.e., the footprint of the Proposed Action) are disclosed as permanent wetland loss in the Final EIS. These permanent impacts would be mitigated as required by the Clean Water Act Section 404 permit process and when mitigated the Clean Water Act concludes no net loss of wetlands would occur. Impacts on wetlands in the indirect impacts study area (i.e., the project area and immediate vicinity where wetlands may be affected by construction or operation of the Proposed Action) include non-fill impacts on Wetland Y. These impacts are addressed in Final EIS Chapter 4, Section 4.3, *Wetlands*, and account for coal dust impacts on vegetation. Coal in the aquatic environment (including wetlands) and its effect on pH and water chemistry were addressed in the *SEPA Coal Technical Report*, and Draft EIS Chapter 4, Section 4.5, *Water Quality*.

The habitat, water quality, and hydrology (e.g., flood attenuation) functions of wetlands identified in the direct and indirect impacts study areas were assessed and described in *the SEPA Vegetation Technical Report*, and Draft EIS Chapter 4, Section 4.3, *Wetlands*, and have been revised in the Final EIS. As stated in the Draft EIS, wetlands in the direct impacts study area would be completely filled and all wetland functions would be lost. The Clean Water Act Section 404 would require that these impacts be mitigated to ensure no net loss of wetlands. None of the wetlands in the direct impacts study area are within Federal Emergency Management Agency (FEMA)-mapped 100-year floodplain or hydrologically connected to Columbia River flows due to the Consolidated Diking Improvement District No. 1 (CDID #1) levee, which disconnects the project area from Columbia River flows. Therefore, there is no flood storage of Columbia River flood waters provided by these wetlands. Because of the CDID #1 ditches, the normal shallow groundwater movement and seepage is changed so that groundwater does not move toward the river. Draft EIS Chapter 4, Section 4.4, *Groundwater*, further described how shallow groundwater in this area flows away from the Columbia River toward the CDID #1 ditches. The CDID #1 ditches collect discharged groundwater, which eventually discharges to the Columbia River at a CDID #1 outfall. All discharge to the Columbia River from the CDID #1 outfall must meet all water quality standards National Pollutant Discharge Elimination System (NPDES) permit requirements.

# Comment WTL-3

The Draft EIS discusses vessel wakes in terms of erosions and fish stranding but omits the impacts of vessel wake impacts on wetland systems throughout the lower Columbia River. These systems are composed of several features, and erosion and wake energy disrupt and erode fringe habitats that

are critical to long term recovery of the Columbia River estuary ecosystem and would have an impact toward habitat restoration efforts which this Draft EIS fails to recognize. (3227)

## Response to WTL-3

Wetlands that may be present along the lower Columbia River are outside of the wetland study areas defined in Draft EIS Chapter 4, Section 4.3, *Wetlands*. The Master Response for Geographic Study Areas of the EIS explains the rationale for the geographic limits of the study areas analyzed in the EIS.

# Comment WTL-4

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| A | **Summary**<br>Page S-21, Wetlands, Construction, first paragraph, last sentence | The last sentence of the first paragraph should be revised to: "*Implementation of the proposed mitigation (Table S-2) to prepare a comprehensive wetland mitigation plan* <u>*would*</u> ~~*could*~~ *off-set the impact.*" | The DEIS states that implementation of proposed mitigation "**would**" compensate for the loss of wetlands that are filled completely. In next two sentences discussing partial filling of Wetland Y, the DEIS states that implementation of the proposed mitigation "**could**" off-set the impact. This should be changed to "**would**" to be consistent with previous statement regarding compensatory mitigation. |
| B | **4.3 Wetlands**<br>Page 4.3-3, Section 4.3.3.1: Information Sources | Second sub-bullet should read: "*Bulk Product Terminal Wetland and Stormwater Ditch* <u>*Reconnaissance*</u> ~~*Delineation*~~*Report– Parcel 10213* (Grette Associates 2014b)". | Bulk Terminal Wetland Report for Parcel 10213 is misidentified. |
| C | **4.3 Wetlands**<br>Page 4.3-6, Figure 4.3-1 Wetlands in the Study Area | Revise figure to indicate surface water feature along bank of Columbia River in southeast portion of site as "unsurveyed." | The feature in the lower right corner of the figure categorized as Surface/Stormwater Features, was characterized as "unsurveyed" in the Grette report. |
| D | **4.3 Wetlands**<br>Page 4.3-9, Figure 4.3-4 Wetlands in the Study Area – South | Revise figure to indicate surface water feature along bank of Columbia River in southeast portion of site as "unsurveyed". | The feature in the lower right corner of the figure categorized as Surface/Stormwater Features, was characterized as "unsurveyed" in the Grette report. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| E | **4.3 Wetlands**<br>Page 4.3-10, Table 4.3-2: Wetlands Identified in the Study Area | Revise table. AS1 size should be 8.86 acres, instead of 8.72 acres. Wetland total should be revised to 87.09 acres, instead of 86.95 acres. | Wetland AS1 is reported to be 8.72 acres in size. According to *Bulk Product Terminal Wetland and Stormwater Ditch Reconnaissance Report–Parcel 10213* (Grette Associates 2014b), Wetland AS1 is 8.86 acres in size. |
| F | **4.3 Wetlands**<br>Page 4.3-11, Section 4.3.4.2 - Scrub-Shrub Wetlands | Area of forested wetlands may be incorrectly calculated. | To calculate the area of forested wetland in Section 4.3.4.1, ICF divided the acreages of wetlands C and NW4 in half, presumably since the wetlands are listed as PEM/PFO and PSS/PFO, respectively. Here, it appears they used a different breakdown. Using the above logic, the total would be 7.46 acres of PSS wetland as opposed to the 5.10 acres reported in the DEIS. Grette Associates did not report a breakdown of wetland classes by acreage. The EIS text needs to identify methods used and remain consistent with the source documents. |
| G | **4.3 Wetlands**<br>Page 4.3-11, Section 4.3.4.3: Emergent (Herbaceous) Wetlands | Acreage for Emergent Wetland may be incorrectly calculated. | Same comment as above. Unclear how the EIS authors came up with this acreage for Emergent Wetland (73.67 acres) considering several wetlands have more than one Cowardin class. This total also includes the incorrect wetland acreage in Comment above regarding Table 4.3-2. |
| H | **4.3 Wetlands**<br>Page 4.3-16, Section 4.3.5.1 – Proposed Action, Construction - Indirect Impacts | Coal dust settling on vegetation is identified as an indirect impact in the construction section. | This topic should be addressed in operations rather than construction. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| I | **4.3 Wetlands**<br>Page 4.3-18, Section 4.3.7.1 - Applicant Mitigation | *"Any applicant-sponsored mitigation will be consistent with mitigation ratios as stipulated local, state and federal guidance and regulations."* | It is unclear why the DEIS states that the highest wetland mitigation ratio must be used. The process for developing ratios for wetland mitigation is contained in *Wetland Mitigation in Washington State* (Washington State Department of Ecology, U.S. Army Corps of Engineers Seattle District, and U.S. Environmental Protection Agency Region 10, 2006). This guidance, along with the requirements of the appropriate local, state and federal agencies, are used to develop mitigation ratios for impacts to wetlands.<br>In the subsequent paragraph, the DEIS explains that the mitigation ratios will be developed "consistent with current local, state and federal guidance and regulations". The preceding paragraph should be revised to be consistent with this statement. |
| J | **Volume II**<br>**Appendix A - References**<br>Page A-14, Section 4.3 Wetlands | Revised the Grette 2014b reference as follows:<br>Grette Associates, LLC. 2014b. *Bulk Product Terminal, Wetland and Stormwater Ditch* <u>*Reconnaissance*</u> ~~*Delineation*~~*Report– Parcel 10213*. | Bulk Terminal Wetland Report for Parcel 10213 is misidentified. |

(3070)

## Response to WTL-4

The following describe the changes made to Final EIS *Summary,* and Chapter 4, Section 4.3, *Wetlands*, in response to these comments. Refer to the left-most column of the above table for lettering used to identify each comment.

- **Comment A:** The sentence in Section S.6.2.2 has been revised to be consistent with the language in Section 4.3: implementation of the proposed mitigation would reduce impacts on wetlands.
- **Comments B and J:** The Grette report title has been corrected in Section 4.3 and Appendix A.
- **Comments C and D:** Several surface/stormwater features are shown in Figures 4.3-1 and 4.3-4 and none of them are identified as being surveyed. Providing this notation on figures for the surface/stormwater feature along the Columbia River does not change the analysis or conclusions of the EIS.

- **Comments E, F, and G:** The acreages of the wetland study area and all wetland areas in the study area have been recalculated and updated in Table 4.3-2.
- **Comment H:** The discussion of coal dust impacts on wetland vegetation in Section 4.3.5.1, *Proposed Action,* has been moved from *Construction—Indirect Impacts* to *Operations—Indirect Impacts*.
- **Comment I:** The statement referenced in Section 4.3.7, *Proposed Mitigation Measures*, has been revised to clarify that ratios are one method for determining adequacy of mitigation and that the sufficiency will be determined by the agencies.

# 4.4 Groundwater

This section presents responses to substantive comments related to groundwater.

## Comment GW-1

The DEIS fails to disclose the potential impacts of heavy pumping of MBT's private wells during the dry season (for purposes of dust suppression) on the City of Longview's wells. (3327)

### Response to GW-1

The goal of Washington State water use laws is to ensure water users comply with the state's water laws so that other legal water users are not impaired, water use remains sustainable over the long term, and the environment is protected for the benefit of people and nature (Washington State Department of Ecology 2016). The Applicant has a lease with Northwest Alloys, the landowner, which includes water rights for groundwater withdrawals. The Applicant would operate the coal export terminal using these water rights or if the water rights have been relinquished, new water rights could be applied for by the Applicant or Northwest Alloys. The process of applying for new water rights would account for existing water rights of other water users to ensure their water rights are not impaired. Final EIS Chapter 4, Section 4.4, *Groundwater,* describes the historical water rights for the site and demonstrates that the proposed use of groundwater for the Proposed Action would be less than 10% of these water rights. The Draft EIS concluded that the Proposed Action's use of groundwater would not result in significant adverse impacts on nearby groundwater users, the City of Longview's drinking water wells, or the aquifer.

## Comment GW-2

There also was no discussion on groundwater impacts to other water users based on the applicant's large water right volumes. These large water rights could deplete the aquifer locally and adversely affect nearby water users. I saw discussion of hydrocarbon groundwater contamination, but there is a possibility for heavy metals leaching from the coal and affecting both surface water and groundwater. (0311)

### Response to GW-2

Refer to Response to GW-1 regarding the evaluation of impacts on groundwater users.

The analysis in the Draft EIS determined it is unlikely heavy metals would leach from coal and affect surface water or groundwater. As mentioned in Draft EIS Chapter 4, Sections 4.2, *Surface Water and Floodplains;* 4.4, *Groundwater;* and 4.5, *Water Quality*, the potential risk for exposure to toxic chemicals contained in coal would be relatively low, because these chemicals tend to be bound in the matrix structure and not quickly or easily leached. Additionally, all operational water and stormwater in the project area would be collected and treated to remove coal and other pollutants in accordance with the requirements of a National Pollution Discharge Elimination System (NPDES) Industrial Stormwater permit. Further, the Applicant would be required to comply with the City of Longview's Water Supply Protection Ordinance (Longview Municipal Code [LMC] 17.100), which

prohibits the discharge of contaminants in the Mint Farm Wellhead Protection Area and requires certain operations use best management practices.

# Comment GW-3

If additional wells are drilled to supply water for dust control in dry weather, how is the aquifer impacted? Do local wells in the area need to be drilled to a deeper depth? (1922)

## Response to GW-3

Refer to Response to GW-1 regarding the evaluation of impacts on groundwater.

Draft EIS Chapter 4, Section 4.4, *Groundwater,* described the relationship between the shallow unconfined aquifer and the deep aquifer. As discussed, there is a limited relationship between the shallow unconfined aquifer and the deep aquifer in the study area. The shallow aquifer and deep aquifer are separated from each other by a confining, impervious soil unit consisting of clay and silt and ranging in thickness from approximately 100 to 200 feet. The shallow aquifer is hydrologically connected to the Columbia River and groundwater in the shallow aquifer does not contribute significantly to the deeper aquifer because the deeper aquifer is primarily recharged by aquifers below the Columbia River (Anchor QEA 2014), rather than surface infiltration through the shallow aquifer. The hydrology of the project area is primarily driven by Columbia River water levels, which have a major influence on groundwater elevations in the shallow aquifer. The Mint Farm Regional Water Treatment Plant's groundwater wells supply the City of Longview with municipal drinking water. The plant draws groundwater from the deep aquifer that underlies the study area and not from the shallow aquifer that also underlies the study area.

# Comment GW-4

The project area is within the six-month, 1-year, and 5-year management zones. The Draft EIS states that the study area is not considered a major source of groundwater recharge for the deep aquifer and notes only that the construction activities *could* have an impact on the shallow water aquifer. The proposed action include compacting 90% of the site, using wick drains to withdraw ground water, and using surface water to wet down construction dust before treating and pumping to the Columbia River. **These actions, taken together, imply substantial change in ground water recharge capacity.** The Draft EIS admits to a minor point on page 4.4-18, noting that dewatering trenches may result in temporary fluctuations in the shallow groundwater aquifer. (page 4.4-16). We believe that the analysis and characterization of groundwater impacts is flawed and that the Draft EIS should further be analyzed based on appropriate references. (3227)

## Response to GW-4

As discussed in Draft EIS Chapter 4, Section 4.4, *Groundwater,* groundwater generally flows from the Columbia River toward and into the Consolidated Diking Improvement District No. 1 (CDID #1) drainage ditch system, and is pumped from these ditches by CDID #1 to maintain surface water levels below Columbia River levels. Preloading of the stockpile pads would consolidate soils beneath the stockpile pads, which would reduce the conveyance of groundwater within the consolidated soils. However, groundwater would continue to flow around and beneath, and to a lesser extent through, these consolidated soils. The direction and volume of groundwater recharge is expected to

remain relatively constant and would continue to be pumped out of the CDID #1 ditches into the Columbia River.

As stated in the Draft EIS, trenching activities may intersect groundwater in low-lying areas. Dewatering of trenches may result in temporary fluctuations in shallow groundwater in the immediate area. Fluctuations would depend on the rate water enters and is pumped from the trenches. If water was pumped from the trenches at a rate that exceeded the rate of groundwater recharge, the groundwater levels may fluctuate. The fluctuations would be temporary, last only the duration of construction, and would have no long-term impact on groundwater levels in the study area.

# Comment GW-5

The MBT project area contains a critical aquifer recharge area (4.3-17). The DEIS discloses that The Mint Farm Regional Water Treatment Plant is approximately 6,000 feet east of the eastern boundary of the project area and supplies drinking water to about 45,000 residents of Longview and the surrounding area. While the study area does not extend to the Mint Farm regional Water Treatment Plant, the project area lies within the Wellhead Protection Area (i.e., the 5-year Wellhead Protection Plan Source Area). (DEIS at 4.4-5)

An important document (Table 5-3 at p. 5-5, February 2012) demonstrates the flow of water in the Source Delineation Area (http://www.mylongview.com/modules/showdocument.aspx?documentid=998).

The plant draws from the deep aquifer, recharged by the Columbia River. Kennedy/Jenks Consultants (2010) completed water quality and environmental risk assessment as part of the preliminary design report for the Mint Farm Regional Water Treatment Plant. The risk assessment included sampling and water quality analysis of the groundwater from the deep aquifer of six wells. This study found no chemicals in the groundwater above their respective human health screening levels. (DEIS at 4.4-5)

However, in November 2012, Kennedy/Jenks Consultants repeated the water quality analysis from the same wells and found manganese and iron levels above the Washington State Department of Health secondary water quality standards.

They also found that arsenic was present in one of the city's drinking water wells, though at levels below the thresholds established by the U.S. Environmental Protection Agency (EPA) for drinking water quality standards. (DEIS at 4.4-5, 6) Arsenic is present in PRB coal and Uinta coal. (See Leyda EXHIBIT and see Table 4.5-4 at p. 4.5-25). Arsenic is present in the Columbia River. DEIS Table 4.5-5 demonstrates a proposed 303(d) listing for impairment for Columbia River in Oregon near River Mile 64 for arsenic (Table 4.5-3). With repeated exposure to arsenic-tainted DPM and arsenic-laden coal dust and with 1.5 million metric tons of coal sitting on site at full operation, it is possible that contamination of this drinking water source by arsenic and other pollutants could be become a bigger problem that it currently is. (3327)

## Response to GW-5

As discussed in Draft EIS Chapter 4, Section 4.4, *Groundwater,* the project area is within the 6-month, 1-year, and 5-year Wellhead Protection and Sanitary Control (WPSC) Areas. However, the coal

stockpile area is limited to the 5-year WPSC Area. Some improvements to the spur line would be located in the 6-month and 1-year WPSC Areas.

As further discussed in the Section 4.4, construction and operation of the Proposed Action is not anticipated to affect or degrade the City of Longview's drinking water. The iron and manganese in the aquifer that the Mint Farms wells withdraws water from is naturally occurring and is removed by the City of Longview via water treatment. The Mint Farm Regional Water Treatment Plant draws groundwater from the deep aquifer that underlies the area (including the study area) and not from the shallow aquifer that also underlies the area. The shallow aquifer and deep aquifer are separated from each other by a confining, impervious soil unit consisting of clay and silt, and the deep aquifer is primarily recharged by deeper aquifers below the Columbia River (Anchor QEA 2014) rather than surface infiltration through the shallow aquifer. The project area is not considered a significant source of groundwater recharge by infiltration because of the low recharge rates of the soils in the study area (URS Corporation 2014). It would be unlikely that potential surface contamination (including coal, coal dust, or constituents of coal dust such as arsenic) would reach the deep aquifer and contaminate drinking water. Further, the Applicant would be required to comply with the City of Longview Water Supply Protection Ordinance (LMC 17.100), which prohibits the discharge of contaminants within the Mint Farm Wellhead Protection Area and requires that certain operations use best management practices. The groundwater recharge and quality impact discussion has been revised in Final EIS Chapter 4, Section 4.4, *Groundwater,* to clarify this issue.

As stated in the Draft EIS Chapter 4, Section 4.5, *Water Quality,* the potential risk for groundwater to become contaminated by toxic chemicals contained in coal (e.g., polycyclic aromatic hydrocarbons [PAHs] and trace metals) would be relatively low. These impacts have been clarified in the Final EIS Chapter 4, Section 4.5, *Water Quality.*

# Comment GW-6

The DEIS fails to identify those who will pay damages if the drinking water sources for the City of Longview and the City of Rainier are contaminated with pollutants as a result of this project and must be permanently replaced. It also fails to contemplate the cost of temporary replacement of clean drinking water. (3327)

## Response to GW-6

Refer to Response to GW-5.

# Comment GW-7

Rainier's drinking water wells are located just upstream. Given the tidal influences, that water source could be subject to contamination by the above pollutants as well. Rainier's designated well-head protection area is located near the project site and appears to overlap the project area. (3327)

## Response to GW-7

The City of Rainier, Oregon, municipal water is supplied by two surface water intakes: the primary intake is on Fox Creek and a secondary intake is on the Columbia River. The geographic area providing water to Rainier's Fox Creek intake extends upstream approximately 1 to 2 miles and encompasses 1.67 square miles. The geographic area providing water to Rainier's Columbia River

intake extends upstream approximately 12 miles and encompasses 68.42 square miles. These boundaries are considered the Drinking Water Protection Areas for the City of Rainier's drinking water (Oregon Department of Environmental Quality 2013). These Drinking Water Protection Areas are outside the defined study areas for the analyses of groundwater and surface water for the EIS (see Master Response for Connected or Similar Actions). Additionally, these areas are beyond the modeled coal dust deposition area, as reflected in Draft EIS Chapter 5, Section 5.7, *Coal Dust*. Therefore, there are no potential impacts on the City of Rainier's water supply anticipated as a result of the Proposed Action. The Master Response for Geographic Study Areas of the EIS explains the rationale for the geographic limits of the study areas analyzed in the EIS.

# Comment GW-8

Please look into ground water and aquifer possible contamination. Fluoride, suffer dioxide and mercury emissions are what you need to look into. Fluoride, suffer dioxide and mercury are emissions, which could potentially will affect Washington and Oregon State. (1177)

## Response to GW-8

Draft EIS Chapter 4, Section 4.4, *Groundwater*, assessed potential impacts related to groundwater and aquifer contamination. The analysis determined that the Proposed Action would be unlikely to affect groundwater quality during construction or operation.

Draft EIS Chapter 5, Section 5.6, *Air Quality*, assessed potential impacts related to sulfur dioxide and mercury emissions, including emissions in Washington State as a result of Asian combustion of coal exported from the Proposed Action. Fluoride emissions are not a byproduct of diesel combustion. Fluoride from coal combustion in Asia (in the form of hydrogen fluoride gas or particulates) does not have the potential for atmospheric transport from Asia to the North American West Coast (U.S. Environmental Protection Agency 1998; Xiao-Yang Yang et al. 2009). Oregon is outside of the groundwater and air quality study areas. Refer to Master Response Geographic Study Areas of the EIS for an explanation on how study areas were determined.

# Comment GW-9

The Draft EIS provides a detailed description of soil contaminants, including the proposed coal and how coal leachates may contaminate soils. Although the Draft EIS says they will not encounter or disturb existing groundwater contamination in the project area, the Cowlitz Indian Tribe would like to restate that the Applicant plans to compact 2.1 million cubic yards of material into the project area. The Draft EIS also expressly notes on page 4.5-20 that 'water discharged from wick drains is not anticipated to be contaminated, thus no impact on water quality is anticipated.' We disagree with this assertion and request additional analysis that substantiates the claims made within the Draft EIS. (3227)

## Response to GW-9

Draft EIS Chapter 4, Section 4.4.5.1, *Proposed Action*, *Construction – Direct Impacts*, *Degrade Groundwater Quality during Construction*, discussed the potential for contamination from water discharged from the wick drains. Water discharged from the wick drains would be captured, tested for contaminants, and treated as necessary prior to discharge to any surface waters. Within the project area, no cleanup actions have been recommended in the draft Cleanup Action Plan for the

Former Reynolds Aluminum Smelter, with the exception of two small areas—the eastern corner of the Flat Storage Area and the northeastern portion of Fill Deposit B-3 (Draft EIS Figure 4.4-5). For the two areas where overlapping construction and remediation activities could occur, the activities would be coordinated to reduce conflicts and minimize exposure to the environment. Fluoride and cyanide levels found in shallow groundwater have limited mobility and do not affect downgradient groundwater or surface water quality. Therefore, it is possible, but unlikely, that construction of the Proposed Action would result in groundwater degradation due to disturbing previously contaminated areas in the study area.

# Comment GW-10

The EIS looked only at the effects on the immediate terminal area. Project approval will directly result in surface mining of massive acreages in the arid west. The surface disruption and pollution or destruction of ground water resources, which are crucial to ranchers, farmers and other residents of the West, will be substantial. (2487)

## Response to GW-10

The Master Response for Connected or Similar Actions explains why the impacts of coal mining are not evaluated in the scope of the EIS.

# Comment GW-11

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| A | **Summary** Page S-22, Groundwater, Operations, second paragraph | *"Water reused on site would be brought to Washington State Class A Reclaimed Water standards."* | What is the basis for this statement? The Applicant has not specified a need for this standard to be met because the water will be reused within the coal stockpile. |
| B | **4.4 Groundwater** Page 4.4-16, three lines above heading for Construction – Direct Impacts | *"Operational activities that could impact groundwater ~~geology and soils~~ include the following."* | Incorrect reference to geology and soils; should be reference to groundwater |
| C | **SEPA Ground Water Technical Report** Page 2-19 | Footnote CAP completion reference 2015 | |

(3070)

## Response to GW-11

The following describes the changes made to Final EIS *Summary*, Final EIS Chapter 4, Section 4.4, *Groundwater*, and the *SEPA Groundwater Technical Report*, in response to these comments. Refer to the left-most column of the above table for lettering used to identify each comment.

- **Comment A:** The statement in the Draft EIS *Summary* regarding Washington State Class A Reclaimed Water standards was provided in the *Millennium Coal Export Terminal Longview,*

*Washington, Surface Water Memorandum Supplement to Water Resource Report,* provided by the Applicant (URS Corporation 2014).

- **Comment B:** The reference to geology and soils has been revised to refer to groundwater in Final EIS Chapter 4, Section 4.4, *Groundwater*.
- **Comment C:** The footnote regarding the Cleanup Action Plan has been revised in the *SEPA Groundwater Technical Report*, to inform that the comment period on the Draft Cleanup Action Plan ended March 18, 2016, and Ecology is currently working to finalize the plan and associated Consent Decree.

# 4.5 Water Quality

This section presents responses to substantive comments related to water quality.

## Comment WQ-1

First, I didn't see any attempt to address indirect runoff from this site that could adversely affect aquatic life. Will proper BMPs be used to prevent such runoff that leaches from the piles of coal? (0311)

### Response to WQ-1

Draft EIS Chapter 4, Section 4.5, *Water Quality,* described the impacts on water quality from sediment-laden runoff. As stated in the section, runoff during construction would be required to meet the terms and conditions of all permits issued for the Proposed Action and water quality conditions would be maintained in receiving waters. Therefore, construction activities would not be expected to cause a measurable impact on water clarity, water quality, or biological indicators, and significant adverse impacts on aquatic life are not anticipated.

During operations, stormwater would be managed in accordance with the requirements of a new National Pollutant Discharge Elimination System (NPDES) Industrial Stormwater Permit for the Proposed Action. Contaminants such as oil and grease, coal dust, and other chemicals could accumulate on surfaces and would become constituents of site stormwater. All stormwater runoff would be collected for treatment before being either stored on site for reuse or discharge to the Columbia River. Stormwater discharged to the Columbia River would be required to meet all state water quality standards.

The design features and best management practices to be implemented as part of the Proposed Action to avoid and minimize water quality impacts were listed in Section 4.5.

## Comment WQ-2

Please study decreased water quality from coal dust and increased mercury deposition from coal burning and wind driven transport and its effects on marine life. (0481)

### Response to WQ-2

Estimated coal dust deposition along the rail line in Washington State was addressed in Draft EIS Chapter 5, Section 5.7, *Coal Dust*. Draft EIS Chapter 4, Section 4.5, *Water Quality*, evaluated potential impacts of coal dust deposition on water quality.

Draft EIS Chapter 5, Section 5.6, *Air Quality,* and Appendix I, *Sulfur Dioxide and Mercury Emissions*, presented the results of an analysis conducted to determine the annual mercury deposition amounts over Washington State associated with coal exported from the Proposed Action. The analysis concluded the maximum mercury deposition for the Proposed Action by 2040 would represent less than 0.3% of the total Asian-sourced mercury deposition over Washington State. Therefore, the Proposed Action would have a negligible impact on mercury deposition in marine waters.

# Comment WQ-3

Deep draft vessels must carry ballast water from their origination for safety and navigation. Any analysis must take into consideration the chemical, physical, and biological impacts of dumping millions of cubic meters of foreign water into the Columbia River, as well as the changes in salinity in cases of low river flow that can change hydrology. In addition to the direct chemical impact of the seawater, there is the high potential for the release and possible colonization of invasive plants, animals and pathogens, including those harmful to human health. Untreated ballast water is responsible for the introductions of numerous invasive species on the Pacific coast, Zebra and Quagga mussels in the Great Lakes, and potential human health risks like typhus. To prevent the potential introduction of foreign plants, animals and pathogens, all ballast water releases must be filtered of all organisms, including pathogens. Ships are required to conduct open water ocean exchange or utilize an onboard ballast water treatment to ensure that foreign low salinity organisms are not transported into the Columbia. However, these treatment options are not always conducted successfully, or, in the case of rough water, the vessel may not be able to release its ballast in the ocean. To address these risks the Millennium coal terminal should include a closed-loop water treatment system on the terminal site. The absence of such treatment capability makes the proposal unacceptable. (3287)

## Response to WQ-3

Draft EIS Chapter 4, Section 4.5, *Water Quality*, described potential indirect impacts of vessel transport related to the Proposed Action, including the potential to introduce contaminants from ballast water; this section in the Final EIS has been revised to better reflect the federal and state regulatory requirements for ballast discharge. As described under *Operations—Indirect Impacts*, although ballast water could contain invasive species that could result in harm or displace native aquatic species, the vessels calling under the Proposed Action would be required to comply with existing state and federal regulations, which would reduce the likelihood of these impacts. Specifically, Proposed Action-related vessels would be required to implement one of the following ballast water management methods per U.S. Coast Guard ballast discharge regulations (33 CFR 151.2025): install a ballast water management system, use only water from a U.S. public water system, not discharge ballast water, or discharge ballast to a facility onshore or to another vessel for treatment. Regardless of the ballast water management option selected by vessel operators, all ballast water discharge must meet the ballast discharge standards per 33 CFR 151.2030 and EPA NPDES Vessel General Permit standards. In addition, the Washington State ballast discharge regulations (Revised Code of Washington [RCW] 77.120.040) include reporting, monitoring, and sampling requirements of ballast water, and all vessels must submit nonindigenous species ballast water monitoring data. The Washington Department of Fish and Wildlife may also board and inspect vessels under Washington Administrative Code (WAC) 220-150-033 without advance notice to provide technical assistance, assess compliance, and enforce the requirements of Washington State ballast water management program laws and regulations. All vessel operators would be required to comply with federal and state ballast regulations or risk penalties for violations.

# Comment WQ-4

My daughter is doing biology research at WSUV about invasive plant species and she has brought up concerns about these additional 840 vessels per year, and the practice of discharging ballast water. The DEIS says it would be regulated at the state and federal level, so we can hope that during this

permitting process the state and federal agencies will take into consideration the sheer size of the increase in ship traffic and the effects of invasive species in our waterways. Let alone the admitted potential for spills and accidents every year and the significant impact that will have to our water, wildlife, and aquatic life! Not acceptable. (1431)

### Response to WQ-4

Refer to Response to WQ-3 regarding consideration of impacts from ballast water. Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, evaluated potential impacts on vessel transportation and safety in the study area from Proposed Action-related vessel traffic, including the potential increase in risk of an allision, collision, grounding, or emergency. The section acknowledged that the likelihood of a serious incident is very low, but if an incident were to occur, impacts could be significant.

## Comment WQ-5

The Confederated Tribes of the Umatilla Indian Reservation Department of Natural Resources is also concerned about ballast water intake/discharge; we believe it requires further analysis than that provided in the current DEIS. This has been an issue with earlier proposed projects (e.g., Bradwood Landing LNG Terminal), and it would appear that many outstanding questions and uncertainties remain. Questions presented by ballast water include:

- Would vessels traversing the river and using the facility's docks be perpetually discharging and/or withdrawing ballast water?
- What measures would be taken to ensure that no invasive or otherwise unwanted species enter the Columbia River?
- What measures would be taken to ensure salmon or other species would not be entrained in intake water or impinged on screens, if that is an issue?
- Would vessels be foreign-flagged, and if so, how would provisions requiring ballast water measures be monitored or enforced?
- Has the Washington Department of Fish and Wildlife made any findings or recommendations on this subject? (3302)

### Response to WQ-5

Refer to Response to WQ-3 regarding consideration of impacts from ballast water.

It is not anticipated that fish entrainment or impingement would occur in the study area for the analysis of potential impacts on fish because vessels would be loading coal and discharging ballast so there would not likely be water intake for ballast in the Columbia River. The Washington Department of Fish and Wildlife did not make any comment or express any concerns with potential ballast impacts in its comment letter on the Draft EIS.

Refer to Response to WQ-4 regarding the evaluation of risk related to vessel transportation under the Proposed Action.

# Comment WQ-6

Coal from existing coal trains is currently being discharged directly into the Columbia River and its tributaries in violation of the Clean Water Act. The DEIS fails to consider the violations of the federal Clean Water Act that would result from the project. (1434)

## Response to WQ-6

As stated in the *SEPA Coal Technical Report*, there are no known statutes (including the Clean Water Act), regulations, or guidelines at the federal, state, or local level that are specific to spills of elemental unprocessed coal. Mitigation is proposed for a cleanup plan related to a coal spill. Impacts from coal spills on the natural environment were addressed in Draft EIS Chapter 4, Sections 4.5, *Water Quality*, 4.6, *Vegetation*, 4.7, *Fish*, and 4.8, *Wildlife*.

# Comment WQ-7

Violation of the Clean Water Act

Coal dust from the 2-3 trains per day currently running through the Columbia River Gorge already violates standards for the Clean Water Act. An additional 16 trains per day (full + empty) would take this pollution to a disastrous level. I am sure you are aware that a coalition for opponents to the terminal have brought suit against BNSF and Arch Coal for violation of the Act. I have seen the evidence and it is overwhelming. The suit has stood through several challenges by the defendants, and a victory for the plaintiffs seems likely. You should at least review the evidence in this case and include it in your analysis. If the plaintiffs win, you will look incompetent or corrupt should you recommend approval of the permits without even having considered this evidence. (2560)

## Response to WQ-7

Refer to Response to WQ-6 regarding coal spill regulations. The Final EIS notes the agreement for *Sierra Club Inc. et al. v. BNSF Railway Company et al*. (case number 2:13-cv-00967) regarding coal deposition from trains.

# Comment WQ-8

The EIS must consider whether the proposed project is compatible with the CWA. WAC 197-11-330(3)(e)(iii). However, the DEIS fails to identify, analyze, and propose mitigation measures for the project's direct or indirect impacts caused by coal spilled from every coal car that would transport coal to the proposed terminal. Further, the DEIS fails to identify the need for an NPDES permit for the transportation of coal to the terminal and the fact that it is likely impossible for an NPDES permit to be issued for the transportation component of the project. These elements must be added to the EIS to fully disclose the slate of impacts that the proposed action would have. (2508)

## Response to WQ-8

Refer to Response to WQ-6 regarding coal spill regulations.

# Comment WQ-9

How is the runoff water from the dust control treated? (1922)

## Response to WQ-9

As described in Draft EIS Chapter 4, Sections 4.2, *Surface Water and Floodplains*, and 4.5, *Water Quality,* all surface water runoff generated during construction and operation of the Proposed Action would be managed in accordance with the NPDES Construction Stormwater Permit and NPDES Industrial Stormwater Permit for the Proposed Action. These permits would require that any discharge of stormwater to the Columbia River or other receiving waters meet all state water quality standards. All stormwater runoff would be collected and treated and either stored on site for reuse or discharged to the Columbia River. Monitoring of treated stormwater would ensure state water quality standards are met for all water discharged to the Columbia River.

# Comment WQ-10

Please consider another item related to coal dust along the tracks. There is no safe level for lead in water. We know that lead is in the coal dust. Runoff from those tracks will end up in waterways where lead will accumulate in the organisms within the food chain. (2270)

## Response to WQ-10

Estimated coal dust deposition along the rail line in Washington State was addressed in Draft EIS Chapter 5, Section 5.7, *Coal Dust*. Draft EIS Chapter 4, Sections 4.5, *Water Quality*, 4.6, *Vegetation*, and 4.7, *Fish*, evaluated potential impacts of coal dust deposition on water quality, vegetation, and fish. The analysis concluded the potential risk for exposure to toxic chemicals contained in coal (e.g., polycyclic aromatic hydrocarbons [PAHs] and trace metals, including lead) would be relatively low as these chemicals tend to be bound in the matrix structure and not quickly or easily leached; trace elements of concern (including lead) are evaluated. Bioaccumulation in relation to coal in the aquatic environment is addressed in the coal spills analysis in the *SEPA Coal Technical Report*.

# Comment WQ-11

The DEIS seems to dismiss as negligible the surface runoff from the proposed plant. This conclusion should be re-assessed in light of the recent research from NOAA and Washington State University's Research and Extension Lab at Puyallup showing that adult Coho salmon die within hours of exposure to urban stormwater runoff. (2440)

## Response to WQ-11

Refer to Response to WQ-9 regarding stormwater management and permits.

The commenter has not provided the specific citation for the study mentioned. However, it is likely that the referenced study is the National Oceanic Atmospheric Administration (NOAA), U.S. Fish and Wildlife Service (USFWS), and Washington State University Puyallup Research and Extension Center's study titled *Coho Salmon Spawner Mortality in Western US Urban Watersheds: Bioinfiltration Prevents Lethal Storm Water Impacts* that was published in 2015 in the *Journal of Applied Ecology*. One of the conclusions of the study was that untreated urban runoff was lethal to adult coho salmon.

This conclusion cannot be used to infer that runoff generated by the Proposed Action would be similarly lethal to coho salmon because all runoff generated at the proposed terminal would be collected and treated prior to discharge to the Columbia River. Discharge of stormwater to the Columbia River would be required to meet all state water quality standards.

# Comment WQ-12

Section 4.5 of the Draft Environmental Impact Statement does not consider the impact of thermal pollution from coal storage operations to water quality. As noted at 4.5-9 the Columbia River faces water quality issues and the vicinity of the project area is currently a candidate for Category 5 restrictions for temperature by Washington State Department of Ecology. As such any waters exiting facility operations that are returned to the natural environment at a higher temperature than ambient water temperature should be modeled and fully considered as a negative impact. Coal storage operations proposed for the site will involve dust suppression of 75 acres of coal stockpiles which together with heated stormwater runoff will be contributing excess thermal pollution to the Columbia River. (3287)

## Response to WQ-12

Refer to Response to WQ-9 regarding stormwater management and permits. Referenced standards include those for temperature.

# Comment WQ-13

Water temperatures in the mainstem Columbia River frequently exceed applicable water quality criteria—temperature standards are often violated. Water temperatures are critically important to salmon survival and health; excessive temperatures can be devastating to salmon, as we witnessed in 2015 when the overwhelming majority of endangered Snake River sockeye died inriver. Climate change promises to only make matters worse. The Confederated Tribes of the Umatilla Indian Reservation Department of Natural Resources would like to see further exploration of water temperature aspects of the project—specifically, whether operations at the site and the infrastructure supplying it will result in more water temperature problems and associated threats to tribal resources. Will all water discharged from the site meet water quality criteria, for temperature and all other constituents? Will there be enforceable measures to contain on-site all substances and materials that do not meet environmental standards? (3302)

## Response to WQ-13

Subsequent to the issuance of the Draft EIS, Washington State finalized its 2012 water quality assessment and 303(d) list of impaired waters, and the Columbia River in the study area is listed as impaired (Category 5) for temperature. This new information is presented in Final EIS Chapter 4, Section 4.5, *Water Quality*.

Refer to Response to WQ-9 regarding stormwater management and permits. Because all discharge from the project area must not exceed state water quality standards, including those for temperature, no mitigation was proposed.

# Comment WQ-14

The Draft EIS inappropriately narrowly defines the water quality study area as within 300 feet of the project area, into the Columbia River. The Draft EIS does not recognize any impacts to water quality beyond 1 mile downstream of the project area even within the 'indirect' project effects category. However, it is the opinion of the Cowlitz Tribe that the direct effects on water quality should be considered for the Columbia River downstream of the project area and into the Pacific Ocean within the Columbia River plume. (page 4.5-3) The Cowlitz Indian Tribe would like to point out to the Applicant that water flows downstream. (3227)

## Response to WQ-14

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment WQ-15

Although there are serious water quality issues associated with the main-stem Columbia River, this proposal does not adequately display interest in mitigating the effects associated by the project proposal itself. On page 4.5-27, the Draft EIS writes that the Columbia River is listed as impaired for a number of pollutants, and continued discharge of project area pollutants (arsenic, fecal coliform, and dioxin noted as three such) at existing levels would not cause a measureable impact on water quality. We disagree with this assertion. The proposed action would only exacerbate already dilapidated water quality concerns for the main-stem Columbia River. The Draft EIS does not adequately describe the expected materials, quantities, or methods that would allow a reviewer to evaluate their proposal to protect water quality. As an example, the Draft EIS states that the "*contractor shall use tarps or other containment methods when cutting, drilling, or performing over-water construction that might generate a discharge to prevent debris, sawdust, concrete and asphalt rubble, and other materials from entering the water*." This information infers that a tarp is adequate protection against concrete rubble entering the Columbia River. (page 4.5-17) We disagree with this approach toward safe-guards toward water quality concerns. (3227)

## Response to WQ-15

Refer to Response to WQ-9 regarding stormwater management and permits**.**

The specific mitigation measure pointed out by the commenter does not limit the contractor to the use of tarps as the only method of containment to catch and prevent materials from reaching surface waters. As stated, "other containment methods" may be used. The appropriate method of containment would be determined during the permitting process and by the construction contractors at the time of construction; the specific containment method would ultimately depend on the specific waste materials that would be generated at the time of construction, which would be based on the construction materials used as determined by the final engineering and design plan for the Proposed Action.

# Comment WQ-16

In a major point, dredged materials will be placed in approximately 80 to 110 acres in or adjacent to the shipping channel between River Miles (RM) 60 and 66. This impact area is not discussed in

further detail in the Draft EIS and indeed has not yet been identified as a specific area. (page 4.7-22). We request additional analysis in this regard. (3227)

## Response to WQ-16

As described in Draft EIS Chapter 4, Section 4.5, *Water Quality*, prior to obtaining a dredging permit, the Applicant would conduct site-specific sediment sampling to characterize the proposed dredge material and ensure compliance with the dredged materials management plan. If flow lane disposal is approved, standard best management practices for working in aquatic areas would be followed to maintain water-quality conditions, as described in Section 4.5. The specific location(s) of dredge materials disposal would be determined in coordination with the Corps, Ecology, and other agencies under the Dredged Material Management Program. As noted in Section 4.5, recent authorizations for flow lane disposal of dredged materials in the Columbia River in the vicinity of the project area were generally in or adjacent to the navigation channel between approximately river miles 60 and 66.

# Comment WQ-17

The DEIS does not provide adequate detail about the potential to re-suspend contaminated sediments due to vessel movement and prop wash. Sediments contaminated with PAHs, PCBs, and PBDEs exist along the lower Columbia River, and vessel traffic remobilization of bed materials may transport and redistribute existing contaminants. Resuspension of existing contaminants would likely violate water quality standards, which could not be readily prevented or otherwise mitigated.

The DEIS fails to disclose contaminated sediment and a pending cleanup action at MBT (Ex. 33 (Ecology Agreed Order Amendment No. 8940). Chemical analyses of sediments at the site revealed one location near Outfall 002A where PAHs exceeded screening levels. Near Outfall 002A, sediments exceeded bioassay performance standards. Accordingly, Ecology Agreed Order Amendment No. 9040 requires dredging of up to 5,000 cubic yards of contaminated sediments. The Co-leads should analyze sediment samples from MBT and incorporate those analyses in the FEIS. (3277)

## Response to WQ-17

Propeller wash was addressed in Draft EIS Chapter 4, Section 4.5, *Water Quality*, which concluded the likelihood of temporary, localized increases in turbidity from vessel movement would be low in the study area. The Final EIS Chapter 4, Section 4.5, *Water Quality*, has been revised to include additional information from Counihan et al. (2014), which describe surveys of sediment contaminants in several reaches of the lower Columbia River. The surveys found that contaminant presence and concentrations in the deeper parts of the river channel are lower than other areas of the river channel and typically have coarser sediments compared to shallower nearshore areas. Thus, it is unlikely that contaminant resuspension would be an issue given the low potential for turbidity from vessel movements in the study area and lower occurrence and concentrations of contaminants in the navigation channel.

Draft EIS Chapter 3, Section 3.6, *Hazardous Materials,* described the draft cleanup action plan referenced by the commenter and the area of sediment quality testing (Figure 3.6-3). Final EIS Chapter 3, Section 3.6, *Hazardous Materials*, reflects the addition of text describing testing and characterization of wastes from vertical drains installed as part of soil consolidation prior to disposal. The draft cleanup action plan for the Applicant's leased area describes proposed cleanup actions to protect human health and the environment, meet state cleanup standards, and comply

with other applicable state and federal laws. The cleanup activities in the Applicant's leased area are independent of the Proposed Action. Construction of the Proposed Action and cleanup activities would be coordinated to avoid and minimize conflicts and potential exposure to construction personnel and the environment.

# Comment WQ-18

The DEIS also understates the toxic impacts of coal dust. The DEIS states, "One review of the chemical composition of coal dust (U.S. Geological Survey 2007) suggests that the risk of exposure to concentrations in toxic materials (e.g., PAHs and trace metals) from coal are low because the concentrations are low and the chemicals bound to coal are not easily leached." The DEIS fails to address other studies identifying risks from toxic materials in coal dust. The Co-Leads should evaluate the expert report prepared by Leyda Consulting, Inc., on proposed Morrow Pacific coal export project (hereafter "Leyda Report") (Ex. 50 (Leyda Consulting, Inc., *Ecological Impacts of Proposed Coal Shipping on the Columbia River Port of Morrow and Port Westward, OR* (2012)). The Leyda Report includes an in-depth toxicology report on coal dust. (3277)

## Response to WQ-18

The information in the Draft EIS and supporting *SEPA Coal Technical Report*, that addresses the effects of coal in the aquatic environment was drawn from the cited Ahrens and Morrisey (2005) report. This 53-page report published in *Oceanography and Marine Biology: An Annual Review* is a meta-summary study of this subject matter based on over 185 scientific studies that have looked at the chemical or physical effects of unburnt coal on the biology of freshwater and marine environments. The Leyda toxicology review draws from nine scientific studies, some of which are included in the Ahrens and Morrisey meta-summary study. The *SEPA Coal Technical Report*, provides additional information and analysis on this topic. Information in the Leyda report does not change the conclusions presented in the Draft EIS.

Further, cleanup, monitoring studies, impacts, and associated documents of an actual coal train spill event (in 2014) into a stream and lake in Burnaby British Columbia were reviewed, and information and analysis on this event is provided in Final EIS Chapter 4, Section 4.7, *Fish*, and the *SEPA Coal Technical Report*.

# Comment WQ-19

The DEIS fails to disclose the fact that dredging and construction of the docks could impact drinking water. MBT dredging would increase water depth in the dredge prism by up to 16 feet (DEIS at 4.7-22). How will this impact the quality and quantity of drinking water and the movement of water in the city's wellhead protection area? (3327)

## Response to WQ-19

Dredging and construction of the docks would not have impact on groundwater and therefore was not discussed in the EIS. Draft EIS Chapter 4, Section 4.4, *Groundwater*, evaluated potential impacts of the Proposed Action on groundwater, including potential impacts on drinking water. There are two aquifers beneath the study area, a shallow aquifer and a deep aquifer. The Mint Farm Regional Water Treatment Plant's groundwater wells supply the City of Longview with municipal drinking water, and the plant draws groundwater from the deep aquifer and not from the shallow aquifer.

The shallow aquifer and deep aquifer are separated from each other by a confining, impervious soil unit consisting of clay and silt, and the deep aquifer is primarily recharged by deeper aquifers below the Columbia River (Anchor QEA 2014). The dredging activities would remove river bottom sediments, which would not be deep enough to intercept the gravel of the deep aquifer; therefore, impacts on the volume, quality, or movement of deep aquifer groundwater in the wellhead protection area are not anticipated.

# Comment WQ-20

The DEIS fails to disclose the potential individual and cumulative impacts from a spill of bunker oil, emissions of coal dust, and exposure to diesel PM 365 days each year for 50 years at and near the terminal. These impacts can degrade the quality of drinking water for Longview residents. The DEIS fails to clearly show what the effects of pre-operation wicking and compression may have on the movement of surface water or on the movement of legacy pollutants like benzene and arsenic, which could degrade drinking water. The DEIS fails to identify the contaminants and pollutants which will flow into the Columbia River as treated wastewater, untreated surface water or as overflow from storms. That water could include diesel pollution, toxic coal dust, fuel spills, asbestos, lead, and arsenic from demolition projects. Leaks and spills from associated barges, tugs, Panamax-class, and Handymax-class vessels can foul the water that recharges the drinking water aquifer. (3327)

## Response to WQ-20

Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, acknowledged that, if a vessel incident occurred, the impacts could be significant, depending on the nature and location of the incident, the weather conditions at the time, and whether any oil is discharged. Although the likelihood of a serious incident is very low, there are no mitigation measures that can completely eliminate the possibility of an incident or the resulting impacts. The Proposed Action would increase vessel traffic, which would incrementally increase the likelihood of vessel incidents, and impacts from a vessel incident could affect national wildlife refuges within the vessel transportation study areas along the Columbia River. However, given the existing vessel traffic in the Columbia River, potential impacts from a vessel incident involving a Proposed Action-related vessel would be similar to impacts that could under existing conditions or the No-Action Alternative. Therefore, such impacts are not analyzed in the EIS..

As stated in Draft EIS Chapter 4, Section 4.5, *Water Quality,* the risk of spills associated with vessels would be low. Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, evaluated the risk of vessel-related incidents. Draft EIS Chapter 3, Section 3.6, *Hazardous Materials*, discussed actions to be taken for emergency response and cleanup. The City of Longview's Wellhead Protection Program (WHPP) states that most contaminant spills in the Columbia would be expected to be flushed downstream rapidly (City of Longview 2016). Therefore, it is unlikely a spill from a vessel would affect the deep aquifer that provides drinking water to the City of Longview.

The ecological impacts of coal dust, including screening levels for freshwater, were addressed in Draft EIS Chapter 5, Section 5.7 *Coal Dust*; potential coal dust impacts on water quality were addressed in Draft EIS Chapter 4, Section 4.5, *Water Quality*. Impacts associated with diesel particulate (PM) emissions are addressed in Draft EIS Chapter 5, Section 5.6, *Air Quality*. Cumulative impacts and the explanation of the scope of the cumulative analysis was provided in Draft EIS Chapter 6, *Cumulative Impacts*.

As discussed in the Draft EIS, construction and operation of the Proposed Action is not anticipated to degrade the City of Longview's drinking water. The Mint Farm Regional Water Treatment Plant draws groundwater from the deep aquifer that underlies the area (including the study area) and not from the shallow aquifer that also underlies the area. The shallow aquifer and deep aquifer are separated from each other by a confining, impervious soil unit consisting of clay and silt, and the deep aquifer is primarily recharged by deeper aquifers below the Columbia River (Anchor QEA 2014) rather than surface infiltration through the shallow aquifer. Further, the project area is not considered a significant source of groundwater recharge by infiltration because of the low recharge rates of the soils in the study area. Therefore, it would be unlikely that any potential surface contamination (including coal, coal dust, or constituents of coal dust) would reach the deep aquifer and contaminate drinking water.

Any groundwater encountered by wicking and compression would be from the shallow aquifer that underlies the study area. In addition, as stated in Draft EIS Chapter 4, Section 4.4, *Groundwater,* water discharged from the wick drains would be captured, tested for contaminants, and treated prior to discharge to any surface waters.

Refer to Response to WQ-9 regarding stormwater management and permits. Draft EIS Chapter 3, Section 3.2, *Social and Community Resources*, assessed whether the Proposed Action would have the potential to affect utility service directly by altering the water supply or wastewater conveyance system.

# Comment WQ-21

Water Quality; Section 4.5, Page 20. This section provides minimal description of initial and periodic maintenance dredging impacts and should provide more specifics on the impacts to water quality at the site. The FEIS should also address the rate at which contaminants from upriver may deposit in the dredged area and whether this is a concern for biota that occupy this area. (2691)

## Response to WQ-21

Draft EIS Chapter 4, Section 4.5.5.1, *Proposed Action*, assessed potential impacts related to dredging for the proposed berth and maintenance dredging. The analysis provided found that the Proposed Action would not result in unavoidable significant adverse impacts on water quality from dredging.

An analysis of potential impacts on study area biota from upriver contaminants unrelated to the Proposed Action is outside the scope of the EIS. Any sediments that accumulate in the dredged area would be removed every few years during maintenance dredging, which would be conducted in accordance with appropriate state and federal permits that would be needed to complete maintenance dredging and disposal activities.

# Comment WQ-22

Waves and Prop Scour, Section 4.5. Pages 26 and 28 identify limited impacts in the turning basin due to use of tugs to maneuver ships into place in correlation to depth of dredged area of 20' to 40'+ depth in this area. The FEIS should provide further details on whether prop scour could impact bank stability of dredged slopes. Will this impact shoreline stability and vegetation? The conclusion in Section 4.5 of the DEIS that vessels calling at Docks 2 and 3 would have sufficient depth to minimize the potential for prop-wash should also be revisited given that the proposed facility will have a

depth of 43 feet and 80% of the vessels calling at the facility will be Panamax vessels, apparently with drafts of at least 42 feet (DEIS 2-16 n. 13; Table 4.5-13). The EIS should address dredging, turbidity and scour assuming the largest vessels expected to call at the facility during all river conditions. (2691)

### Response to WQ-22

Draft EIS Chapter 4, Section 4.5, *Water Quality*, assessed potential impacts related to dredging, turbidity, and scour based on the largest vessels that would serve the Proposed Action (i.e., Panamax-class vessels). The Columbia River navigation channel is maintained at a depth sufficient to accommodate Panamax-class vessels. Final EIS Chapter 4, Section 4.5, *Water Quality*, reflects the addition text describing how the orientation of the docks to the navigation channel, the depth of the berthing basin, the slope of the berthing basin, and the coarse sediments typical of the mainstem Columbia River, and how these elements would reduce the potential impacts associated with propeller wash and scour.

Large, deep-draft vessels arriving at and departing from Docks 2 and 3 would require the use of two tugboats to assist with docking and undocking (as stated in Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*). As discussed in Draft EIS Chapter 4, Section 4.5, *Water Quality*, cargo vessels typically do not engage their main propeller during docking and undocking, and thus would not be expected to cause propeller wash-related scour of the side slopes or bottom of the dredge prism. Final EIS Chapter 4, Section 4.5, *Water Quality*, has been updated to more fully describe these operations. As noted in the Draft EIS, propeller wash from tugboats would be nearer the surface and would, thus, have less potential to result in scour or erosion of bottom sediments. In comparison to the energy with which the Columbia River would act upon the berthing basin, the impacts from propeller wash would be negligible.

## Comment WQ-23

Water Quality, Page 4.5-22. The EIS should assess and mitigate for indirect impacts including continued leaching of creosote associated with the timber pile dikes remaining in the sediment from cut pilings. (2691)

### Response to WQ-23

As discussed in Draft EIS Chapter 4. Section 4.5, *Water Quality,* implementation of standard best management practices would minimize impacts related to the temporary suspension of sediments and an increase in exposure to creosote at the project area. If a pile cannot be fully removed, the pile would be cut 2 feet below the riverbed and the subsequent hole would be capped/filled with clean sand. This is a standard best management practice to avoid and minimize potential continued leaching of creosote into the surrounding aquatic environment.

## Comment WQ-24

Water Quality, Page 4.5-25. Depending on the abundance of sulfide minerals in the coal, local acidification can result from coal dust entering water along the Columbia River. Although sulfur is not listed in Table 4.5-4 as an element of environmental concern, the Powder River Basin and Wyodak coal beds do contain sulfur (Stricker and Ellis, 1999) and should be considered in assessing water quality impacts in the FEIS. (2691)

## Response to WQ-24

Sulfur content in coal, its related acid-generating potential, and potential resultant chemical effects in water are discussed in the *SEPA Coal Technical Report*. As described in the technical report and the Draft EIS, coal from the Powder River Basin and Uinta Basin are low-sulfur coal, and would not favor dissolution of metals into the aquatic environment. If any metals were released, their concentrations would likely be diluted by the river's velocity and discharge volumes. Further, the amount of coal dust that would be emitted from the proposed coal export terminal during operations would be less than the trigger level for sensitive areas (Draft EIS Chapter 5, Section 5.7, *Coal Dust*). Any coal dust that would reach the Columbia River would be diluted due to the continuous flushing action of the river.

# Comment WQ-25

In order to fully address "water quality concerns" and other environmental issues, long-term effects need to be evaluated; including the potential for bioaccumulation. Coal dust suppressants should be evaluated in both freshly applied as well as aged and weathered forms. The potential for synergistic effects with coal dust should be examined in the FEIS (Tien and Kim 1997; U.S. EPA 2002). (2691)

## Response to WQ-25

Bioaccumulation in relation to coal in the aquatic environment is addressed in the *SEPA Coal Technical Report*.

As stated in the *SEPA Coal Technical Report*, per the BNSF Coal Loading Rule, BNSF must reduce coal emissions by at least 85%. Topper agents (i.e., surfactants) are applied to the surface of the coal loaded in rail cars to limit coal dust loss during rail transport. The Safe Harbor provision in BNSF's Coal Loading Rule identifies five acceptable topper agents and application rates that BNSF states have been shown to reduce coal dust losses by at least 85% when used in conjunction with coal load profiling. A shipper can use any of the five approved topping agents. As stated in the *SEPA Water Quality Technical Report*, and Draft EIS Chapter 4, Section 4.5, *Water Quality,* these agents generally consist of glue (polyvinyl acetate), alkyl alcohol, guar gum, or vegetable oils mixed with water. These chemicals could enter the Columbia River directly from spills during loading or unloading; however, they are nontoxic and would not introduce pollutants of concern (Agency for Toxic Substances and Disease Registry 1992).

The abstract for the Tien and Kim (1997) study shows that coal dust suppressants have varying levels of effectiveness, which can be dependent on the characteristics of the coal that is sprayed; the study does not address potential effects of coal dust suppressants on the environment.

The U.S. Environmental Protection Agency (2002) expert panel summary addresses potential impacts of various dust suppressants for common uses, e.g., construction sites, unpaved roads, landfills, harvested fields. Suppressing dust for these types of activities involve spraying suppressants in the open environment and directly on the ground, which can result in wind-blown movement of the suppressant during spraying and movement of suppressants sprayed directly on the ground, which could end up reaching surface waters, vegetation, and other biological resources. This is different than spraying coal dust suppressants in a building and concentrating the spray directly onto coal contained in a rail car (as is the case in the spray facilities at coal mines and the BNSF Pasco coal spray facility).

# Comment WQ-26

I'm reviewing the documents on impacts of surface water and groundwater, and I'm very concerned about—I keep seeing reference to the use of surfactants which are sprayed to reduce coal dust. Nowhere have I seen details about the impact of that product on the ecosystem. It's seen as a good thing that will reduce dust, but it is a toxic chemical in itself and needs to be examined. That is a piece of information that is not adequately covered in the EIS presently. (TRANS-LV-Q3-00015)

## Response to WQ-26

As stated in the *SEPA Coal Technical Report*, per the BNSF Coal Loading Rule, BNSF must reduce coal emissions by at least 85%. Topper agents (i.e., surfactants) are applied to the surface of the coal loaded in rail cars to limit coal dust loss during rail transport. The Safe Harbor provision in BNSF's Coal Loading Rule identifies five acceptable topper agents and application rates that BNSF states have been shown to reduce coal dust losses by at least 85% when used in conjunction with coal load profiling. A shipper can use any of the five approved topping agents. As stated in the *SEPA Water Quality Technical Report,* and Draft EIS Chapter 4, Section 4.5, *Water Quality,* these agents generally consist of glue (polyvinyl acetate), alkyl alcohol, guar gum, or vegetable oils mixed with water. These chemicals could enter the Columbia River directly from spills during loading or unloading; however, they are nontoxic and would not introduce pollutants of concern (Agency for Toxic Substances and Disease Registry 1992).

# Comment WQ-27

Coal dust would cover areas along the rail line, and contaminants would jeopardize water resources. (1726)

## Response to WQ-27

Potential coal dust impacts along the rail lines were addressed in Draft EIS Chapter 5, Section 5.7, *Coal Dust,* and potential coal dust impacts on the aquatic environment were addressed in Draft EIS Chapter 4, Sections 4.5 *Water Quality,* and 4.7, *Fish*.

# Comment WQ-28

The DEIS completely ignores the impacts of new or expanded coal mining that would be induced by the proposed coal terminal. The port's proposed capacity of 44 million metric tons per year is equivalent to all of the coal annually mined in Montana. Any new mining resulting from this port would impact southeastern Montana and Northern Wyoming, where coal seams act as aquifers. Digging them up endangers water quality and quantity, and negatively affects agriculture. (3479)

## Response to WQ-28

The Master Response for Connected or Similar Actions addresses the commenter's concern regarding coal mining and explains why coal mining activities are generally not evaluated in the EIS.

# Comment WQ-29

From the Draft EIS, besides looking at health, and we need to look at waterways. Really only the Columbia is closely looked at in the EIS. I ask you to start with Lake Ponderay, where the Spokane aquifer begins. I ask you to examine the number of trestles that cross Lake Ponderay. I ask you to address the Snake River because trains will come up from the Snake. The Spokane River, the Columbia River, and to do a better job for the tribes and the fish populations at Longview. I found that section totally inadequate, lacking scientific detail, lacking the names of the fisheries, locations of the fisheries, the names of the tribes. I ask you to create an environmental infrastructure section where you look at the transport at least from the Washington/Idaho line, but really you need to start in Montana and go all the way through all the rivers and waterway, look at the number of trestles and the number of bridges over water. (TRANS-SPOKANE-M2-00045)

## Response to WQ-29

The water bodies identified by the commenter are outside the water quality study area for the EIS. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment WQ-30

The DEIS discloses that "Day-to-day rail operations could release contaminants to water resources immediately adjacent to the rail line, resulting in the potential for water quality impairment from increased rail transportation." (Summary at S-24.) That means multiple unidentified sources of precious drinking water could be impaired. The DEIS fails to identify by name and location all domestic and municipal water systems that could be harmed by a derailment and spill of coal trains and/or coal vessel fire and fuel spill. How many people are served by those systems? Who will pay for monitoring and cleanup when and if municipal drinking water sources are fouled in Washington, Oregon, Idaho, Utah, Colorado and/or Montana? (3327)

## Response to WQ-30

The potential impacts on water quality from Proposed Action-related trains would be substantially the same as potential impacts related to other BNSF or UP trains. Regarding the study area, the Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment WQ-31

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| A | **4.5 Water Quality**<br>Global comment on number of piles | *"Removing ~~4,312~~* 4,263 *square feet of river bottom for ~~630~~* 603 *piles used for the proposed docks* below OHW*."* | This is a global edit regarding an incorrectly stated number of piles and associated pile footprint. The current pile numbers are 622 total, 603 of which would be below OHW. This results in removal of 4,263 sq ft of river bottom (Grette |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| | | | Associates, LLC. 2014; Table 1, p. 17). |
| B | **4.5 Water Quality**<br>Page 4.5-1, end of first sentence | Period missing<br>".....recreational activities The quality of……." | typo |
| C | **4.5 Water Quality**<br>**Page 4.5-3,** Local Regulations, Statutes, and Guidelines for Water Quality, Table 4.5-1 | Missing City of Longview Stormwater Ordinance that is presented in the Technical Report | Establishes methods for controlling the introduction of runoff and pollutants into the municipal storm drain system (MS4) in order to comply with requirements of the Western Washington Phase II Municipal Stormwater NPDES Construction Stormwater General Permit process. |
| D | **4.5 Water Quality**<br>**Page 4.5-14,** bulleted list, 5th primary bullet | Starting with the fifth first-level bullet on the page *("Stormwater, sediment and erosion control…),* the list of commitments is not consistent with and significantly more extensive than the list provided in Section 3.1 Impacts of the SEPA Water Quality Technical Report | Need to confirm the list of commitments are consistent with expectations and previous discussions and/or agreements |
| E | **4.5 Water Quality**<br>Page 4.5-16, first primary bullet | Add the word pile before extraction *"Where possible, <u>pile</u> extraction equipment…"* | Clarify that it is pile extraction equipment |
| F | **4.5 Water Quality**<br>Page 4.5-17, fifth primary bullet | 5th Bullet: *"Project construction would limit the impact of turbidity"*–clarify if this reference is to pile removal or construction in general<br>Delete 8th bullet: "Project construction would limit the impact of turbidity" | Sentence is repeated as both 5th and 8th bullet |
| G | **4.5 Water Quality**<br>Page 4.5-18, top of page | The last two bullets under section 4.5.5.1 Proposed Action, have been added to the DEIS text and are not present in the Water Quality Technical Report in the list of potential impacts resulting from the Proposed Action:<br>*"Operations of 16 trains a day*<br>*Operations of 70 ships a month"* | Text between the two documents should be made consistent |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| H | **4.5 Water Quality**<br>Page 4.5–21, Section 4.5.5.1–Proposed Action, Temporarily Mobilize Pollutants or Increase Turbidity from In-Water Work and Dredging | *"A total of ~~610~~* 603 *of the ~~630~~* 622 *36-inch diameter steel piles required for the trestle and docks would be placed below the ordinary high water mark, permanently removing an area equivalent to 0.10 acre (~~4,312~~* 4,263 *square feet) of river bottom."* | Global pile number and footprint edit (Grette Associates, LLC. 2014; Table 1, p. 17). |
| I | **4.5 Water Quality**<br>Page 4.5–21, second to last paragraph | The second to last paragraph states that the process of removing the creosote-treated piles could result in the release of chemical contamination and sediment into the surface water. The document does not discuss the potential option of cutting off the piling at the mud line instead of removal, and whether that option is feasible. | Suggest that this potential mitigation measure be considered if not discussed earlier and is feasible |
| J | **4.5 Water Quality**<br>Page 4.5-23, Operations–Direct Impacts, Introduce Contaminants from Coal Spills and Coal Dust, first sentence | *"would be 16 trains a day under the Proposed Action. An average of 70 ships a month"*<br><br>Text should be revised to *"would be 8 trains a day under the Proposed Action. An average of 70 ships a month.* | References are inconsistent. If this discussion is intended to refer to the trains and vessels that are carrying coal, then it would seem it would be 8 trains per day and 70 ships per month. The other 8 trains would be empty and not carrying coal. |
| K | **4.5 Water Quality**<br>Page 4.5-24, top of page, first paragraph | *".....would be collected within the stockpile pads (which are impervious), conveyed within an enclosed."* | The reference to impervious is incorrect, elsewhere it is referred to as low permeability, see page 3.6-23 2nd paragraph as an example |
| L | **4.5 Water Quality**<br>Page 4.5-24, first paragraph, eight lines from the bottom | "surge bin~~d~~s" (delete the d) | Typo |
| M | **4.5 Water Quality**<br>Page 4.5-25, last paragraph | *"The deposition of coal dust could be as high as 1.88 grams per square meter adjacent to the project area."* | Is this an annual deposition? |
| N | **4.5 Water Quality**<br>Page 4.5-28, Propeller wash | *"....Tankers and cargo vessels...."*–delete reference to tankers | No tankers are included in the Proposed Project |
| O | **4.5 Water Quality**<br>Page 4.5-31, MM WQ-1 | *"MM WQ-1. Locate Spill Response Kits Near Main Construction and Operations Areas"* is included under BMP | Should consider deleting this mitigation measure unless there is a benefit in having it retained in the document |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| | | C154. It is not clear why MM WQ-1 is presented as a separate mitigation measure | |
| P | **SEPA Water Quality Technical Report**<br>Page 2-6 | Including parameters from Weyerhaeuser's permit seems inappropriate. | The discharges from their facility are completely different than the proposed action. If there is a state water quality limit then reference that and not a reference to another permit |
| Q | **SEPA Water Quality Technical Report**<br>Page 3-2 | *Proposed Action could have the following adverse impacts on water resources…..* | The DEIS lists the potential impacts in the bulleted list but they do not appear to be discussed within the text–text and list should be made consistent |

(3070)

## Response to WQ-31

The following describes the changes made to Final EIS *Summary*, Final EIS Chapter 4, Section 4.5, *Water Quality,* and the SEPA *Water Quality Technical Report*, in response to these comments. Refer to the left-most column of the above table for lettering used to identify each comment.

- **Comments A and H:** The number and area of piles below the ordinary high water mark presented in the Draft EIS is consistent with the Joint Aquatic Resources Permit Application (JARPA) submitted by the Applicant to the Corps in July 2016. Thus, no change has been made in the Final EIS regarding this information.
- **Comment B:** Missing period has been added.
- **Comment C:** City of Longview Stormwater Ordinance has been added to Table 4.5-1.
- **Comment D:** The design features and best management practices listed in the EIS and technical report are consistent, but were presented in different places in the two documents. The list at the beginning of the impact sections of each document have been made consistent.
- **Comment E:** "Extraction equipment" was revised to "pile extraction equipment."
- **Comment F:** The repeated statement regarding limiting turbidity during construction was removed from the list of design features and best management practices.
- **Comment G:** The two bullets have been added to the technical report.
- **Comment I:** The best management practice related to creosote-treated pilings is discussed under the *Temporarily Mobilize Pollutants or Increase Turbidity from In-Water Work and Dredging* impact heading.
- **Comment J:** Train numbers have been clarified.
- **Comment K:** The reference to impervious stockpile pads has been revised.
- **Comment L:** Surge bin typo has been fixed.

- **Comment M:** Coal dust deposition rates have been clarified as annual rates.
- **Comment N:** "Tankers" has been removed from the statement.
- **Comment O:** The mitigation measures regarding spill response kits is retained as a proposed mitigation measure in the Final EIS.
- **Comment P:** The information regarding the Weyerhaeuser permit has been retained because it provides context for existing conditions in the technical report.
- **Comment Q:** The bulleted list referenced in the comment has been removed from the *SEPA Water Quality Technical Report.*

# Comment WQ-32

The SEPA DEIS does not adequately explain the relationship between oxygen saturation and dissolved oxygen levels. The difference in the Oxygen Saturation between river mile 53 @ 85.5% and river mile 146 @ 97.9 % does not explain the die off of salmon in the summer of 2015. Was the die off from hot water, oxygen saturation or dissolved oxygen? Please explain more. (2572)

## Response to WQ-32

Dissolved oxygen is a measure of how much oxygen is dissolved in water, typically expressed in milligrams/liter. The maximum amount of oxygen a given body of water can hold is called its saturation point; oxygen saturation of water is typically expressed as a percent. The concentration of dissolved oxygen is inversely related to water temperature, with colder water holding more dissolved oxygen and warmer water holding less dissolved oxygen. Similarly, colder water will be more saturated with oxygen than warmer water. Draft EIS Chapter 4, Section 4.5.4.2, *Water Quality Characteristics and Criteria*, included information on dissolved oxygen and temperature, and Section 4.5.5, *Impacts,* discussed potential impacts.

The purpose of the EIS is to analyze the potential impacts of the Proposed Action. Evaluating the die-off of salmon in summer 2015 is unrelated to the Proposed Action and, therefore, is not evaluated in the EIS.

# 4.6 Vegetation

This section presents responses to substantive comments related to vegetation.

## Comment VEG-1

Most of the vessels that will be used to transport coal will be huge, in the 46 thousand dead weight ton class. These vessels are larger than most of the ones currently in use and represent a considerable increase (4-5 ships/day) in ship traffic through this area. These vessels will create wakes which will impact riparian vegetation directly through breakage, swamping, and erosion. They will also alter patterns of erosion and deposition, and spread of noxious weeds. (Soil erosion is one of the leading causes of habitat loss for salmon.) Further, wakes can redistribute fine sediment that can smother aquatic vegetation. Wave effects would be greatest as vessels pass through the Columbia River Estuary and its associated habitats. The habitat types in these areas serve as important nursery grounds for juvenile fish (including salmon) and contain very high quality, unarmored shallow-water shoreline habitat that is of great importance to numerous aquatic species and associated fisheries. Clearly, it is in our best interest to preserve these important vegetative environments. Increasing ship traffic to this magnitude can have only harmful effects on the Columbia River Estuary and the entire Vessel Corridor. The importance of wave effects is downplayed in the DEIS and treated as a temporary phenomenon. It is not temporary - the effects on our salmon fisheries, fishing industry and recreational fishing will be considerable and not able to be mitigated. (2520)

### Response to VEG-1

Erosion of shoreline vegetation from vessel wakes was addressed Draft EIS Chapter 4, Section 4.6, *Vegetation*. This section has been revised in the Final EIS to provide more context on potential impacts. Proposed Action-related vessels would be Panamax- and Handymax-sized; these types of vessels currently transit the Columbia River.

## Comment VEG-2

The Draft EIS puts little effort into the vegetation section. Information sources and analysis appear to be cursory. Some elements are outright contradictory. As an example, the Applicant has not yet completed an aquatic vegetation study for the project area's Columbia River shoreline, so they cannot quantify aquatic vegetation impact. However, on page 4.7-10, the Applicant writes that the silty river sand has little organic matter, citing a 2014 Grette Associates report. Why did the Action Agencies release this Draft EIS when there is analysis yet to be completed? We request that all analysis which is the basis for the Draft EIS be completed as well as all draft mitigation measures associated with the proposed Coal terminal be completed prior to public review and comment. This would mean pulling this Draft EIS and re-issuing a new Draft EIS prior to finalizing the EIS.

Fourteen noxious weed species have been identified in the project area. Despite a specific list of noxious weeds, the Draft EIS states that the 'Applicant will coordinate with Cowlitz County Noxious Weed Control Board if noxious weeds are detected.' (emphasis added). (pages 4.6-15 4.6-26). Again, we believe that the Applicant did a poor job in adequately addressing vegetation concerns.

The Applicant has not conducted a special status plant survey or rare plant survey although the Applicant plans to 'ensure that threatened, endangered, or rare plants are not affected." (page 4.6-21)

The Applicant notes that the impact of coal dust on vegetation can be complex and neither the impact mechanism nor a threshold for potential physical and biological effects of coal dust deposition have been studied relative to the climate and native vegetation of the Pacific Northwest. (page 4.6-26). We believe that the intent of an Environmental Impact Study is supposed to study this and other potential impacts and be presented here in this Draft EIS.

The Applicant does not address vegetation, particularly on the shoreline, and its importance for wildlife migration corridors. The project would permanently impact 0.05 acres of riparian vegetation, including black cottonwood and willow. (3227)

## Response to VEG-2

As noted in Draft EIS Chapter 4, Section 4.6, *Vegetation*, and the *SEPA Vegetation Technical Report*, visual foot surveys for vegetation, including aquatic vegetation, were conducted along the shoreline. This included 31 transects (along 1.23 miles of shoreline in the study area) in the Active Channel Margin (ACM), which is defined as the area between the ordinary high water mark (+11.1 feet Columbia River Datum [CRD]) and 0 feet CRD. The ACM between the ordinary high water mark and roughly mean high water mark (+6.51 feet CRD) was found to be sparsely vegetated with a sandy substrate. At a transition area where the shoreline flattens, there is a band of woody debris. Below this area the substrate transitions to silty sand with very little emergent vegetation. In the shallow water habitat, defined as the area below the ACM (between 0 feet to -20 feet CRD), the aquatic vegetation survey was limited because of visibility and water depth. Curly pondweed (*Potamogeton crispus L.*) was observed at approximately -1 feet CRD during a period of high visibility downstream of existing Dock 1 and during a separate study downstream of the study area near Barlow Point. It is possible that the gently sloping portion of this shallow water habitat between the east and west pile dikes could support a narrow band of sparse aquatic vegetation in the uppermost elevations where increased light penetration and reduced river velocity are present, relative to the deeper portions of the habitat area. In the project footprint the shallow water habitat is more steeply sloping, narrow, and not likely to include submerged aquatic vegetation. However, the Draft EIS included a mitigation measure (MM VEG-2) to conduct additional aquatic vegetation surveys prior to construction to further document presence or absence of aquatic vegetation.

The identification of noxious weeds in the project area was based on on-site field studies; these noxious weeds were listed in Draft EIS Chapter 4, Section 4.6 *Vegetation*, Table 4.6-4. The Applicant would be required to prevent the potential establishment and spread of noxious weeds per Washington State noxious weed regulations (RCW 17.10). If a property owner fails to control noxious weeds, the local weed board can impose civil fines for failure to control weeds. A mitigation measure is proposed (MM VEG-5) for the Applicant to coordinate with the Cowlitz County Noxious Weed Control Board as appropriate. MM VEG-5 has been revised in the Final EIS section to include that the Applicant would remove noxious weeds that invade new areas of the site.

Vegetation surveys were completed for the project area in 2014. No rare plants were observed during these surveys. As described in Draft EIS Chapter 4, Section 4.6, *Vegetation*, 15 special-status plant species occur in Cowlitz County; of these, six have the potential to occur in the direct impacts study area. Because plant communities can change from year to year, the Draft EIS identified a

potential mitigation measure to conduct rare plant surveys prior to construction and consult with the U.S. Fish and Wildlife Service and Cowlitz County if special-status plants would be affected

Draft EIS Chapter 4, Section 4.6, *Vegetation*, described the potential effects of dust deposition on vegetation identified in several studies. The reference in the Draft EIS to Pacific Northwest vegetation was to indicate that no known dust studies have been conducted specific to the region's vegetation; it was not intended to indicate that dust impacts on vegetation in the project area could not be adequately addressed. This sentence has been deleted in the Final EIS to avoid confusion.

As described in Draft EIS Chapter 4, Section 4.6, *Vegetation*, construction of the trestle conveyor would result in the loss of approximately 0.05 acre of riparian forest, including the removal and trimming of black cottonwood and willow trees, and understory shrubs as red-osier dogwood and Himalayan blackberry. As described in Draft EIS Chapter 4, Section 4.8, *Wildlife*, some forest and scrub-shrub habitat areas along the base of the maintained/mowed levee likely provide some foraging and cover for small and large mammals, foraging and nesting passerine (perching birds of the order Passeriformes), waterfowl and raptor bird species, and foraging, breeding, and refuge for amphibians. However, because the riparian area is disconnected from other large contiguous habitat areas due to development or breaks in habitat along the Columbia River, and because the project area is at the edge of the City of Longview's industrial development area (i.e., there is no habitat beyond the project area in the direct of the City of Longview), the narrow riparian strip of patchy habitat along the shoreline of the project area would not be considered a wildlife migration corridor that allows unconstrained seasonal movement of wildlife up and down the edge of the river.

# Comment VEG-3

The Co-leads must revise the DEIS to connect MBT's impacts on shoreline erosion and vegetation with the conclusions reached. The DEIS discloses significant impacts from vessel traffic on shoreline erosion and shoreline vegetation. (DEIS 4.6-23-24). For example, DEIS Appendix F states:

Vessels transiting the Columbia River would create vessel wakes, which have the potential to impact riparian vegetation directly through breakage, swamping, and erosion and indirectly through altered patterns of erosion and deposition and spread of noxious weeds. Vessel wakes are most likely to affect shoreline vegetation communities at or near water level. Wakes can redistribute fine sediment that can smother aquatic vegetation, but can also provide substrate for colonization of emergent wetland plants. Vessels traveling up and down the Columbia River could assist with dislodging (with wakes) and facilitating waterborne transport of wetland and riparian zone invasive exotic plants.(DEIS Appendix F at F-8)

Despite disclosing a litany of significant impacts, the DEIS concludes "[t]here would be no Columbia unavoidable and significant adverse environmental impacts" to shoreline erosion and vegetation. (DEIS at 4.6-27). The DEIS does not identify mitigation to reconcile its findings on impacts with the "no unavoidable" and "not significant" conclusions.

The DEIS addresses the impacts of vessel traffic on shoreline erosion and vegetation in Chapter 4.6, Vegetation. The DEIS states:

Increased vessel traffic and associated wakes could contribute to erosion of tidal marsh vegetation along the shoreline of the Columbia River. Operation of the coal export terminal at maximum throughput would deliver 70 vessels per month or 840 vessels per year to Docks 2 and 3 and would equate to1,680 vessel transits a year (840 vessels each way) (Chapter 5, Section 5.4, Vessel

Transportation). The location and extent of these impacts would depend on vessel design, hull shape, vessel weight and speed, angle of travel relative to the shoreline, proximity to the shoreline, currents and waves, and water depth (Jonason 1993:29–30; MARCOM 2003). The potential for shoreline erosion could also be influenced by the slope and physical character of the shoreline (i.e., soil susceptibility to erosion), as well as the amount and type of vegetation that occurs along the shoreline. (DEIS at 4.6-23)

The DEIS concludes that vessel traffic may impact shoreline erosion and vegetation at the terminal and along the vessel route. Specifically, the DEIS states:

[T]here may be a potential for such impacts [i.e., shoreline erosion] on the thin strip of shoreline vegetation along the northern end of Lord Island from large wakes, or wakes oriented perpendicular to the main navigation channel and docks, such as those that can occur when tugs are oriented perpendicular to the shoreline as they push vessels into position at docks. There is the potential for impacts related to vessel wakes on vegetation along the shoreline of the lower Columbia River as a result of the Proposed Action. (Id. at 4.6-23)

The DEIS also notes that: (1) vessel operations in the Lower Columbia River are federally regulated, including size, speed, and navigation; (2) large vessels must be operated by U.S. Coast Guard-licensed pilots within the Lower Columbia River; and (3) the Corps manages the navigation channel and its ongoing maintenance. (Id.) The DEIS fails to explain how these factors will reduce or mitigate for shoreline erosion from MBT's vessel traffic.

Like the DEIS's treatment of wake stranding, the DEIS's treatment of vessel traffic's impacts on shoreline erosion and shoreline vegetation is arbitrary. The DEIS discloses significant impacts from vessel traffic on shoreline erosion and vegetation, fails to identify mitigation or how compliance with federal laws will alleviate these impacts, and, nonetheless, concludes that the project's impacts are not significant or unavoidable. (Id. at 4.6-26–27). The Co-leads must revise the DEIS to link its findings with its conclusion.

In comments on a proposed liquefied natural gas ("LNG") terminal, Bradwood Landing, the Oregon Department of Environmental Quality (DEQ) notes that studies by the Corps found an impact from deep-draft vessels on shoreline erosion. DEQ's comments state:

Corps studies related to channel deepening in the proposed reach have found wake from current ship traffic to be largely responsible for erosion at Puget Island. The DEIS incorrectly identifies speed as the most important influencing factor in ship wake erosion. The Corps studies have found vessel hull shape to be the contributing factor in ship wake erosion with severity dependent on tidal stage during travel. No information on vessel hull shape and tidal stage correlation is provided in the DEIS analysis.

Additionally, tug boat wake from multiple boats during berthing and unberthing should be analyzed in combination with wake and propeller wash from the vessels. (Ex. 32 (Oregon DEQ Comments on Bradwood Land LNG DEIS)).

The MBT DEIS contains the same flaws DEQ identified in the Bradwood LNG DEIS, a project with only a fraction of the vessel traffic (i.e., 125 vessels per year). The Co-leads must revise the DEIS to account for significant impacts from 840 vessels per year calling on MBT. (3277)

## Response to VEG-3

Draft EIS Chapter 4, Section 4.6, *Vegetation*, addressed erosion of shoreline vegetation from vessel wakes. The analysis identified potential impacts related to erosion of shoreline vegetation but, given the existing and historical vessel traffic on the Columbia River, determined that such impacts would not be significant. Final EIS Chapter 4, Section 4.6, *Vegetation,* provides additional context on the potential impact.

The Draft EIS did not single out vessel speed as the most important influencing factor in vessel wake erosion. Section 4.6 *Vegetation*, stated,

> [t]he location and extent of these impacts would depend on the vessel design, hull shape, vessel weight and speed, angle of travel relative to the shoreline, proximity to the shoreline, currents and waves, and water depth (Jonason 1993:29-30; MARCOM 2003). The potential for shoreline erosion could also be influenced by the slope and physical character of the shoreline (i.e., soil susceptibility to erosion), as wells as the amount and type of vegetation that occurs along the shoreline.

This section in the Final EIS was revised to include "tidal stage" in this list of variables that would determine the extent and location of this potential impact.

No shoreline erosion impacts are anticipated from tugs and vessels during berthing and unberthing at Docks 2 and 3. Draft EIS Chapter 4, Section 4.5, *Water Quality*, discussed the factors that would limit the potential for erosion due to propeller wash from vessels and tugboats. Unloaded vessels may approach Docks 2 and 3 from either an upstream or downstream direction. While under the control of tugboats, vessels do not typically engage their main propeller and, thus, would not cause propeller wash scour of the dredged slope or berthing basin bottom. During docking, tugboats would push an unloaded vessel toward the docks, and would, therefore, direct propeller wash away from the dredged slope and shoreline and into deeper water. During undocking, tugboats would pull a loaded vessel away from the docks and into the channel. Although propeller wash would be directed toward the docks during undocking, the draft of the loaded vessel would approach near the depth of the basin and would act to shield the dredged slope and areas shoreward from tugboat propeller wash. Therefore, propeller wash generated by tugboats would not affect the dredged sloped margins of the berthing basin or the more distant shoreline. Vessels are not expected to generate propeller wash that would scour the dredged sloped margins of the berthing basin, the bottom of the berthing basin, or the more distant shoreline, even for the largest vessels. Propeller wash generated by tugboats maneuvering vessels would likely have a minimal effect on the berthing basin and would not result in scour.

# Comment VEG-4

The DEIS does not discuss potential direct or indirect impacts from construction and operations to vegetation from shade. Shading from overwater structures and moored vessels will eliminate suitable habitat for submerged and emergent vegetation in the nearshore. Macrophytes grown on plants provide many of the same benefits to trout and salmon that seagrasses and algae provide in estuaries. Permanent removal of this habitat will impact fish, invertebrates, birds and mammals that feed and find refuge there (Rondorf et al. 2010).

- Under MM VEG-2. Conduct Aquatic Vegetation Surveys Prior to Construction. (p. 4.6-26) DNR recommends that Department of Ecology's "Aquatic Plant Sampling Protocols" (2001) be used for pre-construction aquatic vegetation surveys (found at: https://fortress. wa.gov/ecy/publications/summarypages/0 103017.html)

- Under MM VEG-3 and VEG-4. (p.4.6-26) Additional authorization from DNR would be required for revegetation activities on state-owned aquatic land. Accordingly, DNR recommends that WA DNR's Aquatic Resources Division be involved in any revegetation plan (or other habitat mitigation) taking place on or partially on state-owned aquatic lands. (2691)

### Response to VEG-4

Shading impacts on the aquatic environment were addressed in Draft EIS Chapter 4, Section 4.7, *Fish*. In- and over-water construction activities would increase shade over the aquatic environment beneath and adjacent to the construction structures and vessels, which could result in changes to primary productivity, fish behavior, predation, and migration. During operations, the trestle would shade shallow-water-zone habitat (approximately 0.3 acre). However, the trestle would be elevated over the ordinary high water mark by approximately 8 feet allowing light to penetrate beneath the structure. The shading impacts of the trestle would be limited in the shallow-water-zone habitat. Docks 2 and 3 and a portion of the trestle would shade 4.83 acres of deepwater zone habitat. Vessels loading at Docks 2 and 3 during operations would further increase the shading of deepwater zone habitat. If two Panamax-sized vessels were being loaded simultaneously, they would shade an additional 4.7 acres of deepwater zone habitat, or 9.83 total shaded acres. Vegetation does not typically grow in deepwater zone habitats; there would be no vegetation present affected by shading.

For any part of the Proposed Action that would occur on or over state-owned aquatic lands, the Applicant would coordinate with Washington State Department of Natural Resources (WDNR) regarding appropriate survey methods for aquatic vegetation and authorization for revegetation activities, as appropriate or required. As stated in Draft EIS potential mitigation measure MM VEG-2, if aquatic vegetation is found during the preconstruction survey, the Applicant would notify WDNR to develop appropriate conservation or mitigation measures before beginning any in-water work.

## Comment VEG-5

Vegetation, Page 4.6-22. The DEIS states impacts of coal dust on vegetation are variable and complex and have not been studied in the Pacific Northwest. Coal dust has been shown to reduce terrestrial and emergent plants ability to photosynthesize (Farmer, 1993) and should be addressed in the FEIS. (2691)

### Response to VEG-5

Draft EIS Chapter 4, Section 4.6, *Vegetation*, described the potential effects of dust deposition on vegetation identified in several studies. The reference in the Draft EIS to Pacific Northwest vegetation was to indicate that no known dust studies have been conducted specific to the region's vegetation. This sentence has been deleted in the Final EIS to avoid confusion.

## Comment VEG-6

The University of Washington did a study showing the magnitude of coal dust lost on tracks which can poison plants and animals. This study is not acknowledged in the DEIS. (TRANS-PASCO-M1-00039)

## Response to VEG-6

The commenter does not provide the name of the University of Washington study referenced. The commenter may be referring to the Jaffe et al. (2015) study, *Diesel particulate matter and coal dust from trains in the Columbia River Gorge, Washington State, USA*. This study was acknowledged in Draft EIS Chapter 5, Section 5.7, *Coal Dust,* and the *SEPA Coal Technical Report*, that informed the Draft EIS. The Jaffe et al. (2015) report results were considered in relation to the results of the coal dust analyses conducted for Proposed Action-related trains. As described in Draft EIS Chapter 5, Section 5.7, *Coal Dust*, the findings of the Jaffe et al. (2015) report and the analysis results for the Proposed Action-related trains were generally consistent in their conclusions.

Potential coal dust impacts on the natural environment are addressed in Draft EIS Chapter 4, Sections 4.5, *Water Quality*, 4.6, *Vegetation*, 4.7, *Fish,* and 4.8, *Wildlife*.

# Comment VEG-7

The University of Washington did a study showing the magnitude of coal dust lost on the tracks which can poison plants and animals. This study is not even acknowledged in the DEIS. (TRANS-LV-M2-00084)

## Response to VEG-7

Refer to Response to VEG-6.

# Comment VEG-8

How the MBT intends to further reduce coal dust is not offered and therefore this cannot be considered to be an adequate mitigation measure. The EIS also says it will conduct surveys for rare plants and aquatic plants prior to construction and "plan to reduce impacts" if any are found. The survey for rare and aquatic plants and animal species should be conducted prior to permitting of the project so that any impacts may be disclosed and evaluated as part of the EIS. This is not a reasonable mitigation that could lead to a MDNS. (3426)

## Response to VEG-8

Refer to Response to VEG-2 regarding plant surveys and rare plants. No animal species surveys were identified as potential mitigation in the Draft EIS.

# Comment VEG-9

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| A | **4.6 Vegetation**<br>Page 4.6-17, Rail car unloaders | *"Rail car unloaders will be: Cleaned with dry fog and water spray systems."* | Revise – these methods are used for dust control, not cleaning |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| B | **4.6 Vegetation**<br>Page 4.6-17, Permanently Remove Vegetation, first sentence | Text should be revised: *"… permanently remove ~~189~~ 26 acres of nonwetland"* | The project area is only 190 acres. This should be 26 acres – see DEIS page 4.6-18, Table 4.6-6 |
| C | **4.6 Vegetation**<br>Page 4.6-18, Table 4.6-6 | Impacts to Upland Forested Habitat reported to be: *8.84 acres*<br>Impacts to Upland Scrub-Shrub Habitat reported to be: *2.10 acres*<br>Please review these calculations as they appear to include acres of wetlands, whereas Table 4.6-6 seems to indicate that wetlands are excluded from the total. | Total acres of impact to forested upland habitat are more than double Grette Associates' total. The cause of this discrepancy is unclear; however, it appears that the DEIS author may be reporting total forested habitat, including wetland acreage. In that case, the total would be close to Grette Associates' total. However, Table 4.6-6 seems to indicate that impacts to wetlands are not included in the total. |
| D | **4.6 Vegetation**<br>Page 4.6-20 | "and ~~maintenance~~ control of vegetation under the conveyor" | Vegetation will not be maintained under the conveyor |
| E | **4.6 Vegetation**<br>Page 4.6-21, Alter Vegetation during Maintenance Activities,, first paragraph | *"Trees and tall shrubs around the conveyor to the shiploaders on Docks 2 and 3 would likely be regularly trimmed or removed, slightly reducing organic material delivered to the river, shade the upper beach and shoreline, and native foraging, resting, and perching opportunities to for passerine birds. The 45- to 50-foot-wide area that would be affected is small relative to the approximately 5,000 linear feet of vegetated shoreline in the project area."* | This should be deleted. There are no trees or tall shrubs currently nor planned for the location around the conveyor. |
| F | **4.6 Vegetation**<br>Page 4.6-21, Deposit Coal Dust on Vegetation | Why is coal dust singled out? | The discussion of coal dust on vegetation could apply to all forms of dust, why is coal singled out?<br>There should be a mention of rail washing the leaves clean or any coal |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| | | | dust for the majority of the year, which will reduce impacts. |
| G | **4.6 Vegetation**<br>Page 4.6-24, Spill Coal during Rail Transport, last two lines | *"In Cowlitz County, the predicted number of loaded coal train incidents is approximately one every 2 years. The predicted number of loaded coal train incidents within Washington State is approximately five"* | Why is coal separated out from other commodities? What makes a coal train more likely to have an incident than another train? |
| H | **SEPA Vegetation Technical Report**<br>Page 2-19, Section 2.2.2.2– Land Cover Classification and Vegetation Cover Types | We request that ICF double-check calculations of habitat area, and in particular review the mapped upland forested habitats for accuracy. | It appears that habitat acres are based primarily on ICF's own vegetation surveys. ICF used slightly different habitat/vegetation type categories, making it difficult to track down specific differences in the two analyses. However, it appears that general habitat categories mapped by Grette Associates do not exactly match those mapped by ICF. Specifically, we identified less forested and scrub-shrub habitat than ICF, on parcel 61950 in particular. Nevertheless, we agree in principle with the analysis of the site as largely developed/disturbed with isolated patches of habitat potentially used by wildlife. |

(3070)

## Response to VEG-9

The following describes the changes made to Final EIS Chapter 4, Section 4.6, *Vegetation*, and the *SEPA Vegetation Technical Report* in response to these comments. Refer to the left-most column of the above table for lettering used to identify each comment.

- **Comment A:** The language in the rail car unloader best management practice has been revised to reflect that the methods are employed to control dust.
- **Comment B:** The statement under the *Permanently Remove Vegetation* impact discussion has been revised to clarify that the acreage refers to permanent alteration and removal of land cover types.
- **Comment C:** The vegetation type acreages have been recalculated and updated in the Final EIS.
- **Comment D:** The language related to vegetation under the conveyor has been revised to reflect that it would be controlled, not maintained.

- **Comment E:** As described in Draft EIS Chapter 4, Section 4.6, *Vegetation*, a small area (0.05 acre) of forest was identified in the riparian zone along the Columbia River between the ordinary high water mark and the top of the CDID #1 levee.
- **Comment F:** The discussion of dust impacts in Draft EIS Chapter 4, Section 4.6, *Vegetation*, focused on coal dust because comments received during the scoping period specifically expressed concern about potential coal dust impacts from operation of the Proposed Action.
- **Comment G:** The potential impact of a coal spill from a Proposed Action-related train is related to the probability of a loaded Proposed Action-related train incident occurring. The statement referenced by the commenter has been revised in the Final EIS to clarify that it refers to loaded Proposed Action-related incidents, not coal train incidents in general.
- **Comment H:** The vegetation type acreages in the *SEPA Vegetation Technical Report,* have been recalculated and updated.

# 4.7 Fish

This section presents responses to substantive comments related to fish.

## Comment FSH-1

I am concerned that the draft EIS minimizes impacts and lacks rigorous analysis. For example, in Appendix F, Rail and Vessel Corridor Information, the DEIS describes these significant impacts on fish in the rail corridor: - The rail corridor within Washington crosses over and is adjacent to more than 500 streams and waterbodies between the Washington-Idaho border and Vancouver, WA. The rail route crosses many freshwater rivers and smaller tributaries to the Columbia River and Pacific Ocean, including approximately 75 fish-bearing streams and 44 shoreline streams.... Impacts on aquatic habitats and species in Washington could occur in the event that waterbodies are impacted by hazardous materials that enter waterways…" (page F-8). Yet the same Appendix includes no mention of the impacts on fish in the vessel corridor, even though there is an 82-page SEPA Fish Technical Report that states:

- The Columbia River is EFH, essential fish habitat (page 2-16).
- Eight threatened or endangered salmon Evolutionary Significant Units (ESUs), five threatened steelhead Distinct Population Segments (DPSs), one threatened bull trout DPS, and their designated critical habitats occur in the Lower Columbia River and the study area (page 2-15).

And this is just one example. It seems the body of the DEIS may not fully include information from the supporting documentation. (1443)

### Response to FSH-1

Draft EIS Chapter 4, Section 4.7, *Fish*, evaluated potential impacts on fish from the Proposed Action, including indirect impacts during rail transport along the rail routes in Washington State and vessel transport in the Columbia River.

Appendix F, *Rail and Vessel Corridor Information,* which summarizes information from the Tesoro Savage Vancouver Energy Distribution Terminal Facility Draft EIS, was included in the Draft EIS for the Proposed Action as supplemental information.

## Comment FSH-2

I ask that the EIS consider the loss in productivity of riparian ecosystems from Montana to Longview and in particular the Columbia Basin and its watersheds. The Columbia River Basin is home to thirteen runs of threatened salmon and other endangered species. An increase of coal trains into the Columbia River's drainage basin along with other proposed impacts like dredging in shallow critical habitat, coal dust, dust-suppression spraying resulting in wastewater discharge, and conveying coal over the water ways will negatively impact the population of salmon. (0176)

## Response to FSH-2

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS. Draft EIS Chapter 4, Section 4.5, *Water Quality*, and Chapter 5, Section 5.7, *Coal Dust*, also provided a discussion of potential water quality and coal dust impacts along rail routes for Proposed Action-related trains. Draft EIS Chapter 4, Section 4.7, *Fish*, evaluated potential impacts on salmon in the study area from construction and operation of the Proposed Action, including those impact mechanisms referenced by the commenter. Based on this analysis, compliance with laws and implementation of the voluntary measures and mitigation measures would reduce impacts on fish, including salmon, and the Proposed Action would not result in unavoidable and significant adverse impacts.

# Comment FSH-3

Be sure to include in the study- port construction and a huge scaling up of barge traffic and how it would harm crucial fish habitat. (0240)

## Response to FSH-3

Draft EIS Chapter 4, Section 4.7, *Fish,* evaluated potential impacts on fish and fish habitat in the study area from construction and operation of the Proposed Action. The use of barges during construction were considered in the analysis of construction impacts.

# Comment FSH-4

This dust affects salmon, an important food source for not only native Americans but all who fish in the river and eat fish from the river. (1929)

## Response to FSH-4

Draft EIS Chapter 4, Section 4.5, *Water Quality*, evaluated potential impacts of coal dust on water quality along the rail route for Proposed Action-related trains. Draft EIS Chapter 4, Section 4.7, *Fish*, evaluated potential impacts on fish in the study area from construction and operation of the Proposed Action, including potential impacts from coal dust.

# Comment FSH-5

Another environmental issues not address is the aquatic invasive species (AIS) impact, and the impact to the fisheries of the Columbia River. These coal ships will be coming from Asian ports and will be ballasted with sea water loaded in these Asian ports. If required to dump ballast, it must be done at sea. If not done correctly, ballast water will be over boarded in the Columbia. (2238)

## Response to FSH-5

Draft EIS Chapter 4, Section 4.5, *Water Quality*, described potential indirect impacts of vessel transport related to the Proposed Action, including the potential to introduce contaminants from ballast water; this section in the Final EIS has been revised to better reflect the federal and state regulatory requirements for ballast discharge. As described under *Operations—Indirect Impacts*, although ballast water could contain invasive species that could result in harm or displace native

aquatic species, the vessels calling under the Proposed Action would be required to comply with existing state and federal regulations, which would reduce the likelihood of these impacts. Specifically, Proposed Action-related vessels would be required to implement one of the following ballast water management methods per U.S. Coast Guard ballast discharge regulations (33 CFR 151.2025): install a ballast water management system, use only water from a U.S. public water system, not discharge ballast water, or discharge ballast to a facility onshore or to another vessel for treatment. Regardless of the ballast water management option selected by vessel operators, all ballast water discharge must meet the ballast discharge standards per 33 CFR 151.2030 and EPA NPDES Vessel General Permit standards. In addition, the Washington State ballast discharge regulations (Revised Code of Washington [RCW] 77.120.040) include reporting, monitoring, and sampling requirements of ballast water, and all vessels must submit nonindigenous species ballast water monitoring data. The Washington Department of Fish and Wildlife may also board and inspect vessels under Washington Administrative Code (WAC) 220-150-033 without advance notice to provide technical assistance, assess compliance, and enforce the requirements of Washington State ballast water management program laws and regulations. All vessel operators would be required to comply with federal and state ballast regulations or risk penalties for violations.

# Comment FSH-6

…coal dust would cover areas along the rail line, and contaminants would jeopardize water resources. It is a threat to aquatic life, fishing and salmon runs. (1726)

## Response to FSH-6

Draft EIS Chapter 4, Sections 4.5, *Water Quality*, 4.6, *Vegetation*, 4.7, *Fish*, and 4.8, *Wildlife,* described potential impacts from operation of the Proposed Action on water quality, aquatic plants, fish, and aquatic animals, respectively. Each of these sections addresses the potential for impacts related to deposition of coal dust under *Operations—Indirect Impacts*.

# Comment FSH-7

According to the DEIS, project vessels (which the DEIS numbers at 840 but that is only the number of vessels traveling one way, the actual number would be 1680) would "introduce additional permanent risk of fish stranding in the Columbia River." DEIS 4.7-18. The DEIS fails to analyze how many juvenile Chinook salmon would be stranded annually. There is no real analysis of whether or why this impact might be or not be entirely avoided except the DEIS says slowing vessels "could" reduce wake at Barlow Point. DEIS 4.7-19. No mitigation measure identified in the DEIS addresses wake stranding. DEIS 4.7.7. There is no quantitative cumulative impacts analysis of repeated wake stranding of juvenile Chinook salmon and other fish from the cumulative project vessel traffic in isolation or in the context of increasing cumulative vessel traffic in the Columbia River. How many fish would be stranded and how would this impact the overall population of Chinook salmon and the marine birds and mammals that depend upon this food source? The DEIS, 6-31 and 32, merely concludes that increased vessel traffic associated with the cumulative projects could increase the potential for fish stranding caused by vessel wakes. Nevertheless, the DEIS erroneously concludes with regard to all impacts on fish including wake stranding "[c]ompliance with laws and implementation of voluntary measures and mitigation measures described above would reduce impacts on fish. There would be no unavoidable and significant adverse impact." DEIS 4.7.8. This conclusion is without basis with regard to wake stranding, particularly in light of the omissions in

the analysis. A revised DEIS and the Final EIS must study, analyze, and fully disclose the impacts on fish of wake stranding over the life of the project and must identify effective mitigation. Moreover, impacts of fish wake stranding on marine birds and marine mammals that depend on live fish as their food source (including affected birds and mammals outside the narrow study area) must be included in a revised analysis. (2712)

### Response to FSH-7

Final EIS Chapter 4, Section 4.7, *Fish*, has been revised to clarify that the Proposed Action would result in 1,680 vessel transits (840 vessels transiting to and from the project area) per year. Refer to Master Response for Vessel Wake Stranding for discussion of vessel wake stranding of fish.

## Comment FSH-8

According to the DEIS, project vessels (which the DEIS numbers at 840 but that is only the number of vessels traveling one way, the actual number would be 1680) would "introduce additional permanent risk of fish stranding in the Columbia River." DEIS 4.7-18. The DEIS fails to analyze how many juvenile Chinook salmon would be stranded annually. There is no real analysis of whether or why this impact might be or not be entirely avoided except the DEIS says slowing vessels "could" reduce wake at Barlow Point. DEIS 4.7-19. No mitigation measure identified in the DEIS addresses wake stranding. DEIS 4.7.7. There is no quantitative cumulative impacts analysis of repeated wake stranding of juvenile Chinook salmon and other fish from the cumulative project vessel traffic in isolation or in the context of increasing cumulative vessel traffic in the Columbia River. How many fish would be stranded and how would this impact the overall population of Chinook salmon and the marine birds and mammals that depend upon this food source? The DEIS, 6-31 and 32, merely concludes that increased vessel traffic associated with the cumulative projects could increase the potential for fish stranding caused by vessel wakes. Nevertheless, the DEIS erroneously concludes with regard to all impacts on fish including wake stranding "[c]ompliance with laws and implementation of voluntary measures and mitigation measures described above would reduce impacts on fish. There would be no unavoidable and significant adverse impact." DEIS 4.7.8. This conclusion is without basis with regard to wake stranding, particularly in light of the omissions in the analysis. A revised DEIS and the Final EIS must study, analyze, and fully disclose the impacts on fish of wake stranding over the life of the project and must identify effective mitigation. Moreover, impacts of fish wake stranding on marine birds and marine mammals that depend on live fish as their food source (including affected birds and mammals outside the narrow study area) must be included in a revised analysis. (2589)

### Response to FSH-8

Refer to Response to FSH-7.

## Comment FSH-9

Marine Species, Fish and Fisheries- All rail and barge transportation routes for coal trains crossing streams. rivers, a:1d wetlands that provide designated critical and essential fish habitat for a significant number of endangered species. All bridge crossings of streams, rivers and wetlands should be identified together with the marine species, fish, or fisheries dependent upon the individual habitats. An assessment of the potential negative effects on said habitats should include the impacts of a major derailment that contaminates these areas with coal or coal dust. The

assessment should identify remedial actions that would be required to restore the habitats to their original condition if spilled coal and coal dust can be completely removed from those habitats. (2980)

### Response to FSH-9

Draft EIS Chapter 4, Sections 4.5, *Water Quality*, 4.6, *Vegetation*, 4.7, *Fish*, and 4.8, *Wildlife,* described potential impacts from operation of the Proposed Action on water quality, fish and fish habitat, and wildlife and habitat, respectively, including indirect impacts from rail transport of coal to the coal export terminal. Each of these sections addressed the potential for impacts related to a coal spill under *Operations—Indirect Impacts*. The magnitude of a potential indirect impact from a coal spill on these resource would depend on the location of the spill, the volume of the spill, and success of efforts to contain and clean up the spill. As such, the Draft EIS described the general types of impacts on these resources that could result from a coal spill and how factors that would affect the success of containment and clean up. In some cases, these impact discussions referenced the *Operations—Direct Impacts* section, as the general types of impacts would be similar to those related to terminal operations. Final EIS Chapter 4, Section 4.7, *Fish*, reflects the addition of a summary of a derailment of a coal train in Burnaby, British Columbia, Canada. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

## Comment FSH-10

The lower Columbia River estuary provides essential rearing habitat for many stocks of salmonids and other aquatic species. In the Biological Opinion for the Federal Columbia River Hydropower System, the estuary is given great weight for its value in recovering ESA-listed salmonids. There is general concern that high numbers of outmigrating salmonid smolts are lost between the dams and the ocean. Increasing vessel traffic in the estuary could result in moderate to major long-term changes to tidal wetland, shallow water, and tidal flats. It makes no sense to continue degrading estuarine habitat and contributing more mortality by adding more deep-draft vessels to the estuary. (3287)

### Response to FSH-10

Refer to Master Response for Vessel Wake Stranding for discussion of vessel wake stranding of fish.

## Comment FSH-11

Prop wash from vessels as well as ship wakes breaking on shore could cause increased erosion along the shoreline and re-suspend the eroded material within the water column. Vessel wake and propeller scour could injure or otherwise impact substrate and invertebrates, as well as benthic-based fishes such as white and green sturgeon. (3287)

### Response to FSH-11

Large, deep-draft vessels arriving at and departing from Docks 2 and 3 would require the use of two tugboats to assist with docking and undocking (as stated in Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*). As discussed in Chapter 4, Section 4.5, *Water Quality*, cargo vessels typically do not engage their main propeller during docking and undocking, and thus would not be expected to cause propeller wash-related scour of the side slopes or bottom of the dredge prism. Final EIS Chapter 4,

Section 4.5, *Water Quality*, has been updated to more fully describe these operations. As noted in the Draft EIS Section 4.5, propeller wash from tugboats would be nearer the surface and would, thus, have less potential to result in scour or erosion of bottom sediments.

Refer to Master Response for Vessel Wake Stranding for discussion of vessel wake stranding of fish.

# Comment FSH-12

If the project only measures the effects of pile drivers on salmonids using pressure wave detection devices, a serious deleterious effect may not be detected. Particle motion sound and their effects on adult salmon are currently being studied by the U.S. Corps of Engineers at Lower Granite Dam. In association with the study at Lower Granite, a thorough literature review has been and should be considered in the DEIS (Hawkins). (3287)

## Response to FSH-12

Draft EIS Chapter 4, Section 4.7, *Fish*, evaluated the potential impacts of underwater sound on fish using the best available science and current understanding of how underwater sound affects fish. The analysis follows the current guidance on evaluating underwater sound on fish that has been developed by the Fisheries Hydroacoustic Working Group (FHWG). The FHWG was established by the California Department of Transportation in coordination with the Federal Highway Administration, Oregon Department of Transportation and Washington State Department of Transportation. The FHWG is composed of representatives from NMFS, U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW) and the Corps.

The effects of underwater sound on fish is an area of continued research and study, and new information could be incorporated into permits.

# Comment FSH-13

The expansion of overwater habitat and trusses creates the potential for roosting habitat of Double Crested cormorants which is a key predator of juvenile salmonids will migrate by the terminal and thereby increase the potential for additional predation impacts. Additionally, an increase in overhead cover and shading by the expansion has the potential to create habitat for a number of predatory fish species and thereby increase predation on out-migrating juvenile salmonids. (3287)

## Response to FSH-13

Draft EIS Chapter 4, Section 4.7, *Fish*, described the potential for increased shading related to the increase in overwater surface area to alter the predator-prey relationship in the study area, although the extent or magnitude of the change is unknown. The extent of human, vessel, and mechanical activity on the proposed docks and trestle during operations would likely limit the use of these structures as ambush habitat by double-crested cormorants.

To further reduce the potential use of these structures as perching/roosting habitat by double-crested cormorants and other piscivorous birds, Final EIS Chapter 4, Section 4.7.5.1, *Proposed Action*, reflects a design feature from the Applicant to install pile caps on all piles. Washington Department of Fish and Wildlife (WDFW) rules for overwater structures include design elements to reduce shading and bird predation impacts. Therefore, impacts of increased predation from

cormorant perching on the docks and trestle were not considered to have the potential for significant impacts on fish.

# Comment FSH-14

Similar to overhead cover, the additional lighting resources in the project area projected to be continuous creates permanent predation opportunities for both fish eating birds and piscivorous fishes that prey on juvenile salmonids. Juvenile salmonids migrate more actively at night and that combined with the attractive effect of lights has the potential to increase the predation impacts on listed salmonids. (3287)

## Response to FSH-14

As described in Draft EIS Chapter 4, Section 4.7, *Fish*, the docks would be located over the deepwater zone habitat, where juvenile salmon are not as likely to migrate. Juveniles migrating in deepwater zone habitat are likely migrating relatively quickly and not rearing for extended periods in any particular area. Although the trestle crosses over shallow water zone habitat, where juvenile salmon are more likely to migrate, the Proposed Action includes design features to direct project lighting downward or at structures and avoid spillage of light into aquatic areas. Therefore, impacts of increased predation from lighting related to the new structures were not considered to have the potential for significant impacts on fish.

# Comment FSH-15

The work window of September 1 through December 31 is not consistent with full protection for spawning eulachon (smelt), juvenile sturgeon, and migrating adult salmonids. Eulachon may stage in the lower river weeks prior to spawning and therefore are vulnerable to impacts from the project outside of the work window. Fall runs of Chinook, Coho and Steelhead are fully underway by September 1 and the noise and construction impacts to these runs could be very significant and stressful to these fish, particularly in low flow years. In 2015, more than 1 million adult salmon and steelhead would have passed by the proposed project area between September 1 and November 30. The proposed work window is inconsistent with the work window used by the Corps of Engineers at its dams on the Columbia River. The work window is inconsistent with the policy of the Oregon Department of Fish and wildlife. (3287)

## Response to FSH-15

Draft EIS Chapter 4, Section 4.7, *Fish*, acknowledged that eulachon and salmonids could be present in the study area during the proposed in-water work window. The in-water work window presented in the Draft EIS was based on WAC 220-110-206, which was repealed effective July 1, 2015, by Washington State Rule 15-02-029. No new in-water work windows have been defined and the project-specific in-water work periods would be defined during permitting. For the purposes of evaluating potential impacts, the in-water work window presented in the repealed WAC was used. It is assumed that any permits issued for the Proposed Action would outline the specific in-water work windows for the protection of fish. While fish occur in the lower Columbia River year round, it is assumed that the in-water work window defined by the permitting agencies would be protective of fish life to the greatest extent feasible.

# Comment FSH-16

At a minimum, the applicant should survey the construction area for Pacific lamprey presence. Such survey would include:

- Conduct seasonal larval lamprey/ammocoete surveys within the entire project footprint before, during, and after project completion using a systematic sampling design such as that employed by Jolley et al. (2010), Jolley et al. (2011a) and Jolley et al. (2011b).
- Conduct multiple surveys throughout the year to assist in understanding temporal changes in ammocoete abundance and distribution. This could provide an indication when ammocoetes would be most affected by the proposed project (e.g., in the in-water work period) and help understand hydraulic changes on lamprey distributions within the area post construction.
- Assure that mitigation efforts are designed to provide a variety of habitats for lamprey (e.g., back water, depositional areas for ammocoetes and larval lamprey).
- Obtain other information from these surveys (e.g., lamprey distribution, toxicology loads, and genetics).

(3287)

## Response to FSH-16

As stated in the *SEPA Fish Technical Report*, the study area lacks suitable spawning substrates for either Pacific or river lamprey. Therefore, adults are likely to be present only during upstream migration. Ammocoetes of several age classes have been found at a few locations in the Columbia River. Pacific lamprey ammocoetes have been captured at two sites in the Columbia River near the mouth of the Cowlitz River. Their presence in the study area indicates the possibility that some ammocoetes could settle near the Proposed Action. However, the active channel margin (ACM) and shallow-water zone (SWZ) near the proposed docks generally lack the slack water environments required for ammocoete rearing, and the sediments in this area are mobile and lacking in the organic matter associated with suitable ammocoetes rearing habitat. Juvenile and adult lamprey may be present in the SWZ and deep-water zone (DWZ) during their respective migration periods.

Thus, although larval lamprey have been detected in the substrate near the mouths of lower Columbia River tributaries, including the Cowlitz River (Silver et al. 2007), Hood River (Jolley et al. 2012a), the White Salmon, Klickitat, and Wind rivers (Jolley et al. 2012a, 2012b, 2013), as well as in the mainstem of the lower Willamette River (Jolley et al. 2010), presence represented very low densities; oftentimes a single fish was encountered after extensive sampling effort. Compared to the abundance of ammocoetes detected in tributaries where presence is often measured on the scale of hundreds to thousands of individuals (Kostow 2002; Close et al. 2009). Available information suggests that the mainstem Columbia River does not represent typical rearing habitat (Grette 2014). Although larvae have been detected in the substrate outside the mouths of tributaries, available information does not support the use of the mainstem Columbia River as typical, suitable, or high-value rearing habitat. General absence of larvae from the study area is further supported by a lack of stable rearing habitat, where seasonal fluctuations in water level would dewater shallow nearshore areas and highly dynamic currents would bury or expose burrows in deepwater areas (Grette 2014).

# Comment FSH-17

The Fish study area includes the entire river in width near the project and the indirect effects extend downriver to the Pacific Ocean. The Draft EIS appears to infer that floodplain disconnection, altered or eliminated habitat availability, and degraded habitat forming processes have resulted in a situation from which no further impact to salmon could possibly further interfere. Additionally, the Draft EIS describes the project area shoreline as highly modified by levees and riprap. While the description is accurate, it underplays the very low habitat availability in the Lower Columbia River and the critical role even substandard plays for Endangered Species Act threatened salmon and steelhead stocks. We are disappointed in that, although there have been considerable degradation done in the past regarding habitat and habitat function in the lower Columbia, there is no recognition that there are efforts to improve current conditions. We are disheartened and state that there needs to be a better analysis of what the proposed action would have toward salmon and steelhead recovery efforts. (3227)

## Response to FSH-17

The Draft EIS description of existing conditions in the lower Columbia River—including the disconnection of floodplain habitat through dike construction and armoring and degraded habitat—provided a baseline for examining the potential impacts of the Proposed Action.

The Draft EIS described existing conditions in the study areas identified for each resource area analyzed in Draft EIS Chapters 3, 4, and 5. A new appendix has been added to the *SEPA Fish Technical Report*, that provides information on all the restoration projects known to have occurred in the lower Columbia River subbasin (i.e., watershed below Bonneville Dam). The list of projects was provided by the Lower Columbia Estuary Partnership. To the extent that past environmental restoration activities have improved conditions in the study area, those conditions are reflected in the descriptions of existing conditions. The purpose of a SEPA EIS is to provide information for agency decision-makers and the public regarding the potential environmental impacts associated with a proposal and the mitigation measures that could be implemented to reduce those impacts. A full accounting of restoration efforts completed, underway, or planned for the future in the surrounding area is outside the scope of a SEPA EIS. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

# Comment FSH-18

The Draft EIS utilizes juvenile salmon studies that are several years old. Several recent studies indicate that salmon may reside in Lower Columbia River and estuarine wetlands for weeks, gaining size. Larger salmon smolts have a higher survival rate than smaller smolts and size is tied to estuarine rearing time for ocean type salmonids. The Draft EIS addresses vessel wakes and fish stranding, noting that estuarine beach stranding makes fish 'susceptible' to stress, suffocation, and predation. The Draft EIS does not address mortality, which is the most common outcome of beach stranding. Beach stranding at Barlow Point, just downstream of the project area currently occurs at 53% of observed passages. Subyearling Chinook salmon appear to compose of 80% of the stranded juvenile salmon. (page 4.7-18). This is alarming to us and further justified our opposition to this proposed development. (3227)

## Response to FSH-18

The commenter provides no further information regarding the recent studies for reference. Refer to the Master Response to Vessel Wake Stranding of Fish.

# Comment FSH-19

The Draft EIS projects approximately 5,000 [pile] strikes per day. The Draft EIS writes that noise attenuation models predict that injury and behavior impacts could range from 45 feet to 3.92 miles. Sound pressure levels ranging from 150 to 206 decibels could injure fish or change their behavior. (page 4.7-23) The Columbia River is 3000 feet wide in the project area. The projected injury distance is 1.1 miles, which means that during the pile driving period 100% of the migrating salmon species, either juvenile or adult, could be negatively affected, injured, and fitness reduced. (page 4.7-23)

This is a major impact on two entire salmon runs, as the pile driving is proposed to occur over two construction season, September 1 through December 31. Five threatened salmon runs and four threatened steelhead runs are present during the pile driving window (See Table 4.7-7). Actively migrating adult salmon are estimated to be in the project area between 20 and 90 minutes. Hearing loss injuries can reduce fitness, which may increase vulnerability to predators or reduced ability to locate prey, communicate or sense their physical environment. This is alarming to us and justifies non-approval of the proposed project.

The Draft EIS concludes their analysis of sound-injury by stating that injury area would occur only 33 feet from pile driving activities. This appears to relate to the single strike potential injury. Salmon migrating through the area would be subjected to cumulative sound injury. This is estimated by the Applicant to be approximately 20-90 minutes. Cumulative sound impacts increase the injury range to 1775 feet with behavioral impacts to 3.92 miles. The Draft EIS notes that adult salmon migrants move through the main-stem Columbia River relatively quickly. A sound attenuation device is proposed, but no backup information on the technology is provided, either in the main document or the technical addendum (page 4.7-26. We request additional detail in this regard. (3227)

## Response to FSH-19

As described in the Draft EIS Chapter 4, Section 4.5, *Water Quality*, the Applicant has proposed use of a confined bubble-curtain, or similar sound attenuation system capable of achieving approximately 9 decibels (dB) of sound attenuation. Recognizing that sound attenuation technology is quickly evolving, the Draft EIS identified a proposed mitigation measure for the Applicant to implement the best available noise attenuation method for pile-driving as identified during the Endangered Species Act Section 7 consultation.

A confined bubble curtain is a bubble curtain that typically employs a fabric outer layer that minimizes the effect of currents on the bubbles. The bubble curtain is deployed around the pile to be driven and consists of a ring with air ports spaced evenly. The ring is placed around the pile and sits on the bottom of the waterbody. Compressed air is fed through the ring, which creates a "bubble curtain" extending from the bottom of the waterbody to the water surface. The bubbles attenuate underwater sound generated during pile-driving.

A temporary noise attenuation pile and double-walled noise-attenuation pile can be configured in various ways. A temporary noise-attenuation pile consists of an outer pile placed around the pile

being driven. The space between the inner pile being driven and the outer temporary noise-attenuation pile should have a hollow cavity that excludes water, essentially creating a discrete coffer dam around the pile being driven and reduce the transfer of underwater noise generated by pile-driving to the surrounding water column. Another form of a temporary noise-attenuation pile is a steel outer pile with a 2-inch-thick closed cell foam lining on the inside of the pile and a perforated metal screen on the inside of the foam.

A double-walled noise-attenuation pile consists of a steel casing with a 1-inch air space and 4 inches of insulation and an inner steel casing sealed together at the top and bottom.

Monitoring of underwater noise conducted by Washington State Department of Transportation between 2006 and 2009 and the noise attenuation achieved using these technologies ranged from 7 dB to 21 dB reductions in underwater noise (Washington State Department of Transportation 2016).

Other technologies may be developed to further reduce noise attenuation in the future and these technologies may be recommended by the permitting agencies during the permitting process, for use during construction. The final selection of the most appropriate noise attenuation device(s) to be used during pile driving would be selected in consultation with the state and federal fish and wildlife agencies.

# Comment FSH-20

The Draft EIS state that its voluntary measures and mitigation measures will reduce impacts on fish, leaving unavoidable or significant adverse impacts. It is worth noting that Bonneville Power Administration has been actively working to develop and implement tidal and estuary salmon habitat projects for several years. Limited habitat project availability has been a continual problem despite a large network of project sponsors. The Cowlitz Indian Tribe objects to the Applicant's impact statement, noting that adult and juvenile fish will not be able to avoid impacts or injury and will likely have increase mortality and/or reduced fitness (page 4.7-37). (3227)

## Response to FSH-20

The commenter provides no information in support of the objection to the impact conclusion in Draft EIS Chapter 4, Section 4.7, *Fish*. The Proposed Action would not affect project availability for the Bonneville Power Administration or other entities' ongoing efforts in the lower Columbia River to restore fish habitat and contribute toward the recovery of federally protected species. A new appendix has been added to the *SEPA Fish Technical Report* that provides information on all the restoration projects known to have occurred in the lower Columbia River subbasin (i.e., watershed below Bonneville Dam). The list of projects was provided by the Lower Columbia Estuary Partnership.

# Comment FSH-21

Additional fish-related comments in brief:

- Eulachon are documents in general project area in both the egg and larval stage. The eulachon migration begins during the proposed two year dredging window (page 4.7-15). Nothing is indicated in regards to appropriate solidifying mitigation for potential impacts.
- The Draft EIS does not address fish screening for hydraulic dredging (page 4.7-20).

- The Applicant fails to account for the direct project impacts to the unidentified 80 to 110 acre dredge spoil deposition area (page 4.7-22)
- Vessel noise may cause potential behavioral disturbance for fish and may cause avoidance. (3227)

## Response to FSH-21

Refer to Response to FSH-15 regarding the proposed in-water work window. Proposed Mitigation Measure MM FISH-4, Conduct Eulachon Surveys, has been revised to acknowledge the uncertainty of when the in-water work may be permitted to occur.

Final EIS Chapter 4, Section 4.7, *Fish,* expands discussion of the potential for aquatic organisms, including fish eggs, larvae, juveniles and adults, to become entrained during hydraulic dredging. The Final EIS adds a new proposed mitigation measure (MM FISH-5) to conduct fish monitoring during hydraulic dredging operations to reduce these impacts.

Draft EIS Chapter 4, Section 4.7, *Fish*, described potential impacts on fish associated with disposal of dredged materials under *Temporarily Alter and Permanently Remove Aquatic Habitat* and *Cause Physical or Behavioral Response from Elevated Turbidity during Pile Driving and Dredge Disposal*. As stated in these impact discussions, flow-lane disposal is generally permitted to occur within or adjacent to the navigation channel, and would be expected to occur there under the Proposed Action.

Draft EIS Chapter 4, Section 4.7, *Fish*, described potential impacts associated with vessel noise, under the heading *Cause Physical or Behavioral Responses to Vessel Noise*. This impact has been moved to the *Operations—Indirect Impacts* section in the Final EIS. As described in the impact evaluation, fish that occur near transiting vessels could experience behavioral responses to the vessel noise but would not likely be injured.

# Comment FSH-22

The SEPA co-leads have acknowledged potential direct impacts to fish, wildlife, and their habitats, including those that would result from increased marine vessel traffic (e.g., wake stranding of salmonids). The Applicant and SEPA co-leads have failed to identify mitigation measures that would adequately avoid significant impacts resulting from wake stranding along the marine vessel transport corridor. (3458)

## Response to FSH-22

Refer to the Master Response for Vessel Wake Stranding of Fish.

# Comment FSH-23

While this document contains a vast amount of information, the potential impacts are unclear. The impacts from wake stranding throughout the lower Columbia River are growing in clarity, as has mitigation deemed necessary for such impacts. Due to the environmental, social, recreational and economic impacts that vessel traffic could have on the region, the agency recommends additional analysis on wake stranding and the daily number of ships on-site both berthing and anchored. In addition, greater impacts to commercial fisheries should be analyzed including mainstem and Select

Area Fisheries Evaluations, experimental fisheries and recreational fisheries in the proximate area. (3059)

### Response to FSH-23

Refer to the Master Response Vessel Wake Stranding of Fish.

Final EIS Chapter 4, Section 4.7, *Fish*, evaluates the potential impacts of the Proposed Action on commercial and recreational fishing. The commenter does not provide any information related to the "greater impacts" that should be evaluated relative to commercial fishing, nor does the commenter identify what those "greater impacts" are.

## Comment FSH-24

The study area proposed should be expanded to include the Washington coast expected to be traveled by cumulative vessel and rail traffic during operation of the proposed project. Although the DEIS discusses the potential impact on pinnipeds in the Columbia River, it fails to include any analysis of increased potential for impacts on cetaceans caused by increased vessel traffic after they leave the river and enter the Pacific. It is well known that the Columbia River Bar is one of the most dangerous shipping channels on the west coast. Daily crossings of the bar during storms can pose risks not only to vessels, but to the estuary environment if there is a spill. A spill of this type could be difficult to entirely contain due to challenging maritime conditions in the area. The estuary is an important nursery and foraging area for a myriad of fish and wildlife species. Expansion of the study are will allow for more accurate projected impacts to Marine Protection Zones, the outer Washington coastline and designated vessel routes; allowing for more improved understanding of overall cumulative impacts to species and habitats. (3059)

### Response to FSH-24

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

## Comment FSH-25

Upon review of the "Fish Fact Sheet" in comparison with this section, there is disagreement in the number of proposed pilings, from 610 to 630 on-site. Please provide clarity on specifics such as these pilings in future documents so impacts may be concluded and mitigated properly. The siting of this facility is a topic that the agency requests more information on. This is due to our lack of clarity on the analysis on location of the terminal and potential alternatives. A concise analysis on the terminal location's impacts to mitigation sequencing, migration corridors, impacts to fish life and aquatic vegetation, and siting that it is in deep water areas to avoid and/or minimize the need for dredging is requested.

On-site impacts can minimized with a concise in water work window for construction. The agency requests discussion on setting the in water work window, and offers consultation on this topic as the project staging continues. In addition, we support the removal of creosoted piling by vibratory hammer as proposed. (3059)

## Response to FSH-25

The trestle and docks would require the installation of 630, 36-inch piles. Of this total, up to 610 36-inch piles would be installed below the ordinary high water mark and up to 20 36-inch piles would be installed above the ordinary high water mark.

As noted in the Master Response for Project Objectives, the Proposed Action is a private project; as such, the objectives and proposal are defined by the Applicant. Refer to the Master Response for Alternatives for an explanation of the requirements related to alternatives in a SEPA EIS.

The proposed docks would be located in deep water zone (DWZ) habitat, adjacent to the navigation channel but with sufficient clearance to ensure that Proposed Action vessels would not interfere with vessels transiting in the navigation channel. Siting the docks in DWZ habitat avoids conversion of shallow water zone (SWZ) habitat to DWZ habitat. The berthing area would be located near the navigation channel to minimize the scope of future maintenance dredging.

Refer to Response to FSH-15 regarding the proposed in-water work window.

# Comment FSH-26

Dredging activities throughout the lower Columbia River are providing further insight on both short and long term impacts to aquatic environments and species. For example, in water disposal for clean material is the preferred method as expressed by the agency. WE do recommend a more robust study of cumulative impacts on dredging in the Lower Columbia River as part of the proposed project impacts to the region.

Specifics on topics such as initial dredging, and maintenance dredging intervals and quantities, as well as a study on slope instability in regards to regrade and expansion of the dredge area; these are important pieces in the determination of impacts and responsible mitigation. We request more information on the topics of dredging on-site and its larger cumulative impacts on the region in the formation of a mitigation package. The department offers consultation on the determination of appropriate mitigation. (3059)

## Response to FSH-26

Draft EIS Chapter 6, *Cumulative Impacts*, addressed the cumulative impacts of dredging in the Columbia River. As described in Section 6.3.2.4, *Water Quality,* although the Proposed Action, in combination with the cumulative projects, could contribute to cumulative impacts on water quality as a result of dredging, compliance with state and federal regulations is required since it is a project that involves dredging. Specifically, projects that require dredging are required to comply with the Dredged Material Management Program, a federal-state program to streamline the process for dredged material evaluation and management. Potential cumulative impacts on water quality from in-water and above-water work and dredging would be minimized with the preparation and implementation of a project-specific dredging and disposal quality control plan in compliance with the dredged material management program as required by state agencies (Washington State Department of Ecology [Ecology] and Washington State Department of Natural Resources [WDNR]) and federal agencies (the Corps and U.S. Environmental Protection Agency [EPA]). Authorization of flow-lane disposal of dredged material on a project-specific basis requires a sediment suitability determination from the Dredged Material Management Office and a modeling analysis of total suspended solids by the Corps. Adhering to a plan developed in compliance with the dredged

material management program would avoid and minimize water quality impacts and ensure that potential impacts are temporary and localized in nature.

Furthermore, Final EIS Chapter 4, Section 4.7, *Fish,* expands discussion of the potential for aquatic organisms, including fish eggs, larvae, juveniles and adults, to become entrained during hydraulic dredging under *Construction—Direct Impacts*, and reflects the addition of a proposed mitigation measure (MM FISH-5) to conduct fish monitoring during hydraulic dredging operations to reduce these impacts.

# Comment FSH-27

The DEIS discloses significant impacts to endangered salmonids and other fish from MBT's vessel traffic, which would increase large vessel traffic on the Columbia River 44% over 2014 traffic levels.84 In particular, the DEIS concludes: "The Proposed Action would add 840 vessel transits to the Columbia River at full build-out, which would introduce additional permanent risk of fish stranding in the Columbia River."85 The Co-leads should revise the DEIS to include a more robust analysis of impacts from wake stranding.

- The DEIS does not attempt to quantify the impact of 840 vessel transits per year on wake stranding. While the DEIS describes a "growing body" of research on the impacts of large vessel traffic on wake stranding, the DEIS does not use these studies to project the impact of 840 vessel transits per year on wake stranding along the Columbia's shoreline. The Co-leads can utilize data on wake stranding in the lower Columbia. For example, in 2004 and 2005, researchers monitored126 deep-draft vessel transits at three beaches along the Lower Columbia River.86 Along a 300-meter stretch of shoreline at Barlow Point (just downstream from MBT), researchers observed 26 different deep-draft vessel transits, which resulted in the total wake stranding of 351 juvenile chinook salmon (an average of 13.5 juvenile chinook stranded per deep-draft vessel transit).87 NMFS Biological Opinion for the Columbia Pacific Bio-Refinery summarizes studies from the lower Columbia documenting the impacts of wake stranding. The Co-leads can use data from wake-stranding studies to extrapolate MBT's impact on ESA-listed fish.
- The DEIS fails to analyze the impact of wake stranding on ESA-listed eulachon. The Tesoro-Savage DEIS, released by the Washington Energy Facility Site Evaluation Council ("EFSEC") in January 2016, analyzed the impact of vessel traffic from that project on eulachon. The Tesoro-Savage DEIS concluded that wake stranding "could result in a moderate to major long-term effect on nearshore fish including listed salmonids and eulachon."88
- The DEIS does not discuss wake stranding along Columbia and Willamette River shorelines upstream of the terminal. The DEIS discusses beaches susceptible to wake stranding from the Columbia mouth to the terminal. The DEIS, however, acknowledges that vessels transporting coal to and from the terminal may use anchorages upstream of the terminal site, including anchorages at the Ports of Kalama, Woodland, Vancouver, and Portland.89 In turn, the DEIS's vessel traffic study area reaches to the Port of Vancouver, Port of Portland, and Willamette River. Without explanation, the DEIS fails to analyze wake stranding impacts within the designated study area upstream of the terminal.

For the reasons described above, the DEIS underestimates the project's impact on wake-stranding. (3277)

## Response to FSH-27

Refer to the Master Response for Vessel Wake Stranding.

# Comment FSH-28

The DEIS contains a qualitative conclusion that the MBT will increase the risk of wake stranding. However, the DEIS never connects MBT's impact from wake stranding with a mitigation measure. Instead, the wake stranding section trails off with a one paragraph commentary on vessel operation oversight by federal agencies. The DEIS does not identify how federal regulation would address or mitigate impacts from wake stranding.

In sum, the DEIS: (1) discloses significant impacts from vessel traffic, (2) fails to identify voluntary measures or mitigation to off-set these impacts, and (3) contradicting the DEIS's own finding that MBT "would introduce additional permanent risk of fish stranding in the Columbia River,"concludes "[t]here would be no unavoidable and significant adverse impacts" to fish. The Co-leads must revise the DEIS to conclude, consistent with the DEIS's disclosure on the project's impacts from wake stranding, that there would be unavoidable and significant adverse impacts to fish. Such impacts must either be mitigated, or the DEIS should include a clear conclusion that they cannot be.

The coalition anticipates that MBT may propose altering vessel transit speeds in areas more susceptible to wake stranding. The Co-leads should reject this unproven form of mitigation. In Columbia Pacific Bio-Refinery BiOp, NMFS noted that reducing vessel speed in the lower Columbia River to mitigate wake stranding is probably infeasible "primarily because of the lost revenues that would result from slower ship travel" and because "the speed of ships traveling through the estuary may be difficult to alter because of safety issues." (3277)

## Response to FSH-28

Refer to the Master Response for Vessel Wake Stranding.

# Comment FSH-29

The DEIS does not address impingement and entrainment of aquatic organisms in the water intakes of vessels calling on MBT. Entrainment is the direct uptake of aquatic organisms by the suction field generated by water intakes on vessels, while impingement refers to organisms becoming trapped against an intake screen. The DEIS SEPA Fish Technical Report notes that entrainment occurs in the context of dredging, but fails to address entrainment from vessels.

The FEIS should describe the water intake structures on the tanker vessels, explain the rate and amount of water taken in by each ship, and explain (through literature review or actual sampling) the densities at which larval fish and fish eggs are likely to be present in the Lower Columbia River and therefore susceptible to entrainment or impingement. None of these figures would be particularly difficult to ascertain, but without them, readers of the DEIS have no information on the impacts of entrainment resulting from MBT. (3277)

## Response to FSH-29

As discussed in Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, Proposed Action-related vessels entering the Columbia River would be in ballast, meaning they are not loaded with cargo, but

have had their ballast tanks loaded with seawater to increase the vessel stability and have less of a draft than when loaded. No ballast water intake is expected to occur in the study area. Therefore, the Proposed Action would not have the potential to result in impacts on aquatic organisms from vessel impingement and entrainment.

# Comment FSH-30

Despite the impacts disclosed, the DEIS concludes that there would be no unavoidable and significant adverse impacts to fish. The mitigation described in the DEIS does not support this conclusion. The DEIS points to compliance with laws and the implementation of voluntary and mitigation measures. The DEIS, however, fails to specify any details about mitigation aside from applicant mitigation. For example, the DEIS notes that the Corps will require compensatory mitigation "for the acres and functions of the affected wetlands." But MBT failed to identify compensatory mitigation as part of the DEIS. Indeed, the DEIS is explicit that mitigation is going to be developed in the future, in plain violation of law. DEIS 4.7-20. As a result, MBT cut-off public, agency, and tribal government input on the adequacy of mitigation to off-set the project's impacts.

It is unclear how the DEIS can conclude the project will have no unavoidable or significant adverse impacts on fish without identifying and reviewing the adequacy of compensatory mitigation. Such a conclusion weakens the public's confidence in the integrity of the document.

Weighing the impacts disclosed in the DEIS against MBT's "Applicant Mitigation" does not support the "no unavoidable impacts/no significant adverse impacts" conclusion. For example, MBT proposes mitigation measure ("MM") FISH-4, "Conduct Eulachon Surveys." Under this mitigation measure, MBT would "conduct underwater surveys for eulachon spawning and larval activity within those areas where in-water work will occur (i.e., Docks 2 and 3 and the dredge prism)" and "coordinate with fish and wildlife agencies on appropriate measures to avoid and minimize impacts to spawning and larval eulachon." MBT proposed its coal export project over six years ago. Why are eulachon surveys characterized as a "mitigation measure" when the applicant could have conducted these studies prior to the DEIS and utilized the studies to influence project design and reasonable alternatives? (3277)

## Response to FSH-30

The Applicant is coordinating closely with Cowlitz County, Ecology, and the Corps to define specific wetland mitigation to ensure no net loss of wetlands. This requirement may be satisfied in several ways by the Applicant, and may include purchasing credits in a wetland bank, or permittee responsible mitigation (e.g., creating a wetland). The type of wetland mitigation would be determined during the Section 404 permitting process and a comprehensive mitigation plan would be prepared in coordination with the Corps, Ecology, and Cowlitz County.

As described in Draft EIS Chapter 4, Section 4.7, *Fish*, eulachon presence in the study area is assumed December through May. Surveys were not conducted because it is unknown when in-water work would be permitted to occur. Proposed mitigation measure MM FISH-4, *Conduct Eulachon Surveys*, has been revised in Final EIS Chapter 4, Section 4.7, *Fish*, to acknowledge the uncertainty of when the in-water work may be permitted to occur and that surveys completed for eulachon would be done at least 1 year before in-water work would occur. The proposed mitigation measure would provide time for the Applicant to coordinate with the fish and wildlife agencies on the appropriate measures to avoid and minimize impacts on eulachon and implement those measures.

# Comment FSH-31

The FEIS should also incorporate findings from a study on the impacts of coal dust in the marine environment, Simulated coal spill causes mortality and growth inhibition in tropical marine organisms, published on May 13, 2016. This is the first study to examine the effects of fine coal particles on tropical marine organisms. The study "demonstrates that moderate to high levels of coal contamination can substantially decrease growth and increase mortality of important reef-bearing coral species, reef fish and seagrass." The Co-leads should analyze the potential for analogous impacts from coal dust on Columbia River aquatic life. (3277)

## Response to FSH-31

Information on coal dust deposition rates from other export terminals that transfer coal to vessels is not directly applicable to the Proposed Action because of differences in operational dust-suppression systems, transfer and conveyance equipment, adjacent aquatic environments, seasonal wind and weather patterns, annual throughput, and other considerations.

Draft EIS Chapter 5, Section 5.7, *Coal Dust*, presented estimated coal dust deposition related to the Proposed Action. Final EIS Chapter 5, Section 5.7, *Coal Dust*, presents updated estimates. Draft EIS Chapter 4, Sections 4.5, *Water Quality*, and 4.7, *Fish,* evaluated potential impacts from coal dust deposition on the aquatic environment.

Per Final EIS Chapter 5, Section 5.7, *Coal Dust*, the estimated maximum annual deposition of coal dust at or beyond the project area boundary is 1.99 grams per square meter per year. As stated in Final EIS Chapter 4, Section 4.5, *Water Quality*, at a maximum deposition rate of 1.99 grams per square meter per year adjacent to the project area, and at the minimum flow[1] recorded over the 23-year period of record for 1 day, coal dust deposition directly into the river (assumed to be an area of approximately 3 million square meters [1.16 square miles] in the study area) would result in a change in suspended sediment concentration of less than 1 part per 10 billion (0.000075 milligrams per liter). This change would not be measureable and is not anticipated to increase turbidity or water temperature, or affect marine organisms. As stated in Section 4.7, *Fish*, this change would not be measureable and is not anticipated to affect aquatic organism functions (i.e., respiration, feeding).

Specifically, Berry et al. (2016) looked at relatively high concentrations of coal dust in tropical marine environments, ranging from 0 to 275 milligrams/liter of suspended coal dust over 28 days. The concentrations of coal dust associated with the Proposed Action are expected to be substantially less than those identified by Berry et al. (2016); thus, the impacts on fish and sea grass documented in Berry et al. (2016) would not be representative of the potential impacts associated with the Proposed Action.

# Comment FSH-32

**"Proposed Action," Page 4.7-19-21 and "Operations-Direct Impacts," Page 4.7-27** This section discusses the placement of Docks 2 and 3 with respect to shading of habitats. In order to off-set (mitigate) for the loss or degradation of aquatic habitat and negative impacts to species due to increase of overwater structures (piles, conveyor, and two docks), there needs to be additional

[1] The minimum recorded flow at the Columbia at Beavery Army Terminal, Quincy, Oregon, is 65,600 cubic feet per second (1969 to 2014).

measures taken to avoid or minimize such impacts to existing aquatic habitat and species. These measures need to be analyzed in the FEIS to determine whether they will mitigate significant impacts. (2691)

## Response to FSH-32

Draft EIS Chapter 4, Section 4.7, *Fish*, evaluated potential impacts on fish in the study area from construction and operation of the Proposed Action, including those impact mechanisms referenced by the commenter. The section identified how compliance with laws, incorporation of design features, implementation of mitigation measures, and adherence to any permit requirements that would be established by the permitting agencies would reduce impacts on fish, and concluded that the Proposed Action would not result in unavoidable and significant adverse impacts. Final EIS Chapter 4, Section 4.7.5.1, *Proposed Action*, includes a design feature from the Applicant to further reduce the potential use of the proposed overwater structures as perching/roosting habitat by double-crested cormorants and other piscivorous birds.

# Comment FSH-33

"Potential Mitigation Measures," Page 4.7-35

There was mention of additional measures that may be provided by "project design measures, best management practices, and compliance with environmental permits, plans, and authorizations that are assumed as part of the Proposed Action", as well as any measures included under Section 7 of the federal ESA with both the USFWS and the NMFS. Early coordination with the regulatory agencies and W A DNR is recommended to provide a well-planned and comprehensive project mitigation plan. (2691)

## Response to FSH-33

The SEPA co-leads are responsible for a thorough and objective environmental impact analysis and identification of mitigation measures that could offset impacts. As part of the process, communication and coordination with state and federal agencies has occurred and benefitted the analyses and informed the mitigation measures. The Final EIS will be a resource for local, state, and federal agency permit decision makers who will develop respective permits and mitigation requirements based on local, state and federal law.

The Corps is conducting a review of the Proposed Action under NEPA, as the lead federal agency, and will be consulting under Section 7 of the federal ESA with both the USFWS and the NMFS. Additional measures may be identified under one or both of these processes that could further reduce potential impacts on fish and fish habitat.

# Comment FSH-34

The DEIS states that the majority of benthic, epibenthic, and infaunal organisms within the proposed dredge prism would be removed during dredging. It then states: "Recolonization by benthic, epibenthic and infaunal organisms would be rapid, and disturbed habitats would return to reference conditions following recolonization by benthic organisms" within 30-45 days. This is not true if the dredge prism is habitat for lamprey ammoceotes. Rapid recovery would be unlikely (USFW, 2008. Jolley et al, 2010). The FEIS should consider these more permanent impacts to lamprey habitat. The

FEIS should also address the ability of epibenthic and infaunal organisms to persist under the regular maintenance dredging proposed for the facility. (2691)

## Response to FSH-34

Refer to Response to FSH-16. Maintenance dredging would require separate permitting beyond those permits issued for construction of the Proposed Action, but would follow the same methods and expected to have the same impacts as those described for construction-related dredging.

# Comment FSH-35

The FEIS should also address the effect of propeller scour on recolonization. Section 4.5-28 of the DEIS notes that "the likelihood of temporary, localized increases in turbidity resulting from propeller wash is considered low based on the amount of dredging anticipated to be required to accommodate vessels at Docks 2 and 3." This suggests a relationship between the amount of dredging required and propeller induced disturbance of sediments that should be further explained. How often will maintenance dredging need to occur to minimize propeller scour from the largest vessels expected to call at the facility? The conclusion in Section 4.5 of the DEIS that vessels calling at Docks 2 and 3 would have sufficient depth to minimize the potential for propwash should also be revisited given that the proposed facility will have a depth of 43 feet and 80% of the vessels calling at the facility will be Panamax vessels, apparently with drafts of at least 42 feet (DEIS 2-16 n. 13; Table 4.5-13). The FEIS should address dredging, turbidity and scour assuming the largest vessels expected to call at the facility during all river conditions. (2691)

## Response to FSH-35

The Draft EIS assessed potential impacts related to dredging, turbidity, and scour based on the largest vessels that would serve the Proposed Action (i.e., Panamax-class vessels). The Columbia River navigation channel is maintained at a depth sufficient to accommodate Panamax-class vessels.

Draft EIS Chapter 4, Section 4.5, *Water Quality*, evaluated the potential impacts of the Proposed Action on water quality, including potential impacts from propeller wash. As described in Section 4.5, vessels calling at the proposed docks would require the use of two tugboats to assist with docking and undocking. As discussed in Section 4.5, cargo vessels typically do not engage their main propeller during docking and undocking, and thus would not be expected to cause propeller wash-related scour of the side slopes or bottom of the dredge prism. Final EIS Chapter 4, Section 4.5, *Water Quality*, has been updated to more fully describe these operations. As noted in the Draft EIS, propeller wash from tugboats would be nearer the surface and, thus, would have less potential to result in scour or erosion of bottom sediments.

Dredging would be employed initially to remove sediments and provide sufficient water depth to allow access of Panamax-size vessels. Maintenance dredging would be employed to maintain sufficient depth as needed, which may occur once a year or once every few years, depending on sediment deposition within the dredge prism.

# Comment FSH-36

Under: "Cause Physical or Behavioral Reponses from Elevated Turbidity during Pile Driving and Dredge Disposal" (p. 4.7-23)- "The temporary increase in turbidity from the Proposed Action is

expected to be short-term and would not result in chronic sediment delivery to adjacent waters. Construction-related dredging is proposed to occur from August 1 through December 31, when many fish species would be present in the study area." The FEIS should identify what methods will be employed to minimize impacts to fish present in the study area during this time frame, including a modified in-water work window (for example). (2691)

### Response to FSH-36

Refer to Response to FSH-15 regarding the proposed in-water work window.

Final EIS Chapter 4, Section 4.7, *Fish,* expands the discussion of the potential for aquatic organisms, including fish eggs, larvae, juveniles and adults, to become entrained during hydraulic dredging and a proposed mitigation measure (MM FISH-5) to conduct fish monitoring during hydraulic dredging operations to reduce these impacts.

## Comment FSH-37

Under: "Operations-Indirect Impacts" (subsection),"Cause Fish Stranding from Vessel Wakes"(p. 4.7-31)- Under: "Fish Stranding" (p. 4.7-19) and "Operations- Indirect Impacts" (subsection),"Cause Fish Stranding from Vessel Wakes" (p. 4.7-31). "The Proposed Action would add 840 vessel transits to the Columbia River at full build-out, which would introduce additional permanent risk of fish stranding in the Columbia River. The document uses information for Barlow Point. However, Barlow Point is directly downstream from the Proposed Action and vessels would be slowing as they approach the docks and accelerating as they leave the docks, which could reduce the size of vessel wakes generated by vessels associated with the Proposed Action at Barlow Point. Other sites downstream of Barlow Point would be susceptible to increased risk of fish stranding because of the vessels associated with the Proposed Action" (p. 4.7-19). "Thus, it is likely that fish stranding associated with wakes from project-related vessels would occur because of the Proposed Action."(p. 4.7-32).

The FEIS should identify what shipping action associated with the proposed project (i.e., vessel portage timing) can take place to minimize fish strandings and how and to what level stranding can be mitigated. (2691)

### Response to FSH-37

Refer to Master Response for Vessel Wake Stranding for discussion of vessel wake stranding of fish.

## Comment FSH-38

It is an inadequate argument to claim 'direct impacts resulting from a spill ... would likely be minor because the amount ... spilled would be relatively small.' Coal dust spills during transport are not uncommon. If a spill occurs when salmonids or eulachon are present, lethal and sublethal results are likely from dust clogging or abrading gills or increased turbidity impacting successful feeding, prey aversion and movement. An increase in concentration of suspended material from a spill or accumulated over time impacts benthic and epibenthic invertebrates - many that are important prey for these fish. (2691)

## Response to FSH-38

Draft EIS Chapter 4, Section 4.7, *Fish*, stated that coal spills would likely result in a limited release of coal into the environment due to safeguards to prevent such operational errors, such as start-up alarms, dock containment measures (i.e., containment "gutters" placed beneath the docks to capture water and other materials that may fall onto and through the dock surface) to contain spillage/rainfall/runoff, and enclosed/telescoping shiploaders that are inserted into the hull of the vessels during loading to avoid release of coal outside of the vessel.

Additional context has also been added to this section in the Final EIS to describe the coal train derailment and coal spill in Burnaby, British Columbia, Canada, in 2014. Further information on the spill, efforts to recover the spilled coal and monitoring results that provide insight into the potential impacts of a spill have been included in the Final EIS in Section 4.7.5.1 *Proposed Action, Operations—Indirect Impacts, Spill Coal during Rail Transport*.

The Aquatic Impact Assessment for the Burnaby, Canada spill focused on four major elements: water quality, sediment quality, sediment, and sediment leachate/porewater toxicity and bioaccumulation potential. One monitoring site yielded marginal but statistically significant effects on the survival of benthic macroinvertebrates. The results indicate that the sediments located approximately 160 meters downstream of the spill site have the potential to affect freshwater invertebrates, and that polycyclic aromatic hydrocarbons in sediments have a slight potential to bioaccumulate in benthic invertebrates. However, the results of the Aquatic Impact Assessment indicate that while there are potentially minor impacts, restricted to a very small localized area, the coal in sediments post-recovery is of a low volume in relation to the volume of coal spilled and that these sediments should be left in place to undergo natural attenuation. Further mitigation of these sediments was not recommended.

# Comment FSH-39

The DEIS notes that "[ d]redging in the Columbia River is identified as an activity of concern for eulachon conservation because this activity takes place in proximity to known and potential eulachon habitats. Dredging activities during the migratory and spawning period could entrain and kill adult fish, eggs, and larvae; bury and smother incubating eggs; or cause stress and disturbance that could contribute to decreased spawning success. (DEIS 4.7-15)." Given that dredging required by the project which may occur annually or more frequently as needed, (DEIS 4. 7-32) and the potential for propeller scour from day-to-day operations, the description of proposed mitigation to protect Eulachon in DEIS Section 4.7-36 (surveys and future development of mitigation) is inadequate. Mitigation measures that are part of a proposal should be described in the FEIS. WAC 197 -11-440( 5)( c), 6(b ), Without a description of what potential mitigation would be, agencies with jurisdiction cannot evaluate whether proposed mitigation would be sufficient, permissible, or otherwise capable of being accomplished. (2691)

## Response to FSH-39

Final EIS Chapter 4, Section 4.7, *Fish,* expands the discussion of the potential for aquatic organisms, including fish eggs, larvae, juveniles and adults, to become entrained during hydraulic dredging and a proposed mitigation measure (MM FISH-5) to conduct fish monitoring during hydraulic dredging operations to reduce these impacts.

Refer to Response to FSH-15 regarding the proposed in-water work window**.** Proposed mitigation measure MM FISH-4, *Conduct Eulachon Surveys*, has been revised to acknowledge the uncertainty of when the in-water work may be permitted to occur.

Propeller wash impacts related to deep-draft vessels is typically associated with self-propelled docking and undocking. Because the vessels calling under the Proposed Action lack adequate maneuverability at slower speeds, they would be assisted by tugs during docking and undocking. Because these shallow-draft tugs would be operating in a berth dredged for deep-draft vessels, propeller wash impacts are not expected.

# Comment FSH-40

The DEIS identified that source sound levels generated by the type of bulk carrier vessels transiting the Columbia River" ...exceed identified thresholds for potential behavioral disturbance for fish and may cause avoidance or other behavioral responses." In addition to making fish more vulnerable to predation, avoidance behavior creates additional stressors that are not assessed in the DEIS. (2691)

## Response to FSH-40

Additional information has been provided in Final EIS Chapter 4, Section 4.7, *Fish*, regarding the sound levels generated by one Panamax-class vessel in relation to the behavioral response threshold. The commenter has not provided any information on additional stressors to assess.

# Comment FSH-41

Section 4. 7. 7.1 Applicant Mitigation states; *"There would be no unavoidable and significant adverse impacts.* " Considering a substantial number of large vessels would be adding to commercial traffic on the river (70 additional vessels per month, an increase of 44%) the DEIS completely neglects to assess potential impacts to fish as a result of the increase in bulk carrier traffic that will call on the new facility and does not support the conclusions of Section 4.7.7.1. (2691)

## Response to FSH-41

Refer to the Master Response for Vessel Wake Stranding and Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*.

# Comment FSH-42

The DEIS (page 4.7-16) identifies the prominence of both green and white sturgeon as bottom feeders throughout the lower Columbia River. White sturgeon in particular use *"... a wide variety of habitats."* The lower Columbia River navigation channel is dredged to 43 foot depth. Panamax and Handymax class vessels have a draft of 36 feet and greater (DEIS Table 5.4-5) and are moving between 9 and 15 knots (DEIS, page 5.4-16). There appears to be a reasonable chance that the 1,680 annual additional vessel transits to and from the Millennium pier will be moving in very close proximity to the river bottom where both green and white sturgeon are likely to be present. Beyond recognizing the prominent occurrence of sturgeon and other fish in the area where shipping occurs, there is no discussion on the physical impacts to the fish. The DEIS should assess the potential extent of impacts of strikes from propellers and direct ship contact to fish, particularly sturgeon, and the extent that the increase in ship traffic noise increases stress levels of fish, breaks up schools and

causes increased energy expenditure due to movement away from the disturbance, and how these impacts, if any, will be avoided and minimized. (2691)

### Response to FSH-42

In the 2015 5-year Status Review for the Southern Distinct Population Segment (DPS) of green sturgeon, NMFS (2015) noted that in the final rule listing the green sturgeon Southern DPS as threatened, human-made factors such as vessel strikes were not recognized as a primary factor in the decline of the DPS, and that no new data were available on the threat posed by vessel strikes. While vessel strikes could occur as a result of the Proposed Action, vessel strikes have not been recognized as a primary factor in the decline of the DPS and no literature on the subject of vessel strikes of sturgeon in the lower Columbia River has been located. The Proposed Action would not have the potential for significant adverse impacts on sturgeon due to vessel strikes.

## Comment FSH-43

Projected project related and cumulative increases (44% and 118% increase above 2014levels) in deep draft vessel traffic within the Lower Columbia River present potentially significant challenges for juvenile salmon. Existing levels of deep draft vessel wakes currently contribute to stranding of juvenile salmonids within the lower estuary and are identified as a limiting factor in the Lower Columbia River Recovery Plan for Salmon and Steelhead. Approximately 33 miles of the lower river have been identified as having shoreline characteristics that suggest vulnerability to wake induced stranding events. The Recovery Plan classifies the level of impact to juvenile ocean-type fry as a moderate population level effect; however, this is prior to projected increases in deep draft vessel transits. No estuary-wide estimates of mortality have been completed and additional research is needed to understand the full extent of this issue. (2691)

### Response to FSH-43

Refer to the Master Response for Vessel Wake Stranding.

## Comment FSH-44

Given that wakes from deep draft vessels have been linked to observed stranding events, the FEIS should clearly differentiate between deep-draft vessel trips and total commercial vessels under both projected and baseline conditions to facilitate comparison of the potential impacts to ESA listed salmonids. The Lower Columbia Recovery Plan suggests that options for limiting the impact of vessel wake stranding are limited due to (1) potential loss of revenue that would result from speed reductions; and (2) the high costs associated with potential habitat modifications. If no mitigation is proposed- none is currently identified in the DEIS -then vessel wake induced stranding may warrant disclosure as an ''unavoidable and significant adverse environmental impact" and compensatory mitigation measures proposed that include an assessment of the commercial and cultural value lost due to the impacts. (2691)

### Response to FSH-44

Refer to the Master Response for Vessel Wake Stranding.

# Comment FSH-45

Construction in the Columbia River- The DEIS acknowledges harmful effects from removing old piles and driving new ones to support the new docks. These include sudden and sustained levels of noise, turbidity of the water, removal of benthic organisms by dredging, and so on. The mitigation proposed for the construction impacts seems adequate since that area of the river is already disturbed by previous industry. However, while the project construction window of Sept. I to Dec. 1 will prevent harm to most juvenile and spawning "focus" fish such as listed salmon, sturgeon, and eulochon, adult fish migrating through the project area may be harmed by noise. No mitigation is proposed for the harm to these adult fish, and mitigation to protect eulochon is vague-i.e., monitoring and unspecified conservation steps. Specific plans for mitigation must be included in the final EIS. (3465)

## Response to FSH-45

Refer to Response to FSH-15 regarding the proposed in-water work window.

Proposed mitigation measure MM FISH-4 has been revised in the Final EIS to address the uncertainty of when the in-water work may be permitted to occur. Three mitigation measures were proposed in the Draft EIS to avoid and minimize impacts from underwater noise on fish and wildlife, including MM FISH-1, MM FISH-2 and MM FISH-3.

# Comment FSH-46

According to the DEIS, during operations the Millennium project will create dust from loading and unloading ships between the docks and loading area, but the amount of deposition will not cause serious adverse effects to marine wildlife. The DEIS bases this conclusion on a review of studies on the effects of coal dust in marine waters by Ahrens and Morrissey (2005). However, Ahrens and Morrissey's conclusion in their study was that the studies reviewed were inadequate, and more research of higher quality is needed. There is certainly enough evidence to suggest that both physical smothering by coal dust and coal leachates cause harm to flora and fauna, especially juvenile fish and crabs. Until there is more evidence that coal dust is not a problem for marine wildlife, the DEIS conclusion of no adverse effects is premature. No Final EIS should be issued until thorough studies of both physical effects and leachates are concluded, including how coal dust will be taken downstream by the river and dispersed, and how much this dilution may reduce negative effects on living organisms, if at all. (3465)

## Response to FSH-46

Refer to Response to FSH-31.

# Comment FSH-47

Fish Stranding- According to the DEIS, the increase in deep water vessel wakes will have variable effects, depending on tide level, perhaps the time of year, and the presence of sandy, permeable beaches. One such beach is at Barlow Point, just downstream of the proposed project site. A recent study reported in the DEIS showed that Chinook salmon juveniles were particularly susceptible to stranding at Barlow Point. The DEIS suggests that Millennium coal port vessels will slow down near Barlow Point because they will be near the terminal, and points out that the federal government

regulates shipping speeds. However, a clear rule to enforce slow speeds can be included in the U.S. Corps of Engineers NEPA EIS expected this July, and a state final EIS should not be issued until that mitigation is included. In addition, rules should be created for slowdown, avoidance, and passage during high tide for similar downstream beaches-where studies are lacking, they should be conducted before shipping reaches high levels of traffic. The negative pressures on listed fish species are already great-the effects of large numbers of huge tankers should be minimized as much as possible. (3465)

### Response to FSH-47

Refer to the Master Response for Vessel Wake Stranding.

## Comment FSH-48

The DEIS states that coal dust from the Millennium Terminal Project will not affect negatively the fish in the Columbia River. However, the DEIS bases their conclusion on a review of studies of the physical and chemical effects of coal dust on marine organisms by Ahrens and Morrissey in 2005. This is an inaccurate interpretation of that Ahrens and Morrissey study. They conclude that the studies are not just sparse but inadequate. They call for more scientific studies of the effect of coal dust on marine environments.

Willapa Audubon Society has also asked for more studies about these effects in our comments for the scope of this Draft Environmental Impact Statement in 2013. We call for them again.

And the final DEIS should not be issued until third-party investigators produce clear evidence of the true effects of coal dust on fish and other marine organisms. (TRANS-LV-Q3-00031).

### Response to FSH-48

Refer to Response to FSH-31.

## Comment FSH-49

Another problem in the DEIS is fish stranding, especially of juvenile Chinook salmon. The DEIS says that this will not be a problem on the closest beach at Barlow, although the studies say that it will -- that's where most fish in our area are stranded -- because the ships will be slowing down. The DEIS says that the federal government will regulate shipping.

We should not permit this project until the federal regulations for the fish -- for the ships along the river state that ships should slow down and avoid these beaches where there's more likely to be fish stranding, and also that they should have this traffic at high tides, when there's less possibility of stranding fish. (TRANS-LV-Q3-00031)

### Response to FSH-49

Refer to the Master Response for Vessel Wake Stranding.

## Comment FSH-50

We have concerns about many parts of the DEIS, but I want to talk about fish.

Why fish? Because they are such an important iconic part of our ecology of the Columbia River. They are also important culturally and historically, as representatives of tribes have reminded us. And the representatives from recreational and commercial fishermen.

One of the conclusions of the DEIS is that there is no problem with the coal dust that will come off of the terminal. However, they are basing that on a study by Ahrens and Morrissey in 2005. And that study actually says the studies of that coal dust and its effect on marine life is inadequate. Please reject this and other kinds of inadequate science in the DEIS. (TRANS-LV-M2-00109)

## Response to FSH-50

Refer to Response to FSH-31.

# Comment FSH-51

The EIS did not discuss impacts to surrounding aquatic bed and water pH, but only says that Barium would precipitate as Barium sulfate- the study didn't seem to examine the impact to the river bed and surrounding area of a layer of coal covering the bed as a suitable medium for plants and animals to thrive (despite the "bioavailability" of its chemicals- if it makes the river bed extremely acid, nothing can grow or thrive). No other coal export terminal impacts were cited or reviewed by the EIS and should be for final EIS. The EIS makes a pitiful show of addressing the "coal dust" issue without addressing the real issue of the unmitigatable impact to the surrounding aquatic bed and how far this impact will extend due to river currents. Lots of other coal export terminals exist to use as comparison, most closely the British Columbia export terminal near Tsawassen, BC, which was studied most recently in 2006 and cited in the attached NWF publication. This EIS fails to address the increased coastal and riparian and marine habitat degradation from coal dust impacts and should be sent back to the drawing board for further analysis. If the US Geological Survey is unavailable, it must be stated that the EIS simply fails to adequately analyze this issue. The study area for Water Quality impacts was considered only 300 feet downstream of the project area, which is laughable, and wholly inadequate considering the size of the Columbia River and its flow of up to 864,000 cfs. (3426)

## Response to FSH-51

Refer to Response to FSH-31.

Information on coal dust deposition rates from other export terminals that transfer coal to vessels are not directly applicable to the Proposed Action based on operational dust suppression systems, transfer and conveyance equipment, adjacent aquatic environments, seasonal wind and weather patterns, annual throughput, and other considerations. Results from a recent coal dustfall study carried out by Delta shows that less than 5% of the low levels of dust in Tsawwassen were identified as coal particles. Dustfall sampling was conducted during a very dry period and not necessarily indicative of year-round conditions (Westshore Terminal 2013). A recent report published by the Sightline Institute (de Place 2012) cited a study prepared by Cope and Bhattacharyya (2001) that found the Westshore Terminal emits roughly 715 tons of coal dust a year. Draft EIS Chapter 5, Section 5.7, *Coal Dust* (Table 5.7-2) showed the anticipated coal dust emissions for the Proposed Action at full throughput (44 million metric tons) would be 9.86 tons per year, considerably less than the Westshore Terminal. Thus, the coal dust emissions from Westshore Terminals would not be an accurate reflection of the coal dust emissions from the Proposed Action, and comparisons

between coal dust emitted from Westshore Terminals and the impacts observed as a result would not accurately reflect the potential impacts associated with the Proposed Action.

The water quality direct impacts study area extends 300 feet downstream. The water quality indirect impacts study area incorporates the project area, the CDID #1 stormwater system drainage ditches adjacent to the project area, the Columbia River downstream 1 mile from the project area, and the potential dredged material disposal sites. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment FSH-52

Based on the artificially constricted study areas for fish and wildlife species, the DEIS omits consideration of significant impacts of vessel accidents such as collisions and groundings on fish and wildlife depriving the public and decision makers of important information. In light of this omission, no legitimate conclusion can be drawn that there would be no unavoidable significant impacts on fish and wildlife from vessel accidents. (2589)

## Response to FSH-52

Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, acknowledged that if a vessel incident occurred the impacts could be significant, depending on the nature and location of the incident, the weather conditions at the time, and whether any oil is discharged. Although the likelihood of a serious incident is low, there are no mitigation measures that can completely eliminate the possibility of an incident or the resulting impacts. The Proposed Action would increase vessel traffic, which would incrementally increase the likelihood of vessel incidents, and impacts from a vessel incident could affect fish and wildlife in the indirect impacts study area in the Columbia River. However, given the existing vessel traffic in the Columbia River, potential impacts on fish and wildlife from a vessel incident involving a Proposed Action-related vessel would be similar to impacts that could occur under existing conditions or the No-Action Alternative. Therefore, such impacts are not analyzed in the EIS.

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment FSH-53

Based on the artificially constricted study areas for fish and wildlife species, the DEIS omits consideration of significant impacts of vessel accidents such as collisions and groundings on fish and wildlife depriving the public and decision makers of important information. In light of this omission, no legitimate conclusion can be drawn that there would be no unavoidable significant impacts on fish and wildlife from vessel accidents. (2712)

## Response to FSH-53

Refer to Response to FSH-52.

# Comment FSH-54

The ecological impacts of coal dust is discussed on page 5.7-14 of the document; however, the analysis focuses on bioavailability of the chemical constituents based on U.S. EPA standards. The potential impacts of these sources on the aquatic lands below and adjacent to the dock were not analyzed. The analysis does not address the potential impacts of potential smothering or shading of benthic habitats associated with coal dust deposition into surface waters adjacent to the dock. (2691)

## Response to FSH-54

Refer to Responses to FSH-31 and FSH-52.

# Comment FSH-55

Vegetation, Page 4.6-8. Submerged plants are mentioned briefly under as section titled Open Water and Columbia water meal is listed as a special status plant species. However, there is no acknowledgement of the important ecological functions that freshwater plants and macrophytes provide for fish and invertebrates using this habitat (Beland et al. 2004). (2691)

## Response to FSH-55

Beland et al. (2004) looked at the use of aquatic vegetation in riffle habitats by Atlantic salmon in Maine. This information does not appear relevant to the lower Columbia River, which provides no riffle habitat and is tidally influenced. However, it is acknowledged that aquatic vegetation provides important rearing habitat for juvenile fish, as well as habitat for various invertebrates.

# Comment FSH-56

The cumulative impacts of the project's operation on fish and wildlife resources, including species along the vessel route outside the limited study areas and species protected by Washington and Alaska's National Wildlife Refuges must be studied, analyzed and disclosed in a revised DEIS and the Final EIS. (2589)

## Response to FSH-56

Draft EIS Chapter 6, *Cumulative Impacts*, assessed the Proposed Action's potential impacts on fish and wildlife in combination with other past, present, and reasonably foreseeable future actions. Washington and Alaska's National Wildlife Refuges are outside the geographic study areas for the EIS analysis. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment FSH-57

The cumulative impacts of the project's operation on fish and wildlife resources, including species along the vessel route outside the limited study areas and species protected by Washington and Alaska's National Wildlife Refuges must be studied, analyzed and disclosed in a revised DEIS and the Final EIS. Consequences on fish and wildlife from increasing vessel traffic impacts must be included. Cumulative impacts of the project's operation in isolation and when combined with other actions

must be included. In the absence of this information, decision makers cannot make a fully informed decision. (2712)

## Response to FSH-57

Draft EIS Chapter 6, *Cumulative Impacts*, assessed the Proposed Action's potential impacts on fish and wildlife in combination with other past, present, and reasonably foreseeable future actions. The Draft EIS assessed potential impacts on fish and wildlife from Proposed Action-related vessel traffic with the geographic study area for the EIS analysis. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment FSH-58

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| A | Summary<br>Page S-25 Fish | Introductory sentence above Construction. Add: *"The study area extends upstream of the project area to River Mile 67."* | The project area extends upstream of the project location to RM 67, which is correctly described in the text of the SEPA Fish Technical Report. |
| B | Summary<br>Page S-51, Section 4.7, Fish, MM FISH-3 | We suggest that the proposed mitigation measure to monitor wildlife during dredging and pile driving be removed.<br>*"To minimize the potential harm to marine mammals, diving birds, or fish, a professional biologist will observe the waters near pile-driving and dredging activities for signs of distress from fish and wildlife during these activities."* | We disagree that monitoring for wildlife distress during pile driving or dredging would be a necessary or effective mitigation measure. Impacts would be sufficiently minimized through timing restrictions of the work, construction BMPs, and noise mitigation measures. [ditto if true] |
| C | 4.7 Fish<br>Global comment on number of piles | *"Removing ~~4,312~~ 4,263 square feet of habitat from the river bottom of the Columbia River to install ~~630~~ 603 piles for the new docks."* | Global pile number and footprint edit (Grette Associates, LLC. 2014; Table 1, p. 17). |
| D | 4.7 Fish<br>Page 4.7-3, Figure 4.7-1: Fish direct study area | Revise the figure to show the upstream portion of the project area to RM 67. | The upstream project area should go to RM 67, which is correctly described in the text of the SEPA fish report. |
| E | 4.7 Fish<br>Page 4.7-5, Section 4.7.3.1 – Information Sources | Add the following document to the list:<br>Grette Associates, LLC. 2014. *Millennium Coal Export Terminal Longview, Washington: Docks 2 and 3 and Associated Trestle: Indirect Effects of Structures and Site Operations*. September 2014. Wenatchee, WA. Prepared for Millennium Bulk Terminals—Longview, LLC, Longview, WA. | This document was not included. |
| F | 4.7 Fish | Strike paragraph 1, sentence 2. | It is not correct to indicate a range with different reference values (150 |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
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| | Page 4.7-6, Section 4.7.3.2 – Impact Analysis, Assessing Noise Impacts | | $dB_{RMS}$ to 206 $dB_{peak}$, inclusive of 183/187 $dB_{SELcum}$). The table is correct for thresholds.: |
| G | 4.7 Fish<br>Page 4.7-8, Table 4.7-3 | Suggest revising the definition for TSS to:<br>Temporary loss of hearing sensitivity (Popper et al. 2014)<br>Citation for inclusion:<br>Popper, A.N., Hawkins, A.D., Fay, R.R., Mann, D., Bartol, S., Carlson, T., Coombs, S., Ellison, W.T., Gentry, R., Halvorsen, M.B., Løkkeborg, S., Rogers, P., Southall, B.L., Zeddies, D., Tavolga, W.N. (2014) Sound Exposure Guidelines for Fishes and Sea Turtles: A Technical Report prepared by ANSI-Accredited Standards Committee S3/SC1 and registered with ANSI. ASA S3/SC1.4 TR-2014. Springer and ASA Press, Cham, Switzerland. | The definition for TTS should be changed to something that does not indicate injury (temporary or otherwise). (e.g., Popper et al. 2014).<br>Note: Popper et al. 2014 not cited in the DEIS or included in the references section. |
| H | 4.7 Fish<br>Page 4.7-8, Section 4.7.4 – Existing Conditions | For consistency, please revise this section to adopt the definition for the Columbia River estuary as described below. Language from the Grette 2014a below for reference:<br>Bottom et al. (2005) describe the entire lower Columbia River from its mouth to the base of Bonneville Dam (RM 146) as the Columbia River estuary, further defining four estuarine gradients within it. The tidal freshwater or fluvial region of the estuary extends from Bonneville Dam down to approximately RM 34 (RKm 55). Farther downstream are the brackish-mesohaline region between approximately RM 19 and 34 (RKm 30 and 55), the euryhaline region between approximately the mouth of the Columbia River and RM 19 (RKm 30), and the Columbia River plume which extends into the surface water beyond the mouth of the Columbia River. The Project | The last paragraph in this section describes the Columbia River estuary as being downstream of the project area. The supporting documents (e.g., Grette 2014a) use the definition of estuary (Bonneville Dam to mouth of the Columbia River) with four estuarine gradients adopted from Bottom et al. 2005. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
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| | | area is located the tidal freshwater region. | |
| I | 4.7 Fish<br>Page 4.7-9, Figure 4.7-3<br>and<br>Page 4.7-10, Section 4.7.4.1 – Aquatic Habitat Types | Suggest revising the document to express depths relative to CRD datum for consistency. | This is the first example of a global comment regarding depths for habitat zones. The supporting/source documents (Grette 2014a - f) use the CRD datum for all depths (e.g., -20 ft CRD). The narrative in the DEIS uses an absolute depth (e.g., 31 feet deep). While it appears this is depth relative to OHW, it is confusing. Further, water levels in this area are highly variable due to season and daily factors (e.g., tides). |
| J | 4.7 Fish<br>Page 4.7-10, Section 4.7.4.1 – Aquatic Habitat Types, Active Channel Margin | Revise the second sentence as follows:<br>*"The ACM near the proposed docks covers approximately 25 acres and extends from 25 to 350 feet offshore with a maximum depth of about 11 feet* below OHW.*"* | The upper limit of ACM habitat is defined by the Ordinary High Water (OHW) mark, which is defined as +11.1 ft CRD. It is somewhat misleading and confusing to define the SCM by "depth", as this is highly variable and relative to water levels. Tying this depth to the CRD datum—either the OHW elevation or 0 ft CRD—would be clarifying. |
| K | 4.7 Fish<br>Page 4.7-11, Section 4.7.4.2 – Focus Fish Species, Salmon and Trout<br>and<br>Page 4.7-12, Figure 4.7-4 | Revise the narrative and Table 4.7-4 to be consistent with the impact discussion in the SEPA Fish Technical Report. Table 7 and narrative used for the impact discussion (Section 3.1.1.1) in the SEPA Fish Technical Report is much more consistent with the information in the source documents. | Table 4.7-4 is confusing because it combines adults, juvenile fish, yearlings, and subyearlings (see Table 7 for comparison) but distinguishes among the habitat type (ACM, SMZ, DMZ). Also, it is not consistent with the information from the source document (assumed to be Grette 2014b). For example, coho could be present in the DWZ in the winter and summer. Finally, for many fish ESUs, this table appears to add habitat use in the SMZ which was not included in the summary tables in the source documents. This is not necessarily supported in narrative citations. Roegner and Sobocinski 2008, which is cited on page 4.7-11, did not demonstrate abundant steelhead in beach seine or purse seine data (see slide 7 in Roegner and Sobocinski 2008). |
| L | 4.7 Fish<br>Page 4.7-15, Section 4.7.4.2 – Focus Fish Species, Bull Trout | Suggest revising to focus on infrequent use in DMZ by bull trout. | Narrative indicates that, in addition to the potential DMZ use (infrequent, very low numbers) by adult bull trout, that the ACM and SWZ could be |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
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| | | | used as shallow water rearing areas by subadult bull trout. Unlike subyearling and yearling salmonids, which are smaller and likely to rely on shallow waters, bull trout (infrequently present) in the Columbia River are not likely to be present in these areas. While it is possible, based on the general lack of bull trout observed in beach and purse seine data, it is probably not appropriate to characterize them as regularly using or likely to use these areas. |
| M | 4.7 Fish<br>Page 4.7-15, Section 4.7.4.2 – Focus Fish Species, Eulachon | *"WDFW and ODFW conducted plankton tows to sample for eulachon eggs and larvae in the water column at an index site at about RM 34 (Report A in Mallette 2014).* ~~*Recent studies have documented egg and larvael stage eulachon between the Port of Longview above Barlow Point and the channel below the Cowlitz River mouth, including four sample sites offshore of the Project Area (Mallette 2014).*~~ *Peak larval abundance occurred in mid-March during two of the three survey years and from late April to early May in the third year. As part of a related one-time sampling effort, eulachon eggs/larvae were documented in plankton tows at six sample sites (inshore and offshore) near the proposed Project between RM 62.8 to 64.0 in February 2012 (Report B in Mallette 2014)."* | Paragraph 2, sentence 1 acknowledges documented egg and larvae eulachon presence near the proposed project (see Table 1 in Report B of Mallette 2014). Plankton tow samples documented presence of eulachon "egg/larvae = yes" in all plankton tows, which were taken on a single day (2/10/12). The next sentence, relates to data from Report A of Mallette 2014, which is for peak larval abundance over three survey years at a WDFW index site further downstream, and is a broader measure of larval downstream transport timing for the lower Columbia River and many tributaries. |
| N | 4.7 Fish<br>Page 4.7-18, Section 4.7.4.2 – Focus Fish, Water Quality Conditions | *"Turbidity in the study area is variable based on a number of factors. For example, over five days of water quality monitoring for dredging, background levels (upstream from active dredging) ranged* ~~*consistently ranges*~~ *from* ~~*29 to 67*~~ *the mid-20s to the mid-60s nephelometric turbidity units (NTUs) at all depths (US Army corps of Engineers Dredged Material Management Office 2010 in Grette 2014c)."* | Sentence 6, re. turbidity levels. These turbidity levels appear to be based on the background levels observed during water quality monitoring in December 2011 and January 2012 during dredging. Although these levels are representative of the background levels observed, they are from a brief period during a single season. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
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| O | 4.7 Fish<br>Page 4.7-22, Section 4.7.5.1 – Proposed Action, Temporarily Alter and Permanently Remove Aquatic Habitat | *"A total of ~~610~~* 603*, 36-inch-diameter steel piles would be placed in-water, permanently removing 0.10 acre (~~4,312~~* 4,263 *square feet) of benthic habitat."* | Global pile number and footprint edit (Grette Associates, LLC. 2014; Table 1, p. 17). |
| P | 4.7 Fish<br>Page 4.7-23, Section 4.7.5.1 – Proposed Action, Cause Physical or Behavioral Responses from Elevated Turbidity during Pile Driving and Dredge Disposal | Paragraph 1 – strike sentence 2 (not part of this section). | The temporal discussion of deepening the project area is addressed in the previous section and does not belong in the Section pertaining to turbidity. |
| Q | 4.7 Fish<br>Page 4.7-23, Section 4.7.5.1 – Proposed Action, Cause Physical or Behavioral Responses to Underwater Noise during Pile Driving | *"Installation of ~~610~~* 603 *structural steel piles to support* the trestle and *Docks 2 and 3 would generate underwater noise during pile-driving (Grette Associates 2014b)."* | Global pile number and footprint edit (Grette Associates, LLC. 2014; Table 1, p. 17).<br><br>This pile number is reflective of the entire structure (e.g. trestle, Dock 2, and Dock 3) rather than only Docks 2 and 3. |
| R | 4.7 Fish<br>Page 4.7-25, Table 4.7-7 | Suggest replacing Table 4.7-7 with Table 7 from the SEPA Fish Technical Report.<br>Also, suggest removing eulachon from the table and addressing them in the narrative. | Table 4.7-7 is confusing because it re-organizes the information layout, combines factors (e.g., shallow water subyearling vs. subyearling, shallow water), and does not correspond to Table 7 which is used for the detailed impact discussion in the SEPA Fish Technical Report. |
| S | 4.7 Fish<br>Page 4.7-29, Section 4.7.5.1 – Proposed Action, Operations – Direct Impacts, Cause Physical or Behavioral Response to Vessel Noise | *"Source sound levels of bulk carrier vessels were measured in Puget Sound at between 187.9 and 198.2 dB re 1uPA at 1 meter when vessels were travelling between 9.0 and 11.0 knots (Hemmera Environchem et al. 2014)"* | Page 3-12 Cites bulk carrier vessel source sounds in Puget Sound. These values have little meaning if not referenced to $dB_{peak}$ or $dB_{RMS}$. Without that context they cannot reasonably be compared to the behavioral threshold (150 $dB_{RMS}$). |
| T | 4.7 Fish<br>Page 4.7-34, Section 4.7.5.1 – Proposed Action, Operations – Indirect Impacts, Spill Coal Dust During Rail Transport | *"In summary, <u>spilled coal</u> fugitive coal dust from project operations is not expected to increase…"* | Paragraph 1 (last in this section) is summarizing the discussion about spilled coal, not fugitive coal dust. |
| U | 4.7 Fish<br>Page 4.7-34, Section 4.7.5.1 – Proposed | *"<u>If ~~A~~a</u>dult fish targeted in commercial and recreational fishing <u>were to alter behavior in</u>* | Paragraph 1 posits that increased vessel traffic could cause behavioral responses in fish (presumably from |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
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| | Action, Operations – Indirect Impacts, Affect Commercial and Recreational Fishing | *response to ~~would likely migrate outside of the navigation channel to avoid~~ increased underwater noise ~~levels~~, they could avoid the navigation lanes or migrate quickly through them. Commercial and recreational fishing vessels would not likely be fishing in the navigation channel when large vessels are present. Therefore, the Proposed Action would be unlikely to significantly reduce commercial or recreational fishing catches or limit access for fishing activities."* | disturbance associated with increased noise and vessel movement), and that adult fish would likely migrate outside of the navigation channel to avoid increased noise. This is too strong of a statement which is not supported by our understanding of fish behavioral responses to increased underwater sound or the actual levels and extents of underwater sound associated with vessel traffic. It is possible that such a response could happen in some cases. In either case, the conclusion of unlikely to significantly reduce commercial or recreational fishing catches is correct, but the distinction regarding certainty of effect is important. |
| V | SEPA Fish Technical Report<br>Page 1-7, Figure 3: Study Area | Revise the figure to correctly identify the study area as extending upriver to RM 67. | The upstream project area should go to RM 67, which is correctly described in the text. |
| W | SEPA Fish Technical Report<br>Page 2-5, Table 2 | Suggested global edit:<br>Adopt the elevations relative to CRD datum in order to express depths.<br>*"DWZ: The area waterward ~~extending from edge~~ of the SWZ, ranging in depth from -20 ft CRD to deeper than -40 feet CRD. ~~approximately 450 feet from the shore at a depth of 31 feet, outward to a maximum depth of 56 feet deep approximately 1,200 feet from the shore.~~"* | This is the first example of a global comment regarding depths for habitat zones. The supporting/source documents (Grette 2014a - f) use the CRD datum for all depths (e.g., -20 ft CRD). The narrative in the SEPA Fish Technical report uses an absolute depth (e.g., 31 feet deep). While it appears this is depth relative to OHW, it is confusing.<br>Water levels in this area are highly variable due to season and daily factors (e.g., tides). |
| X | SEPA Fish Technical Report<br>Page 2-6, Section 2.2.2 - Study Area | *"TTS: Temporary hearing damage"*<br>Revise the definition above to:<br>TSS: Temporary loss of hearing sensitivity<br>Reference to be added:<br>Popper, A.N., Hawkins, A.D., Fay, R.R., Mann, D., Bartol, S., Carlson, T., Coombs, S., Ellison, W.T., Gentry, R., Halvorsen, M.B., Løkkeborg, S., Rogers, P., Southall, B.L., Zeddies, D., Tavolga, W.N. (2014) Sound Exposure Guidelines for Fishes and Sea | The definition for TTS should be changed to something that does not indicate injury (temporary or otherwise). TSS is more accurately described as a temporary loss of hearing sensitivity, not injury (e.g., Popper et al. 2014).<br><br>Note: Popper et al. 2014 is not cited in the DEIS, and is provided here for reference. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
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| | | Turtles: A Technical Report prepared by ANSI-Accredited Standards Committee S3/SC1 and registered with ANSI. ASA S3/SC1.4 TR-2014. Springer and ASA Press, Cham, Switzerland. | |
| Y | SEPA Fish Technical Report<br>Page 2-7, Figure 5 | Revise Figure 5 to express elevations relative to CRD datum. | Figure 5 – please apply the same comment as for page 2-5 re, expressing depths relative to CRD rather than as absolutes (this figure indicates an absolute value relative to 11.1 ft OHW). |
| Z | SEPA Fish Technical Report<br>Page 2-9, Section 2.2.2.1 – Aquatic Habitat Types, Active Channel Margin | Suggest revising the document to express depths relative to CRD datum for consistency. OHW at the site is 11.1 ft CRD. This includes modifying the body text and footnote on this page.<br>*"…and OHW is at approximately +<u>11.1</u> ~~7.0~~ feet CRD (National Oceanic and Atmospheric Administration 2013~~, U.S. Army Corps of Engineers 2004a~~).[5]"*<br>And<br>Footnote: "~~The OHW is equivalent to the mean higher high water line in the tidally influenced Lower Columbia River.~~" | The definition of Ordinary High Water is misleading. OHW has been defined by the US Army Corps in the Lower Columbia River according to river mile in feet, CRD. At the site, OHW is 11.1 ft CRD.<br>This is the first example of a global comment regarding Ordinary High Water. On page 2-6 (subsection Riparian) there is the first reference to OHW in this document.<br>*"The riparian zone includes lands less than 200 feet landward from ordinary high water (OHW) (+11.1 ft CRD)."*<br>This excerpt references the same value which is used in the source documents (Grette 2014 c). This elevation for OHW has been used for at least the last 5 years in a number of project and permitting documents for the Project as well as other actions at this site (e.g., Dock 1 maintenance), and is consistent with the OHW level used for Port of Longview projects approximately 3 miles upstream.<br>On page 2-9 (subsection Active Channel Margin), there is a second reference to OHW which defines it at 7.0 ft CRD, which is equivalent to MHHW (per the NOAA Tide Station at the Port of Longview). USACE 2004a (cited here) is specific to the Portland Harbor and lower Willamette River and does not provide pertinent information for this location. |
| AA | SEPA Fish Technical Report | *"The DWZ habitat type encompasses about <u>117</u> ~~115~~ acres…"* | The Shoreline Habitat Inventory Report lists Deep Water Zone (DWZ) |

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| | Page 2-9, Section 2.2.2.1 – Aquatic Habitat Types, Deep Water Zone | | as 117 acres. (Grette Associates, 2014a) |
| BB | SEPA Fish Technical Report<br>Page 2-10 to 2-23, Section 2.2.2.3: Focus Fish Species | We suggest that Table 3 and the narrative in this discussion be modified for consistency with the impact discussion.<br>See Table 5 and associated narrative. | Table 3 is confusing because it combines adults, juvenile fish, yearlings, and subyearlings (see Table 7 for comparison) but distinguishes among the habitat type (ACM, SMZ, DMZ). Also, it is not consistent with the information from the source document (assumed to be Grette 2014c). For example, coho could be present in the DWZ in the winter and summer. Finally, for many fish ESUs, this table appears to add habitat use in the SMZ which was not included in the summary tables in the source documents. This is not necessarily supported in narrative citations (e.g. Roegner and Sobocinski 2008, cited 2-17) did not demonstrate abundant steelhead in beach seine or purse seine data, see slide 7).<br>This table (Table 7) and narrative used for impact discussion (Section 3.1.1.1) is much more consistent with the information in the source documents. |
| CC | SEPA Fish Technical Report<br>Page 2-18, Section 2.2.2.3 – Focus Fish Species, Bull Trout | Suggest revising text to focus on infrequent use in DMZ by bull trout. | Narrative indicates that, in addition to the potential DMZ use (infrequent, very low numbers) by adult bull trout, that the ACM and SWZ could be used as shallow water rearing areas by subadult bull trout. Unlike subyearling and yearling salmonids, which are smaller and likely to rely on shallow waters, bull trout (infrequently present) in the Columbia River are not likely to be present in these areas. While it is possible, based on the general lack of bull trout observed in beach and purse seine data, it is probably not appropriate to characterize them as regularly using or likely to use these areas. |
| DD | SEPA Fish Technical Report | Suggest revising Paragraph 3 as follows: | Paragraph 3, sentence 1 acknowledges documented egg and larvae eulachon presence near the |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| | Page 2-19, Section 2.2.2.3 – Focus Fish Species, Eulachon | *WDFW and ODFW conducted plankton tows to sample for eulachon eggs and larvae in the water column at an index site at about RM 34 (Report A in Mallette 2014).* ~~*Recent studies have documented egg and larvael stage eulachon between the Port of Longview above Barlow Point and the channel below the Cowlitz River mouth, including four sample sites offshore of the Project Area (Mallette 2014).*~~ *Peak larval abundance occurred in mid-March during two of the three survey years and from late April to early May in the third. As part of a related one-time sampling effort, eulachon eggs/larvae were documented in plankton tows at six sample sites (inshore and offshore) near the proposed CET between RM 62.8 to 64.0 in February 2012 (Report B in Mallette 2014)."* | project (see Table 1 in Report B of Mallette 2014). Plankton tow samples documented presence of eulachon "egg/larvae = yes" in all plankton tows, which were taken on a single day (2/10/12). The next sentence, relates to data from Report A of Mallette 2014, which is for peak larval abundance over three survey years at a WDFW index site further downstream, and is a broader measure of larval downstream transport timing for the lower Columbia River and many tributaries. |
| EE | SEPA Fish Technical Report<br>Page 2-25, Section 2.2.2.5 – Sediment and Water Quality Conditions | *"Turbidity in the study area is variable based on a number of factors. For example, over five days of water quality monitoring for dredging, background levels (upstream from active dredging)* ~~*consistently*~~ *ranged*~~*s*~~ *from the mid-20s to the mid-60s* ~~*29 to 67*~~ *nephelometric turbidity units (NTUs) at all depths (US Army corps of Engineers Dredged Material Management Office 2010 in Grette 2014c)."* | Paragraph 2, sentence 4, re. turbidity levels. These turbidity levels appear to be based on the background levels observed during water quality monitoring in December 2011 and January 2012 during dredging. Although these levels are representative of the background levels observed, they are from a brief period during a single season. |
| FF | SEPA Fish Technical Report<br>Page 3-2, Section 3.1.1.1 – Construction: Direct Impacts, Temporarily Alter or Permanently Remove Aquatic Habitat | *"A total of 603* ~~*610*~~ *of the 622*~~*-630*~~ *36-inch-diameter steel piles required for the trestle and docks would be placed below the OHW mark, permanently removing an area equivalent to 0.10 acre (4,263* ~~*4,312*~~ *square feet) of benthic habitat."* | This is a global edit regarding an incorrectly stated number of piles and associated pile footprint. The current pile numbers are 622 total, 603 of which would be below OHW. This results in removal of 4,263 sq ft of river bottom (Grette Associates, LLC. 2014f; Table 1, p. 17). |
| GG | SEPA Fish Technical Report<br>Pages 3-5 to 3-18, Section 3.1.1.1 – Construction: Direct | Global edit. Please check citations to Grette documents a, b, c, etc. | The citations for Grette documents do not track with the references section. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
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| | Impacts, Increased Underwater Noise during Pile Driving | | |
| HH | SEPA Fish Technical Report<br>Page 3-5, Section 3.1.1.1 – Construction: Direct Impacts, Increased Underwater Noise during Pile Driving | Revise the following text to be consistent with the source document.<br>*"Docks 2 and 3 and their associated trestle would be supported by 622 ~~630~~ 36-inch steel piles, 603~~610~~ of which would be installed in aquatic areas below OHW.""* | Global pile number and footprint edit (Grette Associates, LLC. 2014f; Table 1, p. 17). |
| II | SEPA Fish Technical Report<br>Page 3-9, Section 3.1.1.1 – Construction: Direct Impacts, Distance to Injury and Disturbance Thresholds | *"To install 603 ~~610~~ pilings in-water would require two years, based on the proposed in-water work window for impact pile driving."* | Global pile number and footprint edit (Grette Associates, LLC. 2014f; Table 1, p. 17). |
| JJ | SEPA Fish Technical Report<br>Pages 3-11, Section 3.1.1.1 – Construction: Direct Impacts, Increased Underwater Noise during Pile Driving, Juvenile Chinook Salmon Habitat Use and Timing | Revise the beginning of Paragraph 1 with the following:<br>*The majority of juvenile Chinook from all ESUs outmigrate through the study area during the spring and summer or early fall. However, a relatively small number of subyearlings from ocean-type ESUs may be present in the ~~In general, juvenile Chinook salmon outmigrate through the study area within~~ SWZ and DWZ ~~habitat~~ during some or all of the September 1-December 31 proposed ~~in-water proposed~~ work window for impact pile driving (Table 7). Overall, habitat use and timing for juvenile Chinook salmon is summarized as follows (Grette 2014a).* | Paragraph 1 needs context in terms of timing and relative abundance. |
| KK | SEPA Fish Technical Report<br>Page 3-21, Section 3.1.1.3 – Operations: Direct Impacts, Increased Shading | Revise Paragraph 2 as follows:<br>"The extent or magnitude to which an increase in overwater surface area may alter the predator-prey relationship at the project area is unknown, but it is assumed that the relationship could ~~would~~ change and an increase in predation could occur where larger subyearling, yearling, or larger juvenile fish | Page 3-12, Paragraph 2 concludes that it is assumed that increased overwater structure would change predator/prey relationships and increase predation, although extent or magnitude is unknown. This is specific to the Dock 2 and 3 structures, not the trestle. This was addressed in a supporting document which was not cited in the SEPA technical report (Docks 2 and 3 and |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
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| | | encounter the Dock 2 and 3 structures in the DWZ. ~~would be likely~~. This likely would not apply to smaller subyearling fish encountering the trestle in the ACM and SWZ. | Associated Trestle: Indirect Effects of Structures and Site Operations, Grette Associates 2014). As discussed in that document, based on the depth and offshore location, increased predation risk would not apply to those small subyearling fish utilizing shallow water (SMZ, ACM); see page 19 of that document. Larger subyearlings, and yearling and other juvenile fish using deep waters may experience an increased risk of predation, but this would apply to a relatively small number of fish based on the small width of the structure relative to the channel width at this location. |
| LL | SEPA Fish Technical Report<br>Page 3-21, Section 3.1.1.3 – Operations: Direct Impacts, Vessel Noise | *"Source sound levels of bulk carrier vessels were measured in Puget Sound at between 187.9 and 198.2 dB re 1uPA at 1 meter when vessels were travelling between 9.0 and 11.0 knots (Hemmera Environchem et al. 2014)."* | Page 3-12, Paragraph 2 cites bulk carrier vessel source sounds in Puget Sound. These values have little meaning if not referenced to $dB_{peak}$ or $dB_{RMS}$. Without that context they cannot reasonably be compared to the behavioral threshold (150 $dB_{RMS}$). |
| MM | SEPA Fish Technical Report<br>Page 3-30, Section 3.1.1.4 – Operations: Indirect Impacts, Affect Commercial and Recreational Fishing | *"~~If A~~adult fish targeted in commercial and recreational fishing were to alter behavior in response to underwater noise from vessels, they could avoid the navigation lanes or migrate quickly through them. ~~would likely migrate outside of the navigation channel to avoid increased underwater noise levels.~~ Commercial and recreational fishing vessels would not likely be fishing in the navigation channel when large vessels are present. Therefore, the Proposed Action would be unlikely to significantly reduce commercial or recreational fishing catches or limit access for fishing activities."* | Paragraph 1 posits that increased vessel traffic could cause behavioral responses in fish (presumably from disturbance associated with increased noise and vessel movement), and that adult fish would likely migrate outside of the navigation channel to avoid increased noise. This is too strong of a statement which is not supported by our understanding of fish behavioral responses to increased underwater sound or the actual levels and extents of underwater sound associated with vessel traffic. It is possible that such a response could happen in some cases. In either case, the conclusion of unlikely to significantly reduce commercial or recreational fishing catches is correct, but the distinction regarding certainty of effect is important. |

(3070)

## Response to FSH-58

The following describes the changes made to Final EIS *Summary,* Final EIS Chapter 4, Section 4.7, *Fish*, and the *SEPA Fish Technical Report* in response to these comments. Refer to the left-most column of the above table for lettering used to identify each comment.

- **Comment A:** Summary, S.6.2.2, *Natural Environment*, has been revised to clarify the upstream extent of the fish study area.
- **Comment B:** Summary, MM FISH-3, Monitoring for wildlife distress during construction activities is an important and typical mitigation component when sensitive species could be present. The mitigation measure has been retained.
- **Comments C, O, Q, FF, HH, and II:** The number and area of piles below the ordinary high water mark presented in the Draft EIS and *SEPA Fish Technical Report* is consistent with the Joint Aquatic Resources Permit Application (JARPA) submitted by the Applicant to the Corps in July 2016. Thus, no change has been made to the Final EIS or *SEPA Fish Technical Report* regarding this information.
- **Comment D:** Chapter 4, Section 4.7, *Fish*, Figure 4.7-1, has been revised to show the correct study area.
- **Comment E:** Chapter 4, Section 4.7, *Fish*, Section 4.7.3.1, *Information Sources,* has been revised to add the Grette Associates report, *Millennium Coal Export Terminal Longview, Washington: Docks 2 and 3 and Associated Trestle: Indirect Effects of Structures and Site Operations,* to the list of information sources.
- **Comment F:** Chapter 4, Section 4.7, *Fish*, Section 4.7.3.2, *Impact Analysis*, *Assessing Noise Impacts,* has been revised to clarify sound-level pressure impacts on fish.
- **Comment G:** Chapter 4, Section 4.7, *Fish*, Table 4.7-3, has been revised to clarify the definition of temporary threshold shift (TTS).
- **Comment H:** Chapter 4, Section 4.7, *Fish*, Section 4.7.4, *Existing Conditions,* has been revised to clarify the extent of the Columbia River Estuary.
- **Comment I:** Chapter 4, Section 4.7, *Fish*, Section 4.7.4.1, *Aquatic Habitat Types,* has been revised with the Columbia River Datum (CRD) reference, as appropriate.
- **Comment J:** Chapter 4, Section 4.7, *Fish*, Section 4.7.4.1, *Aquatic Habitat Types,* has clarified the ACM habitat depth by adding the CRD reference.
- **Comment K:** Chapter 4, Section 4.7, *Fish*, Table 4.7-4, has been revised for clarity.
- **Comment L:** Chapter 4, Section 4.7, *Fish*, Section 4.7.4.2, *Focus Fish Species*, *Bull Trout*, has been revised for consistency with the *SEPA Fish Technical Report*.
- **Comment M:** Chapter 4, Section 4.7, *Fish*, Section 4.7.4.2, *Focus Fish Species*, *Eulachon,* has been revised to include Washington Department of Fish and Wildlife and Oregon Department of Fish and Wildlife eulachon egg and larvae information from sampling efforts in the Columbia River near the project area.
- **Comment N:** Chapter 4, Section 4.7, *Fish*, Section 4.7.4.2, *Focus Fish Species*, *Water Quality Conditions*, has been revised to clarify turbidity level range in the study area.

- **Comment P:** Chapter 4, Section 4.7, *Fish*, Section 4.7.5.1, *Proposed Action*, *Construction—Direct Impacts*, *Cause Physical or Behavioral Responses from Elevated Turbidity during Pile-Driving and Dredge Disposal,* reflects the deletion of the sentence on benthic habitat and pile removal.
- **Comment R:** Chapter 4, Section 4.7, *Fish*, Table 4.7-4, has been revised to be more consistent with information presented in the *SEPA Fish Technical Report.* Eulachon were retained in the table.
- **Comment S:** Chapter 4, Section 4.7, *Fish*, Section 4.7.5.1, *Proposed Action, Operations—Direct Impacts*, *Cause Physical or Behavioral Responses to Vessel Noise*, has been updated to replace vessel underwater noise data with new noise data expressed in decibels root mean squared ($dB_{RMS}$).
- **Comment T:** Chapter 4, Section 4.7, *Fish*, Section 4.7.5.1, *Proposed Action*, *Operations—Indirect Impacts*, *Spill Coal Dust During Rail Transport*, has been revised to replace the summary paragraph with a new discussion on cleanup results from a 2014 coal train spill in Burnaby, British Columbia, Canada.
- **Comment U:** Chapter 4, Section 4.7, *Fish*, Section 4.7.5.1, *Proposed Action*, *Operations—Indirect Impacts*, *Affect Commercial and Recreational Fishing*, presents a revised discussion of adult fish response to underwater vessel noise.
- **Comment V:** The *SEPA Fish Technical Report*, Figure 3, has been revised to show the correct study area.
- **Comment W:** The *SEPA Fish Technical Report* has been revised to use CRD as a reference for habitat zone depths throughout the technical report.
- **Comment X:** The *SEPA Fish Technical Report*, Section 2.2.2, *Study Area* Table 2 has been revised to clarify the definition of TTS.
- **Comment Y:** The *SEPA Fish Technical Report*, Figure 5 has not been revised as suggested by comment, but text in Section 2.2.2.1 *Aquatic Habitat Types* has been revised to express elevations in CRD.
- **Comment Z:** The *SEPA Fish Technical Report*, Section 2.2.2.1, *Aquatic Habitat Types*, *Active Channel Margin*, has been revised to express depths relative to Columbia River Datum for consistency; *Shallow Water Zone* and *Deep Water Zone* sections have also been revised for consistency.
- **Comment AA:** The *SEPA Fish Technical Report*, Section 2.2.2.1, *Aquatic Habitat Types*, *Deep Water Zone* has been revised to correct the DWZ habitat area (acres).
- **Comment BB:** The *SEPA Fish Technical Report*, Section 2.2.2.3, *Focus Fish Species*, Table 3 has been replaced with new table for clarity (same as new Draft EIS Table 4.7-4).
- **Comment CC:** The narrative on bull trout use of the different aquatic habitats has not been changed in the *SEPA Fish Technical Report*, as suggested. The technical report indicates that bull trout are "occasionally" observed in the lower Columbia River. The technical report also indicates that bull trout are opportunistic predators, and move between aquatic habitat types in search of prey.
- **Comment DD:** The *SEPA Fish Technical Report*, Section 2.2.2.3, *Focus Fish Species*, *Eulachon,* has been revised to include WDFW and ODFW eulachon egg and larvae information from sampling efforts in the Columbia River near the project area.

- **Comment EE:** The *SEPA Fish Technical Report*, Section 2.2.2.5, *Sediment and Water Quality Conditions*, has been revised to clarify turbidity level range in the study area.
- **Comment GG:** The *SEPA Fish Technical Report*, Section 3.1.1.1, *Construction: Direct Impacts*, *Increased Underwater Noise during Pile-Driving,* has been revised to correct inconsistent Grette citations.
- **Comment JJ:** The *SEPA Fish Technical Report*, Section 3.1.1.1, *Construction: Direct Impacts*, *Increased Underwater Noise during Pile-Driving*, *Juvenile Chinook Salmon Habitat Use and Timing,* presents revised habitat use and timing information for the study area.
- **Comment KK:** The *SEPA Fish Technical Report*, Section 3.1.1.3, *Operations: Direct Impacts*, *Increased Shading*, has been revised to clarify the predator-prey relationship regarding subyearlings in the shading impact discussion.
- **Comment LL:** The *SEPA Fish Technical Report*, Section 3.1.1.3, *Operations: Direct Impacts*, *Vessel Noise,* has been revised to replace vessel underwater noise data with new noise data expressed in dBRMS.
- **Comment MM:** The *SEPA Fish Technical Report*, Section 3.1.1.4, *Operations: Indirect Impacts*, *Affect Commercial and Recreational Fishing,* presents a revised discussion of adult fish response to underwater vessel noise.

# 4.8 Wildlife

This section presents responses to substantive comments related to wildlife.

## Comment WLF-1

Our property butts up to Mt. Solo and is filled with birds: hawks, bald eagles, song birds, owls, and deer, coyote, and bear. How will the noise, light glare, visual dust and non-visual microbes affect this wildlife? (1431)

### Response to WLF-1

Potential noise and coal dust impacts on wildlife from construction and operation of the Proposed Action are addressed in Draft EIS Chapter 4, Section 4.8, *Wildlife*.

As stated in Draft EIS Chapter 3, Section 3.3, *Aesthetics, Light, and Glare*, the project area is located in a wide corridor of industrial, transportation, and utility land uses along the Columbia River. These surrounding uses and the project area itself already have artificial lighting under existing conditions. The Proposed Action would introduce new light sources to the project area, and the lighting would be designed to minimize spillage from the site. The changes to project area would be consistent with the existing industrial use of the project area and the surrounding industrial area. Therefore, the Proposed Action would not have the potential for significant adverse impacts on wildlife due to lighting.

## Comment WLF-2

Most significant is the lack of information on project-related adverse impacts to the federally listed as endangered Southern Resident Killer Whales (SRKWs). Project-related increases in vessel traffic and associated noise, coal and/or oil spills, air and water pollution, and adverse impacts to the salmon that the SRKWs feed upon could all adversely impact the SRKW population. (2433)

### Response to WLF-2

Southern resident killer whales are not known to occur in the study area for indirect impacts on wildlife, which includes the lower Columbia River downstream from the project area to the mouth of the river. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS. Draft EIS Chapter 4, Section 4.7, *Fish*, described potential impacts on fish, including salmon, from construction and operation of the Proposed Action. The section also described the design features, existing regulations, and proposed mitigation measures that would minimize impacts on fish. The section concluded that the Proposed Action would have no unavoidable and significant adverse impacts on fish.

## Comment WLF-3

The rail and vessel corridors servicing the proposed coal export terminal support habitats of critical importance to a variety of bird species. The Columbia River Estuary represents prime stopover habitat for migratory shorebirds and waterfowl within the Pacific Flyway. The western extent of the

estuary is a designated Western Hemisphere Shorebird Reserve Network site that supports large numbers of shorebirds during migration. The DEIS states that there may be adverse effects on birds such as Bald Eagle, Peregrine Falcon, Vaux's Swift, and several waterfowl species including Barrow's Goldeneye from coal dust deposited from the coal terminal project during operations. Three of these species are on the at-risk list of 189 birds in Washington State identified in the National Audubon Society's 2014 Birds and Climate Change Report. In summary, we believe that the DEIS fails to address adequately many of the concerns about the proposed coal export terminal at Longview and as it stands the findings in the DEIS do not bode well for the coal terminal. (2558)

## Response to WLF-3

The commenter has not specifically stated what the Draft EIS fails to address adequately regarding birds. Draft EIS Chapter 4, Section 4.8, *Wildlife*, described bird species and habitat in the study areas, with a focus on special-status species per SEPA Rules (WAC 197-11-440(6)(c)(i)), and potential impacts from construction and operation of the Proposed Action. The Columbia River Estuary Western Hemisphere Shorebird Reserve Network, which extends to river mile 60, is outside of the direct and indirect impacts wildlife study areas defined in the Final EIS. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment WLF-4

We note that the DEIS discussion of the Columbia River population of Columbia White-Tailed Deer is deficient in that it fails to study whether the project, in an area where the Deer has been documented to occur, would add further impediments to successful dispersal of this species by hindering Deer movement through the project area. This deficiency must be corrected and mitigation must be developed for this impact, if it would occur. (2589)

## Response to WLF-4

Draft EIS Chapter 4, Section 4.8, *Wildlife*, described potential impacts on wildlife from construction and operation of the Proposed Action. The section also described the design features, existing regulations, and proposed mitigation measures that would minimize these impacts on wildlife.

As discussed in Final EIS Chapter 4, Section 4.8.4.1 *Terrestrial Habitat*, the project area is mostly developed with existing structures and disturbed surface and vegetated areas, providing limited wildlife habitat, and is located at the western edge of development associated with the City of Longview, which limits wildlife movement or migration through the project area toward the city (where habitat does not exist). Deer have been documented west-northwest of the project area and have been noted in the project area. Areas to the north-northeast and around to the southeast of the project area (in a clockwise direction) are already heavily developed by industrial, commercial, and residential land uses that extend all the way to the Cowlitz River and along the Columbia River. Because the project area is at the western edge of this development, it is unlikely that there are any deer or movement of deer through the project area or beyond where they have already been documented because there is no suitable habitat in these developed areas for deer to disperse or move into. The Proposed Action would slightly expand the current disturbed area footprint, but would not block or impede access to any habitats outside of the project area because there are no suitable habitats present between the project area and Cowlitz River. Therefore, the Proposed Action would not create any new habitat fragmentation and would not hinder deer movement or

create an impediment for deer any more than current conditions because current conditions do not support such deer movement.

The U.S. Corps of Engineers is preparing a Biological Assessment (BA) and consulting with the U.S. Fish and Wildlife Service as part of the NEPA process. The consultation is ongoing and the result of the consultation and information in the BA will be considered by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

# Comment WLF-5

We note that the DEIS discussion of the Columbia River population of Columbia White-Tailed Deer is deficient in that it fails to study whether the project, in an area where the Deer has been documented to occur, would add further impediments to successful dispersal of this species by hindering Deer movement through the project area. This deficiency must be corrected and mitigation must be developed for this impact, if it would occur. (2712)

## Response to WLF-5

Refer to Response to WLF-4.

# Comment WLF-6

Species vulnerable to the adverse impacts of the project but left unaddressed by the DEIS but listed in our scoping comment include Cetaceans and other marine mammals; fish, marine vertebrates and invertebrates, seabirds, water fowl, shorebirds and other birds, terrestrial mammals, phytoplankton, and zooplankton. The DEIS further fails to discuss and analyze significant impacts of the project on fisheries, economies, and communities dependent on the health of the National Wildlife Refuges. Given the decision makers' status as trustees of the Public Trust obliged to protect the Refuges' resources, and combined with SEPA and NEPA's public trust obligations, the DEIS should have taken special care to analyze impacts on fish and wildlife protected by the refuges. The DEIS avoids any analysis of impacts on the vast majority of these refuges' fish and wildlife species by artificially constricting the fish and wildlife study areas and, in turn, narrowly limiting species considered in the DEIS. As a result, the DEIS inappropriately concludes the project would have no unavoidable and significant adverse environmental impacts on fish and wildlife. A revised DEIS and the Final EIS must correct this deficiency. (2589)

## Response to WLF-6

In accordance with SEPA Rules (WAC 197-11-440(6)(c)(i)), the Draft EIS focused on rare, threatened, or endangered species and conservatively assumes that these species are or could be present in the study area at any given time. The Draft EIS referred to other species in general terms. The risk of impacts on special-status species would be greater than all other species because of their sensitivity, but impact types and mechanisms would be the same for other species.

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment WLF-7

Species vulnerable to the adverse impacts of the project but left unaddressed by the DEIS but listed in our scoping comment include Cetaceans and other marine mammals; fish, marine vertebrates and invertebrates, seabirds, water fowl, shorebirds and other birds, terrestrial mammals, phytoplankton, and zooplankton. The DEIS further fails to discuss and analyze significant impacts of the project on fisheries, economies, and communities dependent on the health of the National Wildlife Refuges. Given the decision makers' status as trustees of the Public Trust obliged to protect the Refuges' resources, and combined with SEPA and NEPA's public trust obligations, the DEIS should have taken special care to analyze impacts on fish and wildlife protected by the refuges. The DEIS avoids any analysis of impacts on the vast majority of these refuges' fish and wildlife species by artificially constricting the fish and wildlife study areas and, in turn, narrowly limiting species considered in the DEIS. As a result, the DEIS inappropriately concludes the project would have no unavoidable and significant adverse environmental impacts on fish and wildlife. A revised DEIS and the Final EIS must correct this deficiency. (2712)

## Response to WLF-7

Refer to Response to WLF-6.

# Comment WLF-8

The DEIS basically concludes that these sea lion and seal species will probably just get used to the additional vessel noise and probably get out of the way of the project's 1680 massive bulkers. DEIS 4.8-24 and 4.8-25; Wildlife Report 3-23 and 3-21. These conclusions may be questionable in themselves: they are based on speculation ("…it is likely that an individual would have the ability to avoid and swim away from the vessel." "Any response to project-related vessel noise would likely be minimal." Emphasis added). The cumulative impacts analysis adds nothing to the discussion because it merely repeats these speculative conclusions without any real analysis of the cumulative impacts of noise and vessel strikes from the project vessels in isolation and when added to other reasonably foreseeable vessel transportation projects. DEIS 6-33. (2712)

## Response to WLF-8

As stated in Draft EIS, Chapter 4, Section 4.8 *Wildlife*, vessel strikes on pinnipeds are extremely rare based on the cited literature. This statement is independent of the statement on the ability of these species to move out of the way of vessels. The Final EIS has been revised to discuss NOAA 2015 Marine Mammal Stock Assessment data, which indicate the low potential for pinniped vessel strikes. Based on this information, the Final EIS concludes that vessel strikes related to the Proposed Action and cumulative projects would be generally be considered low.

A more detailed discussion of vessel noise impacts on the three pinnipeds in the study area is found in the *SEPA Wildlife Technical Report*. As stated in the technical report, underwater noise generated by ships in the study area would generally be outside of the peak sensitive hearing frequencies for Steller sea lion, California sea lion, and harbor seal and potentially outside the full range of their sensitive hearing frequencies. Based on this information, it is reasonable to conclude that noise from transiting vessels related to the Proposed Action and cumulative projects would not have a significant impact on pinnipeds.

# Comment WLF-9

The DEIS basically concludes that these sea lion and seal species will probably just get used to the additional vessel noise and probably get out of the way of the project's 1680 massive bulkers. DEIS 4.8-24 and 4.8-25; Wildlife Report 3-23 and 3-21. These conclusions may be questionable in themselves: they are based on speculation ("…it is likely that an individual would have the ability to avoid and swim away from the vessel." "Any response to project-related vessel noise would likely be minimal." Emphasis added). The cumulative impacts analysis adds nothing to the discussion because it merely repeats these speculative conclusions without any real analysis of the cumulative impacts of noise and vessel strikes from the project vessels in isolation and when added to other reasonably foreseeable vessel transportation projects. DEIS 6-33. (2589)

## Response to WLF-9

Refer to Response to WLF-8.

# Comment WLF-10

The DEIS inappropriately avoids any analysis of releases of non-native or invasive species in ballast water or from ship fouling and does not provide mitigation for this impact by merely referencing U.S. Coast Guard and Washington State regulations. There is no discussion of what these regulations would require of vessels calling on MBTL or whether and how effective those regulations would be in controlling invasive species for the vessels that would be calling on MBTL from foreign ports. Compliance with existing regulations cannot be used as mitigation. A revised DEIS and the Final EIS must correct this flaw. (2712)

## Response to WLF-10

Draft EIS Chapter 4, Section 4.5, *Water Quality*, described potential indirect impacts of vessel transport related to the Proposed Action, including the potential to introduce contaminants from ballast water; this section in the Final EIS has been revised to better reflect the federal and state regulatory requirements for ballast discharge. As described under *Operations—Indirect Impacts*, although ballast water could contain invasive species that could result in harm or displace native aquatic species, the vessels calling under the Proposed Action would be required to comply with existing state and federal regulations, which would reduce the likelihood of these impacts. Specifically, Proposed Action-related vessels would be required to implement one of the following ballast water management methods per U.S. Coast Guard ballast discharge regulations (33 CFR 151.2025): install a ballast water management system, use only water from a U.S. public water system, not discharge ballast water, or discharge ballast to a facility onshore or to another vessel for treatment. Regardless of the ballast water management option selected by vessel operators, all ballast water discharge must meet the ballast discharge standards per 33 CFR 151.2030 and EPA NPDES Vessel General Permit standards. In addition, the Washington State ballast discharge regulations (Revised Code of Washington [RCW] 77.120.040) include reporting, monitoring, and sampling requirements of ballast water, and all vessels must submit nonindigenous species ballast water monitoring data. The Washington Department of Fish and Wildlife may also board and inspect vessels under Washington Administrative Code (WAC) 220-150-033 without advance notice to provide technical assistance, assess compliance, and enforce the requirements of Washington State

ballast water management program laws and regulations. All vessel operators would be required to comply with federal and state ballast regulations or risk penalties for violations.

# Comment WLF-11

The DEIS inappropriately avoids any analysis of releases of non-native or invasive species in ballast water or from ship fouling and does not provide mitigation for this impact by merely referencing U.S. Coast Guard and Washington State regulations. There is no discussion of what these regulations would require of vessels calling on MBTL or whether and how effective those regulations would be in controlling invasive species for the vessels that would be calling on MBTL from foreign ports. Compliance with existing regulations cannot be used as mitigation. A revised DEIS and the Final EIS must correct this flaw. (2589)

## Response to WLF-11

Refer to Response to WLF-10.

# Comment WLF-12

Wildlife and Their Habitat- Complete assessment of the effects of coal dust, noise and the dangers posed by potential fires and derailments generated by increased coal train transportation. In like manner the same potential effects and dangers posed by accidents on the Columbia River by coal barging. (2980)

## Response to WLF-12

The Draft EIS addressed the concerns raised by the commenter in the following sections.

- Chapter 4, Section 4.8, *Wildlife*, described potential impacts on wildlife and habitat, from construction and operation of the Proposed Action, including effects of coal dust deposition, coal spills from train derailments, and train wildlife strikes.
- Chapter 5, Section 5.4, *Vessel Traffic*, addressed the potential for increased risk of a vessel incident related to vessel transport under the Proposed Action.

These sections also described the design features, existing regulations, and proposed mitigation measures that would minimize these impacts.

The Proposed Action would increase rail traffic, which would increase the likelihood of incidents that could lead to rail-related fires, such as from a derailment or wildfire start. While the likelihood of such an incident would be low, potential impacts would be similar to impacts that could occur under existing conditions or the No-Action Alternative. Therefore, potential impacts from rail-related fires are not assessed in the EIS.

# Comment WLF-13

The same comprehensive assessment as stated above for marine species, fish and fisheries must be undertaken for all wetlands, streams and rivers but must be expanded to include native vegetation, native wildlife not on an endangered species list, birds of all types, including water fowl and migratory species that depend those wetlands, streams and rivers for survival. Of critical importance in this assessment is the potential long term negative effect of coal dust buildup in the

environment due to shedding of coal dust by coal trains during transportation from coal mines to proposed export terminals. (2980)

### Response to WLF-13

Refer to Response to WLF-6 regarding the Draft EIS's focus on rare, threatened, or endangered species.

Draft EIS Chapter 4, Sections 4.5, *Water Quality*, 4.6, *Vegetation*, 4.7, *Fish*, and 4.8, *Wildlife,* addressed potential impacts of coal dust on water quality, vegetation, fish and fish habitat, and terrestrial and aquatic species and habitat from operation of the Proposed Action. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

## Comment WLF-14

The presence of whitetail deer has been disclosed previously and will be considered in detail in the Endangered Species Act (ESA) consultation for the Project. No separate analysis is required for the Final EIS. (3070)

### Response to WLF-14

In accordance with SEPA Rules, the Draft EIS provided an analysis of potential impacts on wildlife (including the Columbian white-tailed deer) separate from ESA and NEPA; this analysis was provided in Draft EIS Chapter 4, Section 4.8, *Wildlife*.

## Comment WLF-15

The Draft EIS identified wildlife displacement and mortality associated with clearing and construction activities but does not appropriately identify specific species displacement or mortality (page 4.8-16). Twenty-five percent of the permanent terrestrial habitat loss occurs in relatively undisturbed areas (page 4.8-17) The Draft EIS minimizes species mortality by stating that 'species reproduce rapidly and any losses due to mortality would not be expected to affect the viability or fitness of the species at the population scale.' We disagree with this assertion and we believe the proposed action exacerbates current concerns associated with an already depressed state of affairs of wildlife and associated habitat conditions in the Lower Columbia Region. The Draft EIS does not provide further information on if this applies to rabbits, frogs, or endangered Columbian white-tailed deer (page 4.8-17). (3227)

### Response to WLF-15

Draft EIS Chapter 4, Section 4.8, *Wildlife*, described the species that could occur in the wildlife study areas, focusing on special-status species per SEPA regulations (WAC 197-11-440(6)(c)(i)). Final EIS Chapter 4, Section 4.8, *Wildlife*, has been revised to provide additional information on existing habitat conditions. The potential impacts of habitat removal apply to of all of these species with the potential to be present, regardless of whether they would actually be present during construction; these habitat impacts are quantified in in *Temporarily Alter or Permanently Remove Terrestrial Habitat*. Approximately 50% of the undisturbed habitat impacts would be on wetlands which would be permanently removed and which would be mitigated and replaced per federal and state wetland regulations. As stated under *Temporarily Alter or Permanently Remove Terrestrial Habitat* highly

mobile wildlife species, such as larger mammals and birds, would likely leave the terrestrial study area during construction activities. Mortality of less-mobile species such as burrowing mammals, reptiles, amphibians, and insects could occur, but would not be at levels expected to affect the viability or fitness of the species at the population scale.

# Comment WLF-16

Federally Endangered Columbia white tailed deer have been observed on the project site. The project proposal does not address habitat fragmentation or habitat corridor concerns either in the riparian or floodplain areas of the project impact area (page 4.8-10). (3227)

## Response to WLF-16

Refer to Response to WLF-4 regarding potential dispersal/connectivity impacts on the Columbia white-tailed deer.

As described in Draft EIS Chapter 4, Sections 4.6, *Vegetation,* and 4.8, *Wildlife*, the shoreline and riparian environments have been substantially altered, affecting habitat in adjacent upland and riparian zones. Some forest and scrub-shrub habitat areas occur along the base of the maintained/mowed levee in the terrestrial direct impacts study area that likely provide some foraging and cover for small and large mammals, foraging and nesting passerine, waterfowl and raptor bird species, and foraging, breeding, and refuge for amphibians. The riparian area is largely disconnected from other large contiguous habitat areas due to development or to breaks in habitat from mowed levee areas down to the water edge of the Columbia River, this narrow riparian strip of habitat may be used but is not be considered a wildlife migration corridor that would allow unconstrained seasonal movement of wildlife along the edge of the river.

# Comment WLF-17

The Draft EIS justifies railroads as beneficial for wildlife as corridors for feeding and migration, using the same criteria that contribute to the frequency of wildlife strikes along roads (page 4.8-26). This is ridiculous and we request a do-over in analyzing wildlife resources and subsequent impact concerns. (3227)

## Response to WLF-17

The Draft EIS statement that railroad corridors are used for wildlife movement is attributed to the Dorsey (2011) citation which documented that some wildlife use existing rail lines as corridors for movement, including for foraging, accessing critical resources, migrating, and dispersing. It is also documented that existing rail lines can impede wildlife movement (e.g., fencing along rail rights-of-way, noise, and blockage). The Draft EIS also described other potential adverse impacts on wildlife from increased rail traffic on existing rail lines, notably train strikes, citing the same Dorsey (2011) document.

# Comment WLF-18

We were alarmed when we read in the Draft EIS that the proposed Coal terminal would substantially increase shipping traffic in the Columbia River. The significant recovery efforts we have made will be deleteriously impact, including potential for waste of the dollars spent on

recovery. This is alarming to us. We have planned additional restoration actions for Columbia White-tailed deer. We would a better assessment of the project's impacts on the federally-listed Endangered Columbia white-tailed deer. The Draft EIS fails to capture Wildlife recovery efforts in the region and what impacts the proposed action would have upon damaging past and future recovery efforts.

Extreme habitat fragmentation is a major contributing factor to Columbian White-tailed deer's historic decline. Habitat fragmentation continues to threaten recovery. Columbia white-tailed deer are cut off of their historic migratory corridor all along the Lower Columbia River lowlands. Industrial developments along their migratory corridor reduce their ability to move freely upstream and downstream. Migration is important for their recovery and sustainability of genetically viable populations. The proposed Coal terminal is located between two populations, located at Diblee Point and Willow Grove. The proposed coal terminal would further exacerbate an already identified problem undermining their health and welfare.

Columbia white-tailed deer are threatened by this proposal in three ways. First, Columbia white-tailed deer are good swimmers and frequently cross the Columbia River to reach adjacent habitat. The Applicant's proposed order-of-magnitude of increased shipping presents likelihood for significant mortality. Impacts during migratory movements crossing the Columbia River include ship strikes and drowning.

The Draft EIS doesn't address threats to Columbia white-tailed deer through increased vessel traffic in the Columbia River. We believe that addressing this element is well justified. It is alarming to contemplate additional migratory patterns deleteriously impacted by increased shipping traffic.

Second, Columbia white-tailed deer were observed on the project site. The Draft EIS does not discuss the project site's features as existing habitat or as a migration corridor. It does not discuss lost habitat impacts. Mitigation is not addressed in any way.

Third, the Applicant does not discuss or evaluate Columbia white-tailed deer terrestrial or aquatic migration corridor. Our environment is already in a depressed State. Existing developments continue to have deleterious impacts on our environment. Why we would consider any new major developments of this nature while still struggling from past problems? The Draft EIS only recognizes the already depressed environment as a rationalization about why the project's impacts are unimportant. We don't think there is any mitigation that could effectively offset the damages to existing resources. Taken along with the Applicant's fuzzy 'trust us' approach to mitigation, we believe this further justifies our opposition for this proposed development. (3227)

## Response to WLF-18

Refer to Response to WLF-4 regarding potential dispersal/connectivity impacts on the Columbia white-tailed deer.

The Draft EIS described existing conditions in the wildlife study areas. To the extent that past recovery efforts have improved conditions in a study areas, those conditions are reflected in the existing conditions described in the Draft EIS. Draft EIS Chapter 4, Section 4.8, *Wildlife*, recognized the locations of the nearest recovery efforts to the project area at Fisher, Hump, Lord, and Walker Islands. None of these islands are in the terrestrial wildlife direct impacts study area, but a very small area of Lord Island is within the indirect impacts study area. Recovery efforts occurring in the

wildlife study areas would be accounted for in the analysis; however, no ongoing recovery efforts were identified. Any recovery efforts outside of the defined study area would not be affected.

The USFWS recovery plan (1983) and WDFW status review (2016) for the Columbia white-tailed deer do not list vessel strikes on swimming deer in the Columbia River as an impact threatening the survival of the species; vessel strikes or the fact that Columbian white-tailed deer swim and can cross the Columbia River are not mentioned in either document. Therefore, increased vessel traffic related to the Proposed Action would not have a significant impacts on the species.

# Comment WLF-19

The document includes references to the likely increase in wildlife strikes associated with the increased rail traffic. However, the plan addressing or monitoring this impact is lacking clarity. Currently, this section recommends monitoring for train/wildlife strikes, monitoring the population level impact of these strikes, and at a later undefined date, possibly implementing mitigation. Specifically, section 4.8.7.2 should include more robust language, and a detailed discussion regarding mitigation that addresses avoidance, minimization, and compensatory mitigation as necessary.

While this section addresses several wildlife impacts, there is limited information regarding loss of connectivity, disturbance, and landscape barrier impacts that the rail lines have on the environment. This impact should be more adequately recognized and appropriate mitigation strategies should be designed as part of the project approval, not at an undefined time in the future. (3059)

## Response to WLF-19

As stated in Draft EIS Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, the coal export terminal would use existing rail corridors and infrastructure. The evaluation of potential impacts of existing rail infrastructure is outside the scope of the EIS; refer to the Master Response for the Purpose and Focus of the EIS for additional information. Existing rail infrastructure results in landscape barrier impacts under existing conditions. These impacts would not change substantially as a result of the Proposed Action. The Proposed Action would not have the potential for significant adverse impacts on wildlife due to landscape barrier impacts so further assessment in the EIS is not included. Draft EIS Chapter 4, Section 4.8, *Wildlife*, disclosed that the increase in trains using these rail lines related to the Proposed Action could result in an increased frequency of rail wildlife strikes, which could result in injury or death.

As noted in the Master Response for Mitigation Framework, mitigation presented in the *Other Measures to Be Considered* subsection (such as the measure referenced by the commenter) consist of actions that could be implemented by parties other than the Applicant to further reduce potentially significant impacts associated with the Proposed Action. These measures are beyond the Applicant's control or authority and would not be enforceable through a permit specific to the Applicant's proposal. Inclusion of these measures in the EIS is intended to help decision-makers and planners establish priorities for actions within their authority and jurisdiction to implement. In this case, the Applicant has no ability to make railroad improvements or set operational standards for trains which are the responsibility of the railroads under federal regulations. Therefore, the Final EIS does not provide more specifics on a recommended train wildlife strike monitoring plan.

# Comment WLF-20

On-site construction and development are discussed appropriate in Section 4.8. The documents underplay however the loss of available habitat by the destruction of 24 acres of productive wetland on the project site, which is host to a diverse host of species and ecological communities important to the area and region. This includes the great pacific flyway, a corridor for migrating birds. An analysis on the impacts above and beyond avoidance and minimization is requesting in order to effectively discuss mitigation needs for the impacts to species and environments from on-site construction. (3059)

## Response to WLF-20

Refer to Response to WLF-6 regarding the Draft EIS's focus on rare, threatened, or endangered species.

Habitat functions of wetlands in the project area are more fully described in Draft EIS Chapter 4, Section 4.3, *Wetlands*, than in Section 4.8, *Wildlife*. Final EIS Chapter 4, Section 4.8, *Wildlife*, has been revised to provide additional information on wetland habitat functions. Based on the *Washington State Wetland Rating System for Western Washington*, three of the five wetlands in the project area were determined to have moderate habitat function and two wetlands determined to have low habitat function. The presence of wildlife in these wetlands is likely limited to temporary use by passerine birds and waterfowl for foraging, breeding, and refuge. Mitigation would be required to compensate for loss of these wetlands and their habitat functions as part of the Clean Water Act Section 404 permit process.

# Comment WLF-21

Wildlife is barely talked about as far as rail impacts are concerned in spite of having an entire chapter on wildlife in the DEIS. Increased train traffic will negatively impact wildlife that need to cross tracks, drink or swim in water and eat food that may be contaminated with coal dust. Animals cross tracks for many reasons including migration, finding food and mating. Some herbivores will walk on tracks in the winter if the snow is very deep. And noise also negatively impacts many species of wildlife. Noise impacts are only noted for four species at the construction site when they should be considered for all wildlife outside of the study area and for the entire rail line. More trains mean more noise. These impacts to wildlife need to be considered in more detail in the FEIS. (2536)

## Response to WLF-21

Draft EIS Chapter 4, Section 4.8, *Wildlife*, addressed potential indirect impacts on wildlife from increased rail traffic in Washington State related to the Proposed Action, including the potential impacts from coal dust deposition (*Generate and Disperse Coal Dust in Terrestrial and Aquatic Habitats*) and collisions (*Cause Wildlife Strikes along the Rail Corridor in Washington State*).

The noise analysis in Section 4.8 identified the noise thresholds that USFWS has established for species that could occur in the study area for noise from construction activities, of which there are four. As discussed in the section, specific noise thresholds have not been established for the majority of wildlife species because an animal's response to sound varies substantially from species to species. Section 4.8 disclosed the potential noise impacts on all wildlife from construction and operations of the Proposed Action.

Refer to Response to WLF-6 regarding the Draft EIS's focus on rare, threatened, or endangered species.

# Comment WLF-22

The DEIS is inadequate in its description of aquatic species occurring within the proposed project impact area, what are referred as "common species of invertebrates and amphibians" and "Freshwater insects and other invertebrate species (i.e., mollusks, crayfish)". Freshwater mussels in the area include *Anodonta nuttalliana, Anodonta californiensis, Anodonta oregonensis.* All occur in the lower reaches of the Columbia and are important species in the ecosystem providing food for fish, mammals and water birds. They are filter feeders and therefore sensitive to levels of turbidity and oxygen. The mussels all require host fish as part of the reproduction cycle so direct impacts to fin fish from this project indirectly impact these mussels (Nedeau et al. 2004) and should be considered in the EIS. (2691)

## Response to WLF-22

Refer to Response to WLF-6.

# Comment WLF-23

DNR disagrees with the conclusion in the DEIS that although mortality to amphibians will occur, "these species typically reproduce rapidly and any losses due to mortality would not be expected to affect the viability or fitness of the species' populations." In fact, although amphibians have existed over 300 million years, in just the last two decades over 170 species have gone extinct and 45% of the existing species have populations that are declining. Since amphibians lay eggs along river banks that float on water surface, successful reproduction is threatened by direct impacts during construction, during dredging, from coal dust and vessel traffic as well as from indirect impacts from changes to water quality (Stuart et al, 2004). (2691)

## Response to WLF-23

Based on review of the USFWS threatened and endangered species list, the Washington Department of Fish and Wildlife (WDFW) Priority Habitat and Species (PHS) Statewide List and Distribution for Cowlitz County, and PHS spatial data, there are no rare, threatened, or endangered amphibians in the coal export terminal study area (see the *SEPA Wildlife Technical Report* appendix for the five amphibian species determined to not be in the study area). Amphibians on these lists are the most sensitive and vulnerable amphibians. Because these species were determined to not be present in the study area, there would be no potential impact on these special-status amphibian species from the Proposed Action.

Draft EIS Chapter 4, Section 4.8, *Wildlife*, described potential impacts on other (non-special-status) amphibian species in the direct impacts study area related to construction of the Proposed Action. These impacts would be temporary, occurring only during construction.

As described in Draft EIS Chapter 4, Section 4.5, *Water Quality*, all stormwater runoff would be collected and treated prior to discharge under an NPDES permit to ensure that it meets water quality standards. In addition, the Draft EIS concluded that the low aqueous extractability of the contaminants in coal minimizes the potentially toxic effects in aquatic habitats (Chapter 4, Sections

4.8, *Wildlife*, and 4.5, *Water Quality*). Given the existing and historical levels of vessel traffic in the Columbia River, Proposed Action-related vessels transiting through the Columbia River would not have the potential for significant adverse impacts on amphibians.

# Comment WLF-24

The federally listed Columbia White-Tailed Deer lives on land and islands in the project area. The DEIS states that these deer were seen on the project property-this is consistent with the species' presence and stable population on Puget Island and other habitat with human activities (Azerrad 2016). Although the federal government has proposed that increasing numbers of the deer mean that it can be down-listed from endangered to threatened (Florip 2015), Washington State Department of Fish and Wildlife recommends retaining state designation as endangered, because the number of deer remains relatively low, and the Washington population remains at risk for flooding, disease, and faun predation. One of the main concerns is persistent problems with dispersal due to artificial barriers such as highways and unsuitable habitat (conifers) that surround the species' current habitat (Azerrad 2016). The DEIS does not address the effects on the ability of the project to further disrupt deer movement through its habitat. Just stating that the deer are present on the project site and proposing no mitigation for disrupting their use of the site is not acceptable. The DEIS also proposes no mitigation for adverse effects on these deer from increased vessel traffic and high vessel wakes, especially on islands already prone to flooding. (3465)

## Response to WLF-24

Refer to Response to WLF-4 regarding potential dispersal/connectivity impacts on the Columbia white-tailed deer. Refer to Response to WLF-18 regarding potential impacts on swimming deer.

Vessel wakes are not large enough to cause flooding of land along the Columbia River or islands that may be prone to flooding. Flooding is driven by high water flows of the Columbia River that are related to natural events (e.g., significant rain events). Therefore, the Proposed Action would not have the potential for significant adverse impacts on wildlife due to vessel wakes.

# Comment WLF-25

The DEIS states that the proposed coal export terminal is only 5 miles upstream from Crims Island which supports critical habitat for the federal threatened and state endangered Streaked Homed Lark. As the DEIS also states, Purple Martin nest sites have been documented just 2 miles from the terminal site at Coal Creek Slough, one of two nearby Washington State Birding Trail sites. Suitable nesting and foraging habitat for listed species such as the Bald Eagle, Peregrine Falcon, Vaux's Swift, and several waterfowl species including climate-sensitive Barrow's Goldeneye, exist well within the reach of anticipated coal dust deposits. In particular, Lord Island supports significant numbers of wintering ducks and geese. The DEIS states that there may be adverse effects on these birds from coal dust deposited from the coal terminal project during operations. The DEIS states "In general, there is a paucity of peer-reviewed scientific literature examining the potential effects of coal dust on wildlife, in particular, on terrestrial wildlife" (SEPA Wildlife Technical Report, p. 3-18). DOE should commission studies on the effects of coal dust on birds before issuing the Final EIS. Also, any mitigation should not depend on models of coal dust deposits but instead should be based on actual measurements of coal dust deposits when the project is operational. This will mean installing detectors for particulate matter on Lord Island, at the least. (3465)

## Response to WLF-25

While the *SEPA Wildlife Technical Report*, stated there is limited peer-reviewed scientific literature on potential effects of coal dust on wildlife, Draft EIS Chapter 4, Section 4.8, *Wildlife*, addressed the potential physical and toxicological effects of coal dust on wildlife based on the available information. In addition, Draft EIS Chapter 5, Section 5.7, *Coal Dust*, discussed a recent analysis of ecological impacts of coal dust from coal from the Powder River Basin, which would be the coal source under the Proposed Action, during rail transport. The analysis, which was based on conservative assumptions, showed that although ecological impacts can occur through exposure of plants and animals to coal dust and its constituents in soil and water, none of the chemical concentrations estimated for soil would result in values greater than the EPA ecological soil screening levels for plants, soil invertebrates, avian wildlife, or mammalian wildlife.

Coal dust mitigation measures do not depend on models of coal dust deposits, but depend on actual coal dust measurements taken during operations. As stated in Draft EIS Chapter 5, Section 5.7, *Coal Dust*, potential mitigation measure MM CDUST-1, *Monitor and Reduce Coal Dust Emissions in the Project Area,* is based on monitoring coal dust during operations at locations approved by the Southwest Clean Air Agency.

# Comment WLF-26

The DEIS states there will be adverse impacts to shoreline vegetation and nearshore fish, specifically forage fish species such as eulachon upon which marine birds and mammals rely. We are also concerned about potential disturbance to birds caused by vessel traffic, including the effects of wake on the birds themselves and impacts to their nesting, roosting and foraging areas. As discussed below, mitigation for impacts to marine wildlife are inadequate. (3465)

## Response to WLF-26

Draft EIS Chapter 4, Section 4.6, *Vegetation*, described potential impacts on plants, including shoreline erosion and vegetation impacts that could result from vessel wakes related to vessel calling at the project area. Final EIS Chapter 4, Section 4.6, *Vegetation,* clarifies that the potential for these impacts would be greater under the Proposed Action.

The Proposed Action would result in an increase in vessel traffic, which characteristically produces wakes that would contribute to shoreline erosion and fish stranding. However, vessels transiting the Columbia River in existing conditions already produce wakes that may affect bird nesting, roosting, and foraging areas, and the characteristics of the vessels and the associated wakes would not change with the Proposed Action. Therefore, the Proposed Action would not have the potential for significant adverse impacts on marine birds due to vessel wakes and further analysis in the EIS is not included.

For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

# Comment WLF-27

We would like a complete assessment of the project's impacts on the federally listed endangered Columbia River Whitetail Deer. Columbia Whitetail Deer are threatened by this proposal in three ways. First, Columbia Whitetail Deer are good swimmers and frequently migrate across the

Columbia River to reach adjacent habitat. The applicants proposed ship traffic will likely result in significant mortality including ship strikes and drownings. The Draft EIS doesn't address the threat of the Columbia Whitetail Deer through increased Columbia River vessel traffic. Second, Columbia Whitetail Deer were observed on the project site. The Draft EIS does not discuss the project site features of the existing habitat or as a terrestrial migration corridor. It does not discuss habitat loss, impacts, or mitigation. Third, applicant does not discuss or evaluate Columbia Whitetail Deer terrestrial or aquatic migration corridors. Extreme habitat fragmentation is a major contributing factor to Columbia Whitetail Deer's historic decline. (TRANS-LV-M2-00021)

### Response to WLF-27

Refer to Response to WLF-4 regarding potential dispersal/connectivity impacts on the Columbia white-tailed deer. Refer to Response to WLF-18 regarding potential impacts on swimming deer.

## Comment WLF-28

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| A | **Summary**<br>Page S-27, Wildlife, Construction, third paragraph | We suggest that the proposed mitigation measure to monitor wildlife during dredging and pile driving be removed.<br>*"Implementing proposed mitigation to monitor wildlife for distress during pile-driving and dredging activities (Table S-2), implementing construction best management practices, and complying with permit conditions would minimize dredging impacts."* | We disagree that monitoring for wildlife distress during dredging or pile driving activities would be a necessary or effective mitigation measure. Impacts would be sufficiently minimized through timing restrictions of the work, construction BMPs, and noise mitigation measures. |
| B | **Summary**<br>Page S-28Wildlife, Operation, first full paragraph | We suggest that the proposed mitigation measure to monitor wildlife during dredging and pile driving be removed.<br>*"Maintenance dredging could result in impacts on benthic organisms and wildlife as the initial-construction related dredging activities. Impacts would be minimized through implementation of construction best management practices, compliance with permit requirements, and proposed mitigation to monitor wildlife during dredging activities (Table S-2)."* | We disagree that monitoring for wildlife distress during maintenance dredging would be a necessary or effective mitigation measure. Impacts would be sufficiently minimized through timing restrictions of the work, construction BMPs, and noise mitigation measures. These other mitigation measures are deemed to be sufficient for other similar dredging projects on the river. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| C | **Summary**<br>Page S-52, Section 4.8, Wildlife, MM FISH-3 | We suggest that the proposed mitigation measure to monitor wildlife during dredging and pile driving be removed.<br>*"MM FISH-3. Monitor Pile-Driving and Dredging Activities for Distress to Fish and Wildlife. See discussion in Section 4.7, Fish, in this table."* | We disagree that monitoring for wildlife distress during pile driving or dredging would be a necessary or effective mitigation measure. Impacts would be sufficiently minimized through timing restrictions of the work, construction BMPs, and noise mitigation measures. [ditto if true] |
| D | **4.8 Wildlife**<br>Page 4.8-6, Section 4.8.3.3 – Impact Analysis, Assessing Noise Impacts | Suggest using the 0.5 mile buffer around the project site for this analysis. | Overall, this section would benefit from clarity regarding area considered – for noise impacts it seems it should be the 0.5 mile "buffer" around the project site. |
| E | **4.8 Wildlife**<br>Page 4.8-8, Section 4.8.4.1 – Terrestrial Habitat | *"Undeveloped areas are relatively small and fragmented. Patches of potentially suitable habitat could support foraging and cover for small to large mammals, foraging and nesting for a variety of birds, and foraging, breeding, and nesting for amphibians.* However, as these constitute a small percentage of the site, their habitat value is very limited." | While these patches of habitat could potentially support the species described, their small cumulative acreage, combined with their fragmented distribution, severely limit their habitat value. Please add the sentence noted. |
| F | **4.8 Wildlife**<br>Page 4.8-16, Section 4.8.5.1 – Proposed Action | Suggest removing the summary list entirely and relying instead on narrative and conclusions in full context. | Including vessel strikes and underwater vessel noise impacts on marine mammals (and diving birds for noise) in the summary list overstates the conclusions, which are low risk and minimal response, respectively. |
| G | **4.8 Wildlife**<br>Pages 4.8-18, Section 4.8.5.1 – Proposed Action, Construction – Direct Impacts, Cause Temporary Displacement or Mortality | The section on the displacement/mortality should be reconsidered. | This appears to address the area which will be permanently removed. There are no temporary impacts – once it's been removed the displacement is permanent. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| H | **4.8 Wildlife**<br>Page 4.8-19, Section 4.8.5.1 – Proposed Action, Temporarily Alter or Permanently Remove Aquatic Habitat | *"Construction of the Proposed Action would result in the alteration or permanent loss of approximately 59 acres of aquatic habitat in the aquatic study area. Dredging to provide vessel access to Docks 2 and 3 would* temporarily *alter approximately 48 acres of benthic deepwater habitat and construction would result in the permanent loss of approximately 11 acres of aquatic habitat (ditches and ponds) throughout the terrestrial habitats of the project area."* | While it is technically true that 59 acres aquatic habitat would be altered or permanently lost, through its lack of precision this statement obscures the short-term nature of the impacts. |
| I | **4.8 Wildlife**<br>Page 4.8-19, Section 4.8.5.1 – Proposed Action, Temporarily Alter or Permanently Remove Aquatic Habitat | *"The placement of ~~610~~* 603 *piles would permanently alter or remove benthic habitat in the Columbia River. Piles would displace approximately 0.10 acre (~~4,312~~* 4,263 *square feet) of river bottom habitat (7.07 square feet per pile multiplied by ~~610~~* 603 *piles)…"* | Global pile number and footprint edit (Grette Associates, LLC. 2014; Table 1, p. 17). |
| J | **4.8 Wildlife**<br>Page 4.8-19, Section 4.8.5.1 – Proposed Action, Temporarily Alter or Permanently Remove Aquatic Habitat | *"Construction of these docks would create ~~4.62~~* 5.13 *acres of new overwater surface area…"* | Docks 2 and 3 would cover 4.62 acres, but with the trestle the proposed structure would cover approximately 5.13 acres (Grette Associates, LLC. 2014; Table 1, p. 17). |
| K | **SEPA Wildlife Technical Report**<br>Page 2-7, Section 2.2.2 - Aquatic Habitat | Revised the ACM, SWZ and DWZ elevations as follows:<br>ACM is OHW (11.1 ft CRD) to 0 ft CRD; SWZ is 0 ft CRD to -20 ft CRD; DWZ is waterward of -20 ft CRD. | Elevations and depths for habitat zones should be expressed relative to CRD throughout the documents for consistency. |
| L | **SEPA Wildlife Technical Report**<br>Page 3-4, Section 3.1.1.1 – Construction: Direct Impacts, Temporary Impacts on Wildlife Habitat | Overall, this section would benefit from clarity regarding the area considered. | For temporary effects it seems the area considered should be the 0.5 mile "buffer" around the project site, since the project area itself will be permanently altered at the outset of project construction and is addressed in the previous section. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| M | **SEPA Wildlife Technical Report** Page 3-4 to 3-5, Section 3.1.1.1 – Construction: Direct Impacts, Temporary Impacts on Wildlife Habitat | The section on the displacement/mortality should be reconsidered. | This appears to address the area which will be permanent removed. There are no temporary impacts – once it's been removed the displacement is permanent. |
| N | **SEPA Wildlife Technical Report** Page 3-5, Section 3.1.1.1 – Construction: Direct Impacts, Temporary Impacts on Wildlife Habitat | We request that the following sentence be added to the end of the final paragraph on page 3-5: "*Impacts to steaked horned lark will be evaluated in detail in the Project's Biological Assessment and ultimately determined in the ESA consultation process*." | We disagree with ICF's use of marbled murrelet as a surrogate for analyzing potential impacts to streaked horned lark due to their significantly different habitat use.<br>Since streaked horned lark is an ESA-listed species, the project's Biological Assessment and the associated ESA consultation process will evaluate impacts in detail. |
| O | **SEPA Wildlife Technical Report** Page 3-6 to 3-13, Section 3.1.1.1 – Construction: Direct Impacts, Aquatic Habitat and Wildlife Habitat | Effects of dredging on pinnipeds: The turbidity effects discussion would benefit from context of limited, minimal, and temporary increases in turbidity.<br>Also, there is a timing component to consider regarding likelihood of presence for marine mammals similar to what is in the pile driving impact analysis. | |
| P | **SEPA Wildlife Technical Report** Page 3-17, Section 3.1.1.1 – Construction: Direct Impacts, Aquatic Habitat and Wildlife Habitat | Aquatic spills and leaks – Reconsider conclusion regarding toxic or subacute impacts. | This section should mirror the section in the SEPA fish technical report, which focuses on the low potential and volume of spills that may occur in aquatic areas. |
| Q | **SEPA Wildlife Technical Report** Page 3-19, Section 3.1.1.3 – Operations: Direct Impacts, Produce Coal Dust | Consider revising the following conclusion:<br>*"…to what extent coal dust could affect wildlife species and their habitats over the life of the Proposed Action is unknown."* | This statement implies too much impact. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| R | **SEPA Wildlife Technical Report** Page 3-24, Section 3.1.1.4 – Operations: Indirect Impacts | Effects of dredging on pinnipeds: Suggest revising this section to adopt the construction analysis by reference instead of repeating/summarizing it (as is done for "noise impacts from maintenance dredging" for terrestrial species). | This paragraph contains the same content as the construction discussion, and the same suggested edits for that section would apply (see suggested revisions above for Page 3-6 to 3-13, Section 3.1.1.1 – Aquatic Habitat and Wildlife Habitat) |

(3070)

## Response to WLF-28

The following describes the changes made to Final EIS *Summary,* Chapter 4, Section 4.8, *Wildlife*, and the *SEPA Wildlife Technical Report*, in response to these comments. Refer to the right-most column of the above table for lettering used to identify each comment.

- **Comments A, B, C:** Monitoring for wildlife distress during construction activities is an important and typical mitigation component when sensitive species could be present. The mitigation measure has been retained.
- **Comment D:** The direct impacts study area for noise impacts is a 0.5-mile buffer around the project area; Section 4.8.3.2, *Impact Analysis, Assessing Noise Impacts*, explains how the 0.5 mile buffer was determined. The Final EIS section has been updated to further clarify this information.
- **Comment E:** The requested sentence has not been added. The developed areas, which consist of existing structures and disturbed vegetated areas, provide very limited habitat value. The undeveloped areas provide greater value habitat despite patchiness of the habitat.
- **Comment F:** The summary list is intended to identify potential impact mechanisms. It is not intended to provide a conclusion on the degree of impact. The degree of impact is addressed in the detailed impact sections that follow the summary list.
- **Comment G:** The impact heading *Cause Temporary Displacement or Mortality* has been revised in the Final EIS to *Cause Wildlife Displacement or Mortality* and the impact discussion has been clarified.
- **Comment H:** Dredging for Docks 2 and 3 would not be a temporary alteration of the benthic habitat, but would be a permanent conversion of benthic habitat from one elevation to a deeper benthic habitat that would be maintained at that depth every few years from maintenance dredging.
- **Comment I:** The information presented in the Draft EIS is consistent with the JARPA submitted by the Applicant to the U.S. Army Corps of Engineers in July 2016. Thus, no change has been made to the Final EIS.
- **Comment J:** The Final EIS section has been updated to reflect this correction to acres of new overwater surface area.
- **Comment K:** The technical report has been reviewed for consistent use of Columbia River Datum for elevations and depths of habitat zones.

- **Comment L:** Refer to response to comment D.
- **Comment M:** Refer to response to comment E.
- **Comment N:** The technical report is not using the marbled murrelet as a surrogate for analyzing impacts on the streaked horned lark. The technical report explains how wildlife perceive noise and how perception can vary substantially from species to species, and then covers the range of potential noise impacts on all wildlife.
- **Comment O:** As discussed in the technical report, existing research indicates that dredge-related turbidity is not likely to cause substantial impacts on pinnipeds since they often inhabit naturally turbid or dark environments and are likely to use senses in addition to their vision. The technical report also acknowledges that pinniped use and abundance in the study area is expected to vary seasonally as they transit between areas of known use at the mouth of the Columbia River. There are no known in-water work windows specific to pinnipeds in the Columbia River.
- **Comment P:** The technical report disclosed the potential range of impacts from spills or leaks into the aquatic environment, then concluded the risk of these potential impacts would be avoided or substantially reduced through best management practices, avoidance and minimization measures, in-water work requirements, and permitting requirements. The requested change has not been made.
- **Comment Q:** The text referenced by the commenter has been removed from the technical report.
- **Comment R:** The impact discussion is brief and has been retained in full rather than referencing the impact in the construction section. Refer to response to comment O.

# Comment WLF-29

The DEIS acknowledges that the increase in deep draft vessels traffic can result in adverse impacts from large vessel underwater noise (DEIS, 5.4- 45). It also acknowledges that there is a greater incidence of vessel strikes with whales than other marine mammals. DEIS 4.8.-24. But the study area (the same for direct and indirect impacts for large vessel noise impacts and vessel strikes on marine mammals, Wildlife Report, 1.3) is artificially limited to "the main channel of the Columbia River and extends approximately 5.1 miles upstream and 2.1 miles downstream in the Columbia River, measured respectively, from the upstream and downstream extents of the proposed docks (Docks 2 and 3) at the project area." SEPA Wildlife Technical Report (Wildlife Report) 1.3.1.2.and Figure 4. As a result, the only order of marine mammal for which vessel noise impacts and vessel were considered is pinnipeds including three species found in the lower Columbia River that swim through the study site. DEIS 4.8.3.3; 4.8.4; Wildlife Report, 3.1.1.4. (2589)

## Response to WLF-29

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment WLF-30

The DEIS omits studies, analysis and disclosure of increased vessel noise and vessel strike impacts on Cetaceans and other marine mammals along the vessel route outside the constricted study area in Washington and Alaska's coastal oceans and along the states' coastlines. (2589)

## Response to WLF-30

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment WLF-31

The DEIS omits studies, analysis and disclosure of increased vessel noise and vessel strike impacts on Cetaceans and other marine mammals along the vessel route outside the constricted study area in Washington and Alaska's coastal oceans and along the states' coastlines. The DEIS fails to contain this analysis despite the fact that Washington's iconic endangered Southern Resident Orcas feed outside the mouth of the Columbia River and along the coast to the north and south of the River as do Humpback and other whales. Unless the project's vessels plan to cut their engines and other noise generating equipment just outside the MBTL terminal, a revised DEIS and Final DEIS must include the significant and unavoidable impacts of vessel noise and marine mammal strikes all along the vessel route. The agencies must study, analyze and fully disclose the impacts on Orca whales and all other Cetaceans and other marine mammals all along the vessel route outside the artificially drawn study area before the DEIS could reasonably conclude there would be no unavoidable significant impacts on marine mammals from vessel transportation-related noise and strikes. (2712)

## Response to WLF-31

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment WLF-32

The DEIS needs to uphold continuing the preserving resources for future generations. There are 185 identified critical or endangered species recognized in the Columbia Gorge National Scenic Area Management Plan. Unfortunately the DEIS only recognizes a handful of those species. Without adequate protection, these species will begin to feel even greater impact. (TRANS-PASCO-M1-00039)

## Response to WLF-32

Final EIS Chapter 4, Section 4.8, *Wildlife*, has been revised to include a list of representative species that could be present along the rail corridor in Washington State. Impacts on wildlife along the rail corridor are addressed in Section 4.8.5, *Impacts*, *Operations—Indirect Impacts*, and include coal spills and wildlife strikes.

# Comment WLF-33

The DEIS needs to uphold continuing the preserving of resources for future generations. There are 185 identified critical or endangered species recognized in the Columbia Gorge National Scenic Area Management Plan. Unfortunately, the DEIS only recognizes a handful of those species. Without adequate protection, these species will begin to feel even greater impact. (TRANS-LV-M2-00084)

## Response to WLF-33

Refer to Response to WLF-32.

# 4.9 Energy and Natural Resources

This section presents responses to substantive comments related to energy and natural resources.

## Comment ENR-1

| DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|
| **4.9 Energy and Natural Resources**<br>Page 4.9-1, Section 4.9.1 | Include a discussion of building permits, Washington State Energy Code, and the county fire code. | This would add depth to the section. |

(3070)

### Response to ENR-1

Final EIS Chapter 4, Section 4.9, *Energy and Natural Resources*, has been revised to include a discussion of the Washington State Energy Code and Cowlitz County building code, as appropriate. The Cowlitz County fire code is not relevant to the analysis of energy and natural resources.

# 4.10 Coal Spills

This section presents responses to substantive comments related to coal spills.

## Comment CS-1

The DEIS says Oil spills from a vessel or train could have significant potential impacts on water quality and the magnitude would depend on location, volume, weather, and tidal conditions, two of which are uncontrollable. The DEIS says coal could enter water as either dust or coal spill. Then it says the potential risk for exposure to toxic chemicals contained in coal would be relatively low because they tend to bind and not quickly or easily leach out. Interesting choice of words here; so the dust will enter the water… the risk is relative…. The chemicals do not always, yet tend, to bind…. And will eventually leach out, although not quickly or easily. This is what I mean by sugar coat, typing nice conclusions that don't really spell it out. It is not acceptable, giving what we are learning about our environment in today's world, that we expose our waterways, air, communities, land, fish, wildlife, and winged ones to these toxic chemicals. Especially since the risk involves uncontrollable factors, and carry unavoidable and significant adverse environmental impacts that could be reduced but NOT eliminated. (1431)

### Response to CS-1

Oil spills in water and coal spills in water have different potential impacts and were analyzed separately. The potential impacts on water from oil spills were discussed in Draft EIS Chapter 4, Section 4.5, *Water Quality*. Impacts from coal spills on the natural environment are addressed in Draft EIS Chapter 4, Sections 4.5, *Water Quality*, 4.6, *Vegetation*, 4.7, *Fish*, and 4.8, *Wildlife*. The conclusions presented in the Draft EIS on the effects of coal in the aquatic environment (including chemical changes and potential toxic effects) were drawn from the cited Ahrens and Morrisey (2005) report. This 53-page report published in *Oceanography and Marine Biology: An Annual Review* is a meta-summary study of this subject matter based on over 185 scientific studies that have looked at the chemical or physical effects of unburnt coal on the biology of freshwater and marine environments. The *SEPA Coal Technical Report*, *Coal Spills Analysis*, provides more details and analysis on this matter.

The Final EIS provides more detail on cleanup, monitoring studies, impacts, and associated documents of an actual coal train spill event (in 2014) into a stream and lake in Burnaby British Columbia, Canada. Information and analysis on this event is provided in Chapter 3 of the Coal Spills Analysis section of the *SEPA Coal Technical Report*.

## Comment CS-2

…will cause congestion at rail crossings and increase the possibility of derailments such as the recent one in Mosier, OR leading to water contamination by toxic metals, polyaromatic HC's from spilled coal and possible fires. The applicant should address the coal train safety issues and emergency recovery operations. (2509)

## Response to CS-2

Draft EIS Chapter 5, Section 5.2, *Rail Safety*, described potential impacts on rail safety from Proposed Action-related rail traffic. The analysis estimated train accidents from loaded and empty Proposed Action-related trains on rail routes in Washington State. Additional information is provided in the *SEPA Rail Safety Technical Report.*

Impacts from coal spills on the natural environment are addressed in Draft EIS Chapter 4, Sections 4.5, *Water Quality*, 4.6, *Vegetation*, 4.7, *Fish*, and 4.8, *Wildlife*.

Draft EIS Chapter 3, Section 3.6, *Hazardous Materials*, addressed impacts related to hazardous materials that could result from construction or operation of the Proposed Action, including releases of hazardous materials during a train collision or derailment (e.g., fuel, fires, and explosions). If a release of hazardous materials in the project area were to result from a collision or derailment, emergency response and cleanup measures would be implemented as required by federal and state law, including Washington State regulations under RCW 90.56.

# Comment CS-3

The DEIS fails to address studies conducted over an eleven year period, from 2005 to 2016, documenting the impacts of coal dust in aquatic environments. The DEIS analyzes coal dust studies in Section 3.1.1, Aquatic Impacts, of SEPA Coal Technical Report: Coal Dust Emissions, Coal Spills Analysis, and Sulfur Dioxide and Mercury Emissions Analysis (hereafter "Coal Dust Technical Report"). The DEIS Coal Dust Technical Report states:

> The most comprehensive literature review on the potential impacts of unburnt coal in the aquatic environment was conducted by Ahrens and Morrisey (2005). Their review summarized the potential physical and chemical (toxicity) effects of unburnt coal released into the aquatic environment; the following summarizes these effects and draws heavily from their review.

The DEIS relies on Coal Dust Technical Report in describing the impacts of coal dust on water quality and aquatic life. Both the DEIS and the Coal Dust Technical Report fail to examine studies published after 2005 (i.e., studies released after the Ahrens and Morrisey literature review).139 For example, the DEIS fails to examine the following studies and reports:

- Harper, Matthew P. and Peckarsky, Barbara L., Effects of Pulsed and Pressed Disturbances on the Benthic Invertebrate Community Following a Coal Spill in a Small Stream in Northeastern USA, 544 Hydrobiologia (2005) (Exhibit 44);
- Johnson, Ryan and Bustin, R.M., Coal dust dispersal around a marine coal terminal (1977-1999), British Columbia: The fate of coal dust in the marine environment, 68 International Journal of Coal Geology (2006) (Exhibit 40);
- Cabon, Jean Yves, et al., Study of Trace Metal Leaching From Coals Into Seawater, 69 Chemosphere (2007) (Exhibit 45);
- Lucas, Steven Andrew, Planner, John, Grounded or Submerged Bulk Carrier: The Potential for Leaching of Coal Trace Elements to Seawater, 64 Marine Pollution Bulletin (2012) (Exhibit 46);
- Naidoo, G. and Y. Naidoo. Coal dust pollution effects on wetland tree species in Richards Bay, South Africa, Wetlands Ecology and Management (2005) 13: 509–515;

- Meador, J. P.; Sommers, F. C.; Ylitalo, G. M. & Sloan, C. A. (2006, October). Altered growth and related physiological responses in juvenile Chinook salmon (*Oncorynchus tshawytscha*) from dietary exposure to polycyclic aromatic hydrocarbons (PAHs) Canadian Journal of Fisheries and Aquatic Sciences, 63: 2364-2376 (Exhibit 48); and
- Achten, C. and Hoffman, T., Native polycyclic aromatic hydrocarbons (PAH) in coals – a hardly recognized source of environmental contamination, 407 Science of the Total Environment 8 (2009) (Exhibit 49).

The Co-leads ignore studies published after 2005, including examples provided above, documenting the impacts of coal dust on aquatic environments. This renders the DEIS's conclusion on coal dust impacts arbitrary. (3277)

## Response to CS-3

The conclusions of the studies cited by the commenter are consistent with those of the 2005 Ahrens and Morrisey meta-summary study. Review of these studies supports the analysis or conclusions in the Draft EIS or the *SEPA Coal Technical Report*. Regarding coal dust, Draft EIS Chapter 5, Section 5.7, *Coal Dust,* provided information on estimated maximum concentrations of trace elements compared with acceptable source impact levels. The studies confirm that many variables can determine the chemical and biological effects of coal in the aquatic environment. If (or how much) coal alters water chemistry in the aquatic environment and whether the alterations are significant enough to be potentially toxic to aquatic organisms depends on many factors, notably the type of coal, the relative amount of time the coal is exposed to water and broken down, dilution, buffering, and bioavailability. The ultimate fate of coal depends on the circumstances of a coal spill, cleanup, and the existing conditions of a particular aquatic environment (e.g., stream, lake, wetland); the chemical effects on aquatic organisms and habitats could vary significantly and range from no perceptible impacts to more severe impacts. This variability and range of potential impact, up to and included mortality of aquatic organisms, is discussed in the *SEPA Coal Technical Report*. In addition, cleanup, monitoring studies, impacts, and associated documents of an actual coal train spill event in 2014 into a stream and lake in Burnaby, British Columbia, Canada were reviewed. Information and analysis on this event is also provided in the *SEPA Coal Technical Report*. The study's summary results state that water quality was generally consistent with provincial and/or federal guidelines protective of aquatic life. The sediment toxicity test results determined all samples to be nontoxic to all species tested (fish, invertebrate, and algae), except at one sample site, which yielded marginal effects on the survival of benthic macroinvertebrates. The overall conclusion of the weight-of-evidence evaluation was that there are potentially minor impacts in the coal spill study area, and that these impacts are restricted to a very small localized area of the stream and lake. A summary of each study cited by the commenter and its relation to the information used in the EIS analysis is provided below.

- **Harper and Peckarsky study**. The Harper and Peckarsky study looked at the effects of a coal spill on the benthic community in a small stream in New York. The study ultimately concluded that any negative effects from coal were short-term (no alteration of benthic community beyond 1 year); but the study did find that the observed long-term effects on the benthic community were likely from channelization of the stream that was conducted during the cleanup effort. A coal spill resulting from a rail incident that occurred in the Pacific Northwest in 2014, was reviewed as part of the coal spill analysis. Documents on the cleanup, monitoring studies, impacts of this coal train spill event into a stream and lake in Burnaby British Columbia, Canada

were reviewed, and information and analysis on this event is provided in the Final EIS, *SEPA Coal Technical Report*, *Coal Spills Analysis,* Chapter 3. The overall conclusion of the weight-of-evidence evaluation was that there were potentially minor impacts in the coal spill study area, and that these impacts were restricted to a small localized area of the stream and lake. Further, no additional mitigation was recommended (as any removal of residual coal mixed with sediments was determined to pose a greater risk to environmental receptors). It was not anticipated that higher trophic levels would experience any adverse effects, and impacts beyond the spatial extent of the area assessed would be unlikely. The conclusion of this study and the Harper and Peckarsky study show some similar results, despite the different circumstances (location, type of coal, etc.).

- **Johnson and Bustin study**. The Johnson and Bustin study investigates coal deposition and the content of sediments in the vicinity of a coal-loading facility at Roberts Bank coal terminal in Delta, British Columbia, Canada. Coal concentrations in the sediments were found to generally decrease rapidly with increasing distance from the terminal. Coal distribution would likely affect those benthic flora and fauna most susceptible to coal dust coverage and possible anoxic conditions that might arise during coal oxidation within very close proximity (0 to 100 meters) to the coal-loading terminal.

  While the context of the Roberts Bank coal export terminal differs from that of the Proposed Action, particularly the body of water at the site (Strait of Georgia versus Columbia River), the general coal deposition patterns are similar in that the greatest deposition of coal dust would be close to the coal export terminal with reductions in deposition decreasing with increasing distance.

- **Cabon et al. study**. The Cabon et al. study shows that the chemical impact of coal pollution in seawater through the leaching process depends on various parameters: composition and physiochemical properties of coal, coal mass to seawater ratio, time contact, and agitation of seawater. The study also found that most hazardous trace metals would not be released from coal into seawater and, on the contrary are likely to be removed from seawater solution in the presence of coal having a high calcite content. Manganese, under certain conditions, may be released in higher levels.

  The *SEPA Coal Technical Report*, *Coal Spills Analysis,* reaches the same general conclusion of coal effects on the aquatic environment—that interactions between coal and water depend on many variables and the site-specific conditions of the spill, as described above and as demonstrated by the Ahrens and Morrisey study.

- **Lucas et al. study**. The Lucas et al. study concluded that leaching results (from a grounded bulk vessel) indicated a negligible impact on water quality and ecological resilience as a result of trace elements in the coal type being leached to seawater. Ocean currents were highly likely to disperse and dilute leached trace elements in an open-water incident. This study also highlighted that particle size distribution, trace element content and mineralogy will all influence the leaching behavior of different coal types and the extent to which they may impact on the environment.

  The *SEPA Coal Technical Report, Coal Spills Analysis* reaches the same general conclusion of coal impacts on the aquatic environment—that interactions between coal and water depend on many variables and the site-specific conditions of the spill, as described above and as demonstrated by the Ahrens and Morrisey study.

- **Naidoo and Naidoo study**. The Naidoo and Naidoo study is not a study on coal in the aquatic environment, but a study on how coal dust can affect leaf function. Coal dust and dust impacts on vegetation were addressed in Draft EIS Chapter 4, Section 4.6, *Vegetation*. The Naidoo and Naidoo study does not change any conclusions made in the Draft EIS on coal dust impacts on vegetation.
- **Meado et al. study**. The Meado et al. study does not concern PAHs being released into the aquatic environment as a result of a coal spill and coal leaching, but is a dietary feeding study (with PAHs) conducted on juvenile Chinook salmon. Coal, as a source of PAHs and its toxicity in the aquatic environment, was disclosed in Draft EIS Chapter 4, Section 4.5, *Water Quality*, and *the SEPA Coal Technical Report, Coal Spills Analysis*.
- **Achten and Hoffman study**. The Achten and Hoffman study focuses on coal being a possible source of PAHs in the environment. Coal as a source of PAHs and its toxicity in the aquatic environment was disclosed and discussed in Draft EIS Chapter 4, Section 4.5, *Water Quality*, and the *SEPA Coal Technical Report, Coal Spills Analysis*.

# Comment CS-4

Additionally, the DEIS does not consider the adverse effects on Gorge resources of the contents of the cars that would be spilled. As discussed in Sections 5 and 6 below, coal dust and debris are dangerous substances. The effects of cargo spill on the Gorge environment needs to be fully taken into account. The final EIS should disclose the actual worst-case risks and provide adequate disclosure of the consequences on the people and the protected resources of the Gorge. (2508)

## Response to CS-4

Potential impacts of coal spills during Proposed Action-related rail transport in Washington State are addressed in the *SEPA Coal Technical Report Coal Spills Analysis*, and Draft EIS Chapter 4, Sections 4.6, *Vegetation*, 4.7, *Fish*, and 4.8, *Wildlife*. Because the size and extent of a coal spill would depend on various factors such as location of the incident (dock or railway), train speed, surrounding topography, adjacent structures, and characteristics of the adjacent natural and aquatic environment, the potential impacts on the aquatic, terrestrial, and built environments are described qualitatively and are not specific to a single location in the study area.

# Comment CS-5

According to the DEIS, Millennium's loading equipment and docks wilt be designed to minimize coal spills, and a spill kit will be nearby during operations. However, the DEIS has no estimate of the probability of coal spill accidents, despite the fact that in 2012, Westshore Terminal in Delta, British Columbia, had a large spill from a ship running into a pier (Hamilton and Crawford 2012) and there were also two rail accidents at Westshore Terminals in 2011 and 2012 (CN Rails 2013). After an estimate of the frequency and seriousness of this kind of accident in facilities similar to the proposed Millennium coal terminal is calculated, Millennium should be asked to provide a clean-up bond or other agreement to mitigate for probable future accidents. (3465)

## Response to CS-5

The *SEPA Coal Technical Report*, *Coal Spills Analysis*, discussed the potential for coal spills from onsite operations and rail transport. As described in this section, a coal spill during operations in the upland portion of the project area would be contained in the rail loop and stockpile areas and a coal spill during shiploading operations would be limited by safeguards, including start-up alarms, dock containment measures to contain spillage, rainfall, and, runoff, and enclosed shiploaders. If coal spilled into a river, emergency response and cleanup measures would be implemented as required by federal and state law. Impacts from coal spills on water quality were addressed in Draft EIS Chapter 4, Section 4.5, *Water Quality*.

As described in Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, the likelihood of a serious vessel incident in the study area would be very low, based on the risk assessment presented in the *SEPA Vessel Transportation Technical Report*, Appendix A. If a collision occurred and coal spilled into a river, emergency response and cleanup measures would be implemented as required by federal and state law. Impacts from coal spills on water quality were addressed in Draft EIS Chapter 4, Section 4.5, *Water Quality*.

Draft EIS Chapter 5, Section 5.2, *Rail Safety*, assessed impacts on rail safety (i.e., collisions and derailments) that could result from Proposed Action-related rail traffic. As presented in this section, the predicted number of accidents involving loaded Proposed Action-related trains along the Reynolds Lead and BNSF Spur with improvements is 0.25 per year and, along the BNSF main line routes in Washington State, varies between 0.22 and 2.59 accidents per year. Not every accident of a loaded Proposed Action-related train would result in a coal spill and spills that would occur would vary in size.

Impacts from coal spills on the natural environment are addressed in Draft EIS Chapter 4, Sections 4.5, *Water Quality*, 4.6, *Vegetation*, 4.7, *Fish*, and 4.8, *Wildlife*.

If a release of hazardous materials or coal in the project area were to result from a coal vessel or train accident, emergency response and cleanup measures would be implemented as required by federal and state law. The Final EIS has been updated to provide detail on cleanup, monitoring studies, impacts, and associated documents of an actual coal train spill event in 2014, into a stream and lake in Burnaby, British Columbia, Canada. Information and analysis on this event is provided in Chapter 3 of the Coal Spills Analysis section of the *SEPA Coal Technical Report*.

Bond agreements for potential future accidents are outside of the scope of the EIS. Refer to the Master Response for Mitigation Framework for a description of the SEPA regulatory limits within which the Draft EIS mitigation was developed.

# Comment CS-6

Impacts of a coal spill upon the Columbia River were evaluated in the DEIS and expected to have minor consequence upon the River and aquatic life. The Clark Fork has aquatic geological and biological characteristics very different from those of the Columbia. The adverse consequences of a coal spill into this river are unknown, and could be seriously adverse. "...whether the alterations (from coal released into the aquatic environment) are significant enough to be potentially toxic to aquatic organisms depends on many factors, including the type of coal, the relative amount of time the coal is exposed to water, dilution, and buffering."(DEIS Page 4.7-33) (2233)

### Response to CS-6

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

## Comment CS-7

The Draft EIS repeatedly states that any coal spills associated with the coal export terminal 'would be relatively small' and 'impact minor' because of the contained nature and features of the terminal. The Draft EIS does not provide a rationale for its exclusion of medium, large, or catastrophic coal spills and their short and long term recovery trajectory. (3227)

### Response to CS-7

Refer to Response to CS-5. As described in the *SEPA Coal Technical Report*, *Coal Spills Analysis*, Chapter 3, large-scale coal spills from operation of the coal export terminal, including vessel loading operations, and Proposed Action-related trains transporting coal to the coal export terminal could affect the aquatic, terrestrial, and built environments. Such an event could occur as a result of a train incident (collision and/or derailment) or during coal handling in the project area that occurred outside the rail loop. Because the potential effects on the natural environment from a coal spill would likely be more pronounced during a train incident compared to a spill occurring in the project area, for the reasons described in the chapter, the impacts from a coal release on the aquatic, terrestrial, and built environments were described in the context of the train incident risk analysis and the containment and cleanup measures to remove the spilled coal.

## Comment CS-8

Risk to Waterways: North Idaho is known for its abundance of lakes and rivers. Because of the way the railroads were developed, railroad tracks were often built adjacent to lakes and rivers, putting our waterways in harm's way. Most of the coal that comes through Idaho travels on Montana Rail Link's route, which follows the Clark Fork River and the north shore of Lake Pend Oreille.

Lake Pend Oreille is critical habitat for bull trout, a threatened species, and also is the water sources for the cities of Sandpoint and Priest River, not to mention dozens of individual homeowners who draw their water from the lake or river. Coal is already being found in the waters and shores of Lake Pend Oreille, as chunks of coal spill off the tops of open rail cars. Coal contains many heavy metals that are harmful to aquatic and human life. It's unclear how either the gradual cumulative build up of coal dust and chunks in the waterways, or a catastrophic spill, might effect the chemical environment of the lake.

Cleaning up a spill from a derailed coal train would be a difficult proposition, if not impossible. If a spill were to happen in Lake Pend Oreille in the winter, response time would be complicated by the low lake level and the fact that few boat launches are available to get response teams into the water. (3492)

### Response to CS-8

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Chapter 5
# Responses to Comments—Operations

This chapter presents responses to substantive comments related to operations: rail transportation, rail safety, vehicle transportation, vessel transportation, noise and vibration, air quality, coal and coal dust emissions, the coal market, and greenhouse gas emissions and climate change.

## 5.1 Rail Transportation

This section presents responses to substantive comments related to rail transportation.

### Comment RT-1

On the subject of rail improvements needed, in Longview alone they will be extremely expensive not counting upgrades for mainlines in Washington to handle the volume. Who pays? Railroads are private companies and taxpayer dollars should not be used for any of it. (1385)

#### Response to RT-1

Under SEPA, an EIS is required to focus on the environmental impacts of a proposal and its alternatives. SEPA does not require an EIS to analyze the economic or social policy impacts of an action or discuss economic competition or profits (WAC 197-11-448(3)). Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used along with other information by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

Draft EIS Chapter 5, Section 5.1, *Rail Transportation*, identified main line segments in Washington State where Proposed Action-related trains would contribute to the segment reaching capacity if no improvements were made to expand capacity by 2028. Section 5.1 acknowledged that BNSF and UP would be expected to make the necessary investments or operational changes to accommodate the growth in rail traffic, but it is unknown when these actions would be taken or permitted. The mitigation presented in the Draft EIS was developed within the limits of the SEPA regulatory framework described in the Master Response for Mitigation Framework. The concerns raised by the commenter on funding of upgrades to existing rail lines are outside the scope of a SEPA EIS.

### Comment RT-2

Increased coal and oil unit trains are already causing serious costs and impacts to Washington's farmers when the unit trains have priority and loads of agricultural products must wait. How will the great increase in coal unit trains not cause huge losses to these farmers? It is not sufficient for Millennium to say others will build more rail tracks to ease congestion. A remedy for this problem needs to be presented in the Final EIS so that it will be in place at the same time that Millennium proposes to increase the rail traffic. (1980)

### Response to RT-2

Refer to Response to RT-1.

## Comment RT-3

Rail Transit - In 2012, BNSF changed its train operations protocol in Washington State using directional running to enhance use of existing capacity. This strategy routes all westbound-loaded unit trains (including coal) from Pasco via the Columbia River Gorge to Vancouver, where they continue on the BNSF north-south main line to their final destination. Empty unit bulk trains north of Vancouver, including Cowlitz County, return to Pasco and to points east via Auburn and Stampede Pass. However, the preferred rail route is not the only rail route due to maintenance, landslides, snow or other factors. The Stampede Pass Route (Elevation 3,672 feet) was not in service for 12 years between 1984 and 1996 and does not have sufficient height clearance for double stacked container rail cars. Page 2-26. (2572)

### Response to RT-3

Draft EIS Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, noted that Proposed Action-related train routes from mines in the Powder River Basin and Uinta Basin to the project area and the return of empty trains from the project area were assumed to be the same as current BNSF and UP train operational protocols in Washington State, including existing coal unit trains. Draft EIS Chapter 5, Section 5.1*, Rail Transportation*, acknowledged that empty Proposed Action-related trains would return to points east via Stampede Pass based on current BNSF train operational protocols in Washington State. Draft EIS Section 5.1 described parameters assumed for Proposed Action-related trains, which would not include double-stacked containers cars.

## Comment RT-4

In 2012, BNSF changed its train operations protocol to enhance use of existing capacity using directional running. This strategy routes all westbound-loaded unit trains (including coal) from Pasco via the Columbia River Gorge to Vancouver, where they continue on the BNSF north-south main line to their final destination. Empty unit bulk trains from north of Vancouver, including Cowlitz County, return to Pasco and to points east via Stampede Pass. The Stampede Pass Tunnel is height limited to single height rail cars and does not allow double stacked Containers. To State all is in error. Page 5.1-6 SEPA DEIS pdf 12/243. (2572)

### Response to RT-4

Refer to Response to RT-3.

## Comment RT-5

The main concerns I have, were ones that others voiced at the meeting. Some of my biggest concerns have to do with the insufficient rail structure, what will the potential impacts be… derailments, accidents, potential environmental spills that could occur in land or water, potential fires if coal spills and ignites, traffic impacts, emergency vehicle impacts and delays locally (Longview) and along the train route… When and if will these rails be sufficient for the volume of the proposed project, and what price will we have to pay before they are up to capacity? Will there be permanent

environmental damage if we encounter a spill that we are under prepared to handle? As a tax payer, will I be responsible for paying for these clean ups? Or will people lose their lives because they can't get timely emergency assistance? Will people be forced to choose alternate routes to commute due to traffic delays, causing more CO2 emissions in addition to extra time cars are idling? Even if the new rails are built, how will local traffic still be impacted due to the sheer volume of the lengthy railcars? Will there still be long traffic delays, problems for emergency response teams? (2580)

### Response to RT-5

The transportation and greenhouse gas concerns raised by the commenter were analyzed in the Draft EIS in Chapter 5, Sections 5.1, *Rail Transportation*, 5.2, *Rail Safety*, 5.3, *Vehicle Transportation*, and 5.8, *Greenhouse Gas Emissions and Climate Change*. Potential impacts that could result on the natural environment from the Proposed Action, including impacts related to coal spills and spills of other hazardous materials, were described in the Draft EIS in Chapter 4, *Natural Environment: Existing Conditions, Project Impacts, and Potential Mitigation Measures*. In addition, Chapter 6, *Cumulative Impacts*, discussed cumulative impacts resulting from the Proposed Action combined with other past, present, and reasonably foreseeable actions. Other concerns raised by the commenter are outside the scope of a SEPA EIS. Refer to Response to RT-1. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

## Comment RT-6

I also object to the rail operations described as "Indirect Impacts." Rail operations are an integral part of the Proposed Action without which the project fails. The rail impacts are Direct. Required rail operations present significant adverse impacts both to rail traffic and road traffic. (2687)

### Response to RT-6

The Draft EIS considered direct and indirect impacts. Draft EIS Chapter 5, Section 5.0, *Introduction*, defined direct impacts as those that would result from either the construction or operation of the Proposed Action and occur in the project area. Indirect impacts are those that would result from construction or operation of the Proposed Action beyond the project area. Both direct and indirect impacts have the potential to be significant and adverse.

## Comment RT-7

I also object to the rail operations described as "Indirect Impacts." Rail operations are an integral part of the Proposed Action without which the project fails. The rail impacts are Direct. (2687)

### Response to RT-7

Refer to Response to RT-6.

## Comment RT-8

When the unit train enters the Project Area the last car will still be passing the last private crossing. Estimated speed and crossing times are not determined for the private crossings. These need to be considered. The DEIS does not state at what point the unit train will be slowing to enter the Project

Area. Presumably the train, even at 10 mph, cannot stop on a dime and will need to slow on entering the Project Area. Presumably the front of the train will travel at the same speed as the end of the train. What will be the speed of the last car when the front of the train enters the Project Area? At what point along the route will the last car be located when the train enters the Project Area? (2687)

### Response to RT-8

Draft EIS Chapter 5, Section 5.1, *Rail Transportation,* and the *SEPA Rail Transportation Technical Report*, described the methods and assumptions used to evaluate potential impacts of the Proposed Action on rail transportation. This section acknowledged train acceleration and deceleration would take place at various points on the Reynolds Lead and BNSF Spur. It also provided the estimated speed for Proposed Action-related trains at the public at-grade crossings on the Reynolds Lead and BNSF Spur. For the Draft EIS, a model was developed to estimate train speed on the Reynolds Lead and BNSF Spur. The findings were reviewed and confirmed by a separate rail expert for the Final EIS. Final EIS, Chapter 5, Section 5.1, *Rail Transportation*, has been revised to clarify that acceleration and deceleration were used to estimate the time Proposed Action-related trains would transit each at-grade crossing. The *SEPA Rail Technical Report* has been revised to describe the model that was used to estimate train speeds on the Reynolds Lead and BNSF Spur.

## Comment RT-9

At the beginning of the Reynolds Lead the train needs to stop while a switch is changed to move the train from the Spur to the Lead. “The electronic switch would eliminate the need for Proposed Action-related trains to stop while a train crew member operates the switch.” 5.1-16. While the train is stopped at this switch it appears to be blocking the 1st public crossing when the train is moving east to west toward the Project Area. Again, 1.3 mile loaded coal unit trains do not start on a dime. So what is the actual passing time at the Dike Road crossing to allow for a coal unit train to stop while the switch is changed and then to actually start and move again? What is the track distance required for the train to reach any of the suggested route speeds from a standstill?

Even if the switch is upgraded, what will be the speed limit through the switch from the Spur to the Lead? The speed through the Spur to Lead switch has relevance to the speed and passing times through the following heavily travelled at grade crossings. As the train enters the 3rd crossing at California Way, half of the train will still be moving through the switch and still blocking the 2nd crossing at 3rd Avenue.

With current track infrastructure, the DEIS gives the 3rd Avenue and California Way crossings the slowest speed limits of 8 mph, and the 4th and 5th crossings, Oregon and Industrial Way, increasing to 10 mph. However because the back of the train will still be moving through the slower crossings at the same time they have entered the Oregon and Industrial Way crossings, the increased speed limits for the 4th and 5th crossings would not be achievable. Passing times should be based on the speed limit of the slowest crossing when multiple crossings are affected at one time.

In short, the speed limits and passing times for at grade crossings in Table 5.1-4 are incomplete, simplistic, and unrealistic because it fails to take into account the private crossings and the Spur/Lead switch, and the distance and time it takes to move or stop a 1.3 mile coal unit train. This last factor is also variable due to weather, track conditions, and train equipment. Accurate passing times at major intersections are critical to understanding adverse impacts on road traffic and congestion. (2687)

## Response to RT-9

Refer to Response to RT-8.

Proposed Action-related trains with current infrastructure on the BNSF Spur and Reynolds Lead would not be required to stop at the existing switch. Therefore, under normal operating conditions, Proposed Action-related trains would not stop on the tracks and block the Dike Road crossing. Draft EIS Chapter 5, Section 5.1, *Rail Transportation*, provided the estimated travel speeds at all public crossings on the BNSF Spur and Reynolds Lead with current track infrastructure and planned track infrastructure. The estimated travel speed with current and planned track infrastructure at the Dike Road crossing is 10 miles per hour. Final EIS Chapter 5, Section 5.1, *Rail Transportation,* has been revised to include information from the Longview Switching Company (LVSW) indicating that it would make improvements as needed. LVSW would likely upgrade the traffic-control technology on both the BNSF Spur and Reynolds Lead from Track Warrant Control to Centralized Traffic Control. This would include adding an electronic switch connecting the Reynolds Lead to the BNSF Spur, which would eliminate the need for crew members to manually operate the switches. Proposed Action-related trains would not be required to stop at the switch with current or planned track infrastructure on the BNSF Spur.

# Comment RT-10

I have concerns about dramatically increased rail traffic, the negative impacts associated with coal trains specifically, due to train length, weight, content, and polluting capacity. Please study the effects of these especially between Utah and Longview as there are several water ways these tracks run along. (0034)

## Response to RT-10

Draft EIS Chapter 5, Section 5.1, *Rail Transportation*, assessed potential impacts from the Proposed Action on rail transportation. Draft EIS Chapter 4, Sections 4.2, *Surface Water and Floodplains*, and 4.5, *Water Quality*, assessed potential impacts on waterways in the study areas defined for the EIS analysis. These study areas for water quality and surface water did not include the rail routes to the Powder River Basin and the Uinta Basin. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment RT-11

Recent studies conducted by Gibson Traffic Consultants in the western Washington cities of Seattle, Edmonds, Burlington, Marysville, Mt Vernon, and Stanwood suggest potentially severe consequences due to the proposed increase in rail traffic intensity associated with increased train traffic. Adverse effects include increased risk of accidents, impacts to the city's level of service, decreased ability to provide effective emergency response times, and possible interference with the local freight delivery systems affecting the local economy. Please include a study of this in the EIS. (0037)

## Response to RT-11

The cities in western Washington identified by the commenter are outside of the study area for potential rail transportation, rail safety, and vehicle transportation impacts evaluated in the EIS for

the Proposed Action. Based on existing BNSF operations in Washington State, Proposed Action-related trains would not be expected to travel through the cities mentioned by the commenter. Final EIS Chapter 5, Section 5.1, *Rail Transportation,* Figure 5.1-1, shows the expected routes of loaded and empty Proposed Action-related trains. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment RT-12

Train operations along mainline rail corridors should be attributed to baseline conditions. The Draft EIS should not attribute impacts from the operation of trains through mainline rail corridors to an individual project. Potential impacts from increased rail traffic on those mainline corridors should be -- and indeed are typically evaluated only when permits are sought to expand rail system capacity. (3070)

## Response to RT-12

The Proposed Action evaluated in the Draft EIS was described in Chapter 2, *Project Objectives, Proposed Action, and Alternatives*. Specifically, Chapter 2 described the off-site transport of coal by vessel and rail that is considered as part of the Proposed Action. SEPA Rules identify "transportation" as an element of the environment to be analyzed in a SEPA EIS (WAC 197-11-444). As described in Chapter 5, Section 5.1, *Rail Transportation*, the types and number of baseline and projected train traffic beyond Longview Junction on main line routes were developed from the *Washington State Rail Plan* (Rail Plan) (Washington State Department of Transportation 2014). As noted in Section 5.1, the Rail Plan's demand and capacity forecast did not include the rail traffic for proposed coal or crude oil projects in Washington State, including the Proposed Action. The Rail Plan indicates that if any specific proposed coal export facilities in the Pacific Northwest are completed, they could place additional demands on the state's rail system and accelerate the rate of growth in traffic. Therefore, Proposed Action-related train traffic was not attributed to the projected future baseline rail traffic numbers provided in the Rail Plan. Proposed Action-related rail traffic is evaluated in addition to baseline rail traffic because the respective traffic volumes would not occur without construction and operation of the proposed export terminal.

# Comment RT-13

The Draft EIS errs by attempting to attribute to the Project rail impacts from use of the mainline interstate rail corridor. These impacts should be considered appropriately as part of the No-Action Alternative because they will occur with or without the Project. MBT-Longview proposes to construct a port facility that will provide a transloading service to customers seeking to export coal. Coal will be delivered to the transloading facility through use of the U.S. freight rail transportation system, just as a myriad of other products and commodities are delivered by rail to port facilities for transshipment. But unlike SEPA reviews for other proposed port facilities, the Draft EIS extends its analysis far beyond the impacts caused by increases in localized train traffic. Instead of limiting its analysis to rail traffic from the main interstate rail line to the Project, the Draft EIS includes an unprecedented attempt to discern impacts caused by the use of interstate rail corridors by future customers desiring to use its services. Rather than identifying Project impacts, however, the Draft EIS dwells on the obvious fact that over time, use of the interstate freight rail system will experience growth in the number of trains as it accommodates the economic growth of the region. But this will happen with or without the Project. (3070)

## Response to RT-13

Refer to Response to RT-12.

# Comment RT-14

The Draft EIS's mitigation discussion compounds these errors by requiring MBT-Longview to mitigate for the Project's contribution to the previously planned for and entirely expected transportation growth on these interstate rail lines. The rail capacity analysis used in the Draft EIS was based on the WSDOT 2013 – 2035 Rail Plan (State Rail Plan) forecast. The State Rail Plan recognizes that the rail system is intended to serve a wide variety of customers who have no operational control over these interstate rail lines.

The Plan also recognizes that the rail system is planned, designed, constructed, and managed to operate at or as near full capacity as market demand allows. The Plan forecasts that these rail lines will face capacity constraints by 2035 as a result of expected economic growth. The State Rail plan also recognizes that a rapid increase in the volume of any particular commodity shipment could create capacity constraints prior to 2035. However, rather than viewing a rapid increase in shipment of a particular commodity as a problem, the State Rail Plan affirmatively anticipates "the Class I railroads (BNSF and UP) and other infrastructure owners will likely address key capacity issues as they emerge." State Rail Plan at page 39. In other words, the possibility that the state system will reach capacity constraints more rapidly should not be treated as an "impact" in the Draft EIS because the railroads will be highly motivated to address anticipated system capacity constraints before they become a problem. (3070)

## Response to RT-14

The EIS does not propose or require the Applicant to mitigate for rail transportation operations or infrastructure. The Draft EIS identified main line segments where Proposed Action-related trains would contribute to the segment reaching capacity, if no improvements were made to expand capacity by 2028. The Draft EIS acknowledged that BNSF and UP would be expected to make the necessary investments or operational changes to accommodate the growth in rail traffic, but it is unknown when these actions would be taken or permitted.

# Comment RT-15

The No-Action Alternative should conclude that existing capacity will be reached with or without the Project. The Draft EIS rail capacity analysis acknowledges that the construction and operation of the MBT-Longview Project would NOT exceed existing capacity. The EIS should be revised to acknowledge that the Project simply would not cause a significant net impact when compared to the No-Action Alternative. (3070)

## Response to RT-15

Refer to Response to RT-12. The No-Action Alternative would require 2 trains along the Reynolds Lead and BNSF Spur with an undefined destination beyond Longview Junction. The Proposed Action would add 16 trains on main line routes between the Idaho/Washington State line and the project area. As described in Draft EIS Chapter 5, Section 5.1, *Rail Transportation*, the Proposed Action would result in impacts on rail transportation that would not occur under the No-Action Alternative

(e.g., 16 trains per day on main line routes between the Idaho/Washington State border and the project area). The analysis of potential impacts on rail transportation in the Draft EIS acknowledged that BNSF and UP would be expected to make the necessary investments or operational changes to accommodate the growth in rail traffic, but it is unknown when these actions would be taken or permitted. The Draft EIS identified main line segments where Proposed Action-related trains would contribute to a segment reaching capacity if no improvements were made to expand capacity by 2028.

# Comment RT-16

Accordingly, the Draft EIS erroneously concludes that the indirect impacts of trains serving the Project will cause rail capacity to be exceeded at almost all points along BNSF's line in Washington and will delay or block other rail users. If future growth in rail system use results in blockages and delays, those impacts would be caused by a failure in rail system management, not the construction and operation of a single port terminal which plans to use existing capacity. Put simply, potential congestion is not an environmental impact issue; it is a planning issue for BNSF and UP. By its very nature, the rail system is managed to accommodate growth and ongoing economic activity. (3070)

## Response to RT-16

Refer to Response to RT-1 and Response to RT-12.

# Comment RT-17

The Draft EIS improperly suggests mitigation measures to address impacts attributable to the No-Action Alternative. The DEIS considers potential mitigation that "could include upgrading main track, adding new main track, or extending or adding siding". See DEIS at page 5.1-24. However, the trains bound for the Project only represent a portion of total train traffic. A condition that requires mitigation for impacts caused by the use of the existing rail system by others would constitute an unconstitutional regulatory taking. This sort of mitigation requirement lacks the requisite "rough proportionality" and is an unlawful exaction. It is not an applicant's obligation to mitigate pre-existing conditions or the natural expansion of rail use within existing capacity constraints. (3070)

## Response to RT-17

Regarding the No-Action Alternative, refer to Response to RT-15. Regarding mitigation, refer to Response to RT-14 and the Master Response for Mitigation Framework.

# Comment RT-18

The Final EIS should affirmatively recognize that the U.S. interstate rail transportation system is managed to function near or at capacity. The Final EIS should state that growth in rail system use, and future increases in rail system capacity, are attributable to the No-Action Alternative rather than an adverse impact attributable to the Project. The Final EIS should also recognize that analysis of the rail system along the mainline in Washington State is for disclosure purposes only. Finally, the Final EIS should acknowledge that the Project will not cause a probable adverse direct or indirect impact related to interstate rail system capacity and therefore need not mitigate for what is more properly described as No-Action Alternative effects. (3070)

## Response to RT-18

Refer to Response to RT-12 and Response to RT-15. The purpose of a SEPA EIS is to provide information for agency decision-makers and the public regarding the potential environmental impacts associated with a proposal and the mitigation measures that could be implemented to reduce those impacts. Refer to the Master Response for Purpose and Focus of the EIS.

# Comment RT-19

Similarly, impacts resulting from train or vessel traffic are also affected by the inherent difficulties with making accurate forecasts of train or vessel traffic over the study period. It is speculative and not reasonably foreseeable to conclude that construction of the Project will cause train or vessel traffic to increase. Rail and vessel traffic naturally ebbs and flows due to a variety of factors, such as future market conditions, competing modal choices, and a diverse set of rail customers with different demands for rail services, etc. As a system, the railroad is designed, permitted, and constructed to operate at capacity, with that capacity managed by its owner/operator, as it has traditionally occurred for decades. Indeed, as the Draft EIS Technical Reports and the Draft EIS noted, these impacts resulting from the rail system operating at capacity will occur with or without the Project, and will be avoided or reduced to below a level of significance through infrastructure improvements or transportation management by the parties who own or operate these transportation systems. Due to the dynamic nature or traffic, no overall increase in rail traffic above historical levels may be attributed to the Project. While disclosing that there is a substantial uncertainly with regard to any forecast for future rail traffic, even using the most current forecasts as to train numbers, the Washington State Rail plan forecasts that rail capacity will be reached by 2035 without this Project. Because these impacts will occur with or without the Project, SEPA requires that they be studied as part of the no-action alternative. An impact wholly associated with a train traffic volume level already predicted and evaluated in Washington should, where logic and fairness apply, be attributed to the No-Action Alternative. The analysis in the Draft EIS concludes that adding the trains bound for the Project site will result in mainline rail capacity being reached earlier than 2035 and that in itself was determined to be a significant indirect impact. This conclusion is in error, and must be revised. Reaching capacity a few years sooner than the State Rail Plan predicts is not a significant indirect impact. Temporal or timing difference is not a significant adverse impact. The DEIS must disclose that the impact of reaching capacity earlier than 2035 is based upon speculation and that substantial uncertainty exists due to the complexities associated with predicting future rail use due to uncertainties in future rail demand. The Draft EIS should adjust their conclusion to note that adding the trains associated with the Project may result in rail capacity being reached earlier than 2035, but that the timing difference is not a significant indirect impact. (3070)

## Response to RT-19

Refer to Response to RT-12 and Response to RT-15.

An explanatory footnote has been added to Final EIS Chapter 5, Section 5.1.3.2, *Impact Analysis,* regarding the role of uncertainty in the methods used to determine existing and future baseline rail traffic.

# Comment RT-20

The following are four initial examples of analytic errors in the Draft EIS regarding rail transportation capacity. First, the Draft EIS does not recognize that the rail system in the United States and the State of Washington is managed to serve customers; the owners seek to operate the system at full capacity, irrespective of any specific commodity or demand for access to the railroad system. The very nature of the managed rail system, as recognized by WSDOT in the State Rail Plan, is that there may be capacity constraints, but the system is not physically capable of exceeding capacity. Being at or near capacity is not a significant adverse impact caused by a port facility. Second, the analysis in the Drat EIS assumes a growth in train traffic between 2015 and 2028. It then assigns all of the train trips to the MBT-Longview facility as additional trips not accounted for in the background growth. See Table 5.5-5 Infrastructure Capacity and Projected Rail Traffic on page 5.5-18 of the Draft EIS. Because the Project is proposing to use only existing rail capacity, the effects of such rail use should be accounted for as part of the No Action Alternative as rail use on the mainline is already authorized and does not identify specific source, destination or commodity. MBT-Longview's proposed facility operation is not the proximate cause of rail impacts or the rail system potentially reaching capacity in the future. Third, the State Rail Plan recognizes that there are multiple factors that contribute to the rail system reaching capacity constraints, none of which can be ascribed to a particular commodity or transportation infrastructure facility. The Draft EIS erroneously seeks to ascribe the rail system reaching capacity constraints in 2028 to the Project. Fourth, as with vessel transportation, the temporal or timing difference between the rail system being projected to reach capacity constraints in 2028 is speculative, and is not a significant impact. The substantial uncertainty of the rail forecast should be disclosed, and the increase in the MBT-Longview facility traffic cannot be considered a significant adverse impact. The Final EIS must correct these errors by affirmatively stating that the rail system reaching capacity constraints is not a probably significant adverse impact caused by the Project. Nor is it something that MBT-Longview can control. The Final EIS should also reflect that the rail system is managed by the owners of the system to assure that its customers' needs are met and that capacity constraints cannot be exceeded. (3070)

## Response to RT-20

Refer to Response to RT-12 and Response to RT-15. Final EIS Chapter 5, Section 5.1, *Rail Transportation*, has been revised to clarify that while certain segments would exceed capacity without Proposed Action-related trains, Proposed Action-related trains would contribute to these segments exceeding capacity if no improvements were made to expand capacity by 2028. Therefore, with existing infrastructure and using the methods to identify potential baseline rail traffic in 2028, Proposed Action-related trains would contribute to three segments exceeding the capacity in 2028, and Proposed Action-related trains could result in an unavoidable and significant adverse impact on rail transportation.

# Comment RT-21

The information provided in the State DEIS is helpful. The EPA suggests that additional information would make the analysis more complete, particularly the potential adverse implications of exceeding capacity along rail segments, including impacts on the transportation of passengers and commercial goods, and effects on regional economic activity. In addition, a rail system that is over capacity may need infrastructure improvements that have the potential to cause their own adverse

impacts. We suggest that the EIS consider whether likely necessary improvements-for example, adding main track, sidings, expanding yards or grade separation projects- could adversely affect communities or the environment, and what mitigation could be proposed to address any such impacts. Where the additional information on the implications of rail segment capacity exceedances and necessary infrastructure improvements indicate that there are projected adverse environmental impacts, we suggest that the EIS also evaluate appropriate mitigation. As with all analysis of mitigation, it is useful to include consideration of the likelihood that proposed mitigation would be implemented, and, if implemented, how effective that the mitigation is likely to be in reducing adverse implications for passengers and regional economic activity. (3306)

### Response to RT-21

Refer to Response to RT-1.

The Proposed Action does not involve expanding or developing new rail lines beyond the project area. The Master Response for Connected or Similar Actions explains why improvements to existing rail infrastructure were not evaluated in the EIS. The mitigation presented in the Draft EIS was developed within the limits of the SEPA regulatory framework described in the Master Response for Mitigation Framework. Mitigation measures included as permit conditions would become legal requirements of the Applicant. The Final EIS has been updated to include mitigation monitoring and reporting requirements for the Applicant as proof of compliance with the mitigation requirements. Mitigation monitoring reports would be part of the public record. For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

## Comment RT-22

The Washington State Rail Plan capacity analysis relied on 2010 data from the Freight Analysis Framework as well as 2012 data from the Carload Waybill Sample. While the DEIS does acknowledge and describe some limitations of the Washington State Rail Plan, WSDOT has some concerns with the DEIS reliance on the 6 year old data presented in the plan as well as the application of the data. The State Rail Plan data is derived from aggregate data intended to illustrate order of magnitude. Additionally, infrastructure changes to the freight rail system have occurred since 2010 and should be included in the analysis. The Final EIS should consider this and adjust the analysis as appropriate. (2734)

### Response to RT-22

Draft EIS Chapter 5, Section 5.1, *Rail Transportation*, used the most recent Washington State Department of Transportation (WSDOT) Rail Plan available to assess potential impacts of the Proposed Action on rail transportation.

## Comment RT-23

The DEIS states that impact to rail transportation by 2028 could be significant on several sections across the state but the implementation of mitigation measures is unclear. As a result, the Final EIS should make sure to include both recent and future improvement to the rail network that are planned or contemplated. The Final EIS should also identify mitigation strategies or an ongoing

monitoring process to ensure improvements are made to address impacts. Additionally, it is unclear if host railroads were consulted or if they provided relevant information for the analysis. (2734)

## Response to RT-23

Refer to Response to RT-21. Data and information used in the analysis of rail transportation were identified in Draft EIS Chapter 5, Section 5.1, *Rail Transportation*.

# Comment RT-24

| Item | Chapter & Section (page #) | Comment | Reviewer |
|---|---|---|---|
| 1 | Chapter 5: Operations: Existing Conditions, Project Impacts, and Potential Mitigation Measures | DEIS place heavy reliance on the State Rail Plan (SRP) and Freight Mobility Plan (FMP).<br>SRP data is from 2010 and derived from aggregate data intended to illustrate order of magnitude.<br>Freight rail world has changed since 2010. | Jason Beloso |
| 2 | Chapter 5: Operations: Existing Conditions, Project Impacts, and Potential Mitigation Measures | Unclear whether host railroads were consulted or provided relevant information for the analysis. | Jason Beloso |
| 3 | Chapter 5: Operations: Existing Conditions, Project Impacts, and Potential Mitigation Measures | Expected routes of empty BNSF trains only shows Stampede Pass. Direction running via Stampede Pass is preferred; Stevens Pass may also be used as an alternate route. Please analyze. | Jason Beloso |
| 4 | Chapter 5: Operations: Existing Conditions, Project Impacts, and Potential Mitigation Measures | The DEIS says the impacts to rail transportation by 2028 could be significant on several sections across the state (5.1-24). As a result, the DEIS should include both recent and future improvements to the rail network that are planned or contemplated. | Chris Herman |
| 5 | Chapter 5: Operations: Existing Conditions, Project Impacts, and Potential Mitigation Measures | Significant impacts to rail operations were identified. The EIS should identify mitigation strategies or an ongoing monitoring process to | Chris Herman |

| | |
|---|---|
| | ensure improvements are made to address impacts. |

(2734)

## Response to RT-24

The following responds to the items in the table above.

- **Item 1**. Refer to Response to RT-22.
- **Item 2.** Data and information used in the analysis of rail transportation were identified in Draft EIS Chapter 5, Section 5.1, *Rail Transportation.*
- **Item 3.** Refer to Response to RT-3.
- **Items 4 and 5.** Refer to Response to RT-1 and Response to RT-21.

# Comment RT-25

The proposed facility would cause significant adverse impacts to these areas. First, the substantial increase in coal by rail would create an unacceptable risk of a major derailment of trains carrying coal, oil and other hazardous products, and spill. Such an accident would be harmful to residents in the Gorge, to its economy, and to its scenic, natural, cultural, and recreation resources. Second, the substantial increase in rail traffic would cause significant adverse impacts from increased delays at railroad crossings, increased noise, and increased air pollution. The increased rail traffic would also likely contribute to the need for additional railroad construction and maintenance in the Gorge, potentially further harming Gorge resources. Finally, the large increase in the daily number of fully loaded 125-rail car uncovered coal trains would contribute unacceptable levels of fugitive coal dust emissions and depositions in the NSA that would require more railroad maintenance. The heavier trains result in more damage to tracks so the weight of coal trains must be considered in the rail accident calculations. BNSF acknowledges that coal dust gets into the rail ballast and damages the track infrastructure and that this damage has eventually resulted in derailments. The extra derailments due to damage to railroad ballast caused by fugitive coal dust emissions must be considered in the calculation of rail accidents caused by the proposed project. (3107)

## Response to RT-25

Draft EIS Chapter 5, Section 5.7, *Coal Dust*, discussed the potential safety impacts of coal dust, including ballast fouling. Section 5.7 estimated coal dust deposition that would occur along the rail line routes that would be used by Proposed Action-related trains on the BNSF main line in Cowlitz County and the BNSF main line in Washington State outside of Cowlitz County. However, there are no federal or state rail safety guidelines regarding acceptable levels of coal dust deposition along a rail line. The Draft EIS acknowledged that coal dust deposition in railroad ballast may negatively affect the stability of the ballast. Draft EIS Chapter 5, Section 5.2, *Rail Safety*, evaluated potential impacts on rail safety based on Federal Railroad Administration (FRA) accident data, including derailments.

The Proposed Action does not involve expanding or developing new rail lines in the Columbia River Gorge. Refer to the Master Response for Connected or Similar Actions for a discussion of why potential future rail line improvements are not evaluated in the EIS. FRA general regulations require

track inspections to ensure they are in compliance with federally regulated safety standards. These regulations require inspections, maintenance, and repairs and as such, increased accidents due specifically to train weight are not a probable, significant impact.

# Comment RT-26

3) In the Modify Applicant Mitigation in the Rail Transportation section at 5.1.7.1, page 5.1-23, MM RT-1 and in the Rail Safety section at 5.2.7.1, page 5.2-10, MM RT-1, include the commission as an entity that would receive the required report. Currently, this section reads "To address potential impacts to rail capacity on the Reynolds Lead and BNSF Spur, the Applicant will coordinate with LVSW before each identified operational stage (Stage 1a, Stage 1b, and Stage 2) that change average daily rail traffic on the Reynolds Lead and BNSF Spur. The Applicant will prepare a report to document the coordination with LVSW and changes to average daily rail traffic. The report will be submitted to LVSW and Cowlitz County at least 6 months before the change in average daily rail traffic." The last sentence in both sections should be reworded to "The report will be submitted to LVSW, Cowlitz County and the Utilities and Transportation Commission at least 6 months before the change in average daily rail traffic." The commission should be notified of these changes in average daily rail traffic so that the inspection work of our FRA certified inspectors can be directed, as necessary. (3311)

## Response to RT-26

Final EIS Chapter 5, Sections 5.1.7.1, *Applicant Mitigation*, and 5.2.7.1, *Applicant Mitigation*, have been revised to update the mitigation measure.

# Comment RT-27

In no chapter, section, or appendices in this Draft EIS are we able to find any information as to the current existing condition of the BNSF-Cowlitz River Bridge. It does speak of potential threats in relation to the future potential issues with the bridge and it does mention a "possibility" of improvements to the bridge, but it doesn't mention why?

It is indicated that there might be upgrades to this bridge, but no planning, implementations, or funds have gone into any actions for any bridge work as indicated in section 5.1.5.1 (page 5.1-16 and 17). The Applicant does not discuss the bridge's age, fitness for the 200% increase in rail traffic, or the effect of many heavily loaded coal trains using the bridge daily. As the bridge is located on a spur, the Cowlitz Indian Tribe requests the Applicant and Action Agencies provide additional information and analysis to detail the current state of the bridge and what impact the bridge would endure in regards to the current use & proposed action. We are even wondering if this bridge was only meant to be temporary. What happened to the previous bridge before the current one? We believe it is totally justified that a detailed engineer report of existing conditions be presented. It should have been presented in this Draft EIS.

- We request that more analysis and information regarding the BNSF Cowlitz River Bridge and that the Action agencies update the Draft EIS and re-issue another Draft EIS for another comment period before a Final EIS is issued.
- We request that the current use, proposed Action and this SEPA process should cease until all issues, concerns, processes, and potential solutions to the BNSF-Cowlitz River Bridge are resolved.

- With current conditions of the BNSF-Cowlitz River Bridge and if railroad users obey the rules attached to the bridge; if there is an accident due bridge failure; who would be the responsible party?
- What would be the potential impact if a derailment would occur at the Cowlitz River Bridge?

The Cowlitz River is considered critical habitat by federal officials for the health of Columbia River stocks of federally Endangered Species listed eulachon and salmonids. In regards to eulachon, the Cowlitz River is considered by many as a key environment for their continued existence within the Columbia River system. Any accident/derailment caused by the failure of the BNSF-Cowlitz River Bridge could have irreparable harm to the status of these threatened species. We believe that it is imperative and necessary that the BNSF-Cowlitz River Bridge is adequately addressed and mitigated today (or yesterday) before anymore industrial related rail traffic utilizes this Bridge. The proposed Coal Terminal shouldn't even be considered until the safety and environmental threat associated with the condition of the Bridge's suitability for long-term industrial traffic is adequately addressed. (3227)

### Response to RT-27

Final EIS Chapter 5, Section 5.1, *Rail Transportation*, has been revised to include information the co-leads obtained from FRA regarding the Cowlitz River Bridge. Existing operations of the bridge were discussed in Draft EIS Chapter 5, Section 5.1, *Rail Transportation*.

Potential impacts on fish resulting from coal spills during rail transport were described in Draft EIS Chapter 4, Section 4.7, *Fish*. Potential impacts on rail safety were described in Draft EIS Chapter 5, Section 5.2, *Rail Safety*.

## Comment RT-28

This study does not contemplate what these improvements may be or where they may occur. Southwest Washington has had a history of rail improvements that have impacted category 1 wetlands, and high functioning, fish bearing rivers and streams. The potential significant adverse environmental impact of a rail buildout to support operations is a topic that requires more research at this phase of the proposed project. (3059)

### Response to RT-28

Refer to Response to RT-1 and Response to RT-21.

## Comment RT-29

The DEIS notes that rail infrastructure investments will be necessary to deal with increased rail traffic, but no investments in infrastructure improvements are proposed as mitigation outside the local project area. Instead, proposed mitigations along rail main lines are focused on coordination and notification, shifting the burden for costly infrastructure improvements for crossing safety and traffic to state and local governments. (3253)

### Response to RT-29

Refer to Response to RT-1 and Response to RT-21.

# Comment RT-30

The Co-Leads should take note that the Pacific Northwest Rail Corridor Environmental Assessment, written and approved by Washington Department of Transportation and the FRA, two agencies with far more expertise on rail issues, found that adding eight trains to the BNSF system in the same geographic area resulted in no environmental impacts (See additional reference below under "Terrestrial Wildlife"). (3218)

## Response to RT-30

The study cited by the commenter is for the analysis of a separate and distinct proposed action. The analysis of this project is unrelated to the analysis of the Proposed Action and the impacts resulting from these distinct proposed actions are independent and unrelated.

# Comment RT-31

One major flaw infects all of the DEIS analyses related to rail. Buried in the DEIS is the surprising assumption that a 10% increase in "throughput" can be achieved from rail car capacity by 2028. DEIS at 5.1-4. It is not stated how 10% more coal will fit in the same size rail cars, nor is it at all self-evident. The assumption is totally unwarranted. If anything, it is likely that any additional future coal dust suppression mechanisms, like load profiling or a requirement for covered rail cars, would reduce the amount of coal that could be transported per car. In other words, as currently stated, the rail analysis from the outset underestimates by at least 10% all of the potential impacts. Delays, accidents, and pollution would all be 10% higher than disclosed in the DEIS. This will need to be corrected in the FEIS. (3277)

## Response to RT-31

Draft EIS, Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, described the Proposed Action proposed by the Applicant. The information referenced by the commenter was provided by the Applicant. As explained in Chapter 2, the Proposed Action would have a maximum annual throughput capacity of up to 44 million metric tons of coal per year. According to the Applicant, proposed rail operations and coal export terminal design would support terminal throughput of 40 million metric tons per year. The Proposed Action is based on a throughput of up to 44 million metric tons of coal per year. The Applicant assumes a 10% increase in throughput (4 million metric tons of coal per year) is possible with rail car capacity increases, through process efficiencies and technological improvements by 2028, the first year of assumed full operations. The co-lead agencies confirmed this assumption with the Applicant during development of the Draft EIS; it was also confirmed in the Applicant's comment letter on the Draft EIS. The EIS considered the maximum throughput of the Proposed Action.

# Comment RT-32

The DEIS openly acknowledges that infrastructure on the BNSF Spur and Reynolds Lead is effectively incapable of handling the proposed increase in rail traffic due to capacity constraints. See, e.g., DEIS 5.16-16; 5.1-10 (maximum existing capacity of BNSF Spur and Reynolds Lead is 16 trains/day, and there is already traffic on it). Similarly, other components of the rail system cannot function with this project in place without significant upgrades. However, it further observes that there is a proposal to upgrade that infrastructure to accommodate the traffic, although that project

is neither "funded or permitted." DEIS 5.1-16. This appears to be a troubling effort by the proponent to unlawfully segment a single project into multiple components for environmental review. (3277)

### Response to RT-32

Final EIS Chapter 5, Section 5.1, *Rail Transportation*, presents the revised capacity estimate for the BNSF Spur and Reynolds Lead. A simulation model was used to estimate the theoretical capacity of the BNSF Spur and Reynolds Lead. The theoretical capacity was calculated based on the number of main tracks, train parameters, speed, and distance. It was determined the theoretical capacity of the BNSF Spur and Reynolds Lead is approximately 24 trains per day (12 trains in each direction). Final EIS Chapter 5, Section 5.1, *Rail Transportation*, determined the Reynolds Lead and BNSF Spur would have the capacity to handle baseline rail traffic and Proposed Action-related rail traffic. The Master Response for Connected or Similar Actions explains why improvements to existing rail infrastructure were not evaluated in the EIS.

## Comment RT-33

The Washington State Department of Transportation Freight Rail Plan 2010-2030 (attached to the Coalition's scoping comments at Ex. 164) indicates that a number of critical sections of track, including the Columbia Gorge, were at or near capacity in 2008 and predicted further congestion by 2028. Other key chokepoints are identified in the Washington State Transportation Commission's Statewide Rail Capacity and System Needs Study, December 2006 (Scoping Comments Ex. 162), and the Heavy Traffic Ahead study (Scoping Comments Ex. 148). Additional critical bottlenecks include the Columbia Gorge and the Spokane-Sandpoint Corridor (known in railroad parlance as "the Funnel" due to the fact that most major east-west rail corridors converge there). This project would clearly contribute to additional congestion in these areas. However, the DEIS masks the true extent of these impacts. (3277)

### Response to RT-33

Draft EIS Chapter 5, Section 5.1, *Rail Transportation,* described the Proposed Action's potential impacts on rail transportation, including impacts on rail line capacity. Section 5.1 assessed the potential impacts on rail transportation in the areas identified by the commenter, including the Columbia River Gorge and the BNSF main line east of Spokane. Section 5.1 identified main line segments where Proposed Action-related trains would contribute to a segment reaching capacity if no improvements were made to expand capacity by 2028. Refer to Response to RT-1.

## Comment RT-34

Specifically, there is abundant evidence that rail congestion is causing economic harm to other users of the system, as fossil fuel freights—which are more profitable for the rail lines—displace agricultural products and other traffic. However, this impact is not evident in the DEIS. The FEIS should fully analyze the impacts on Northwest shippers if inbound and outbound freight traffic is diverted or eliminated due to the competition with coal trains. Unless mitigated with significant capacity additions, the additional increase of coal train traffic is likely to present significant adverse impacts on other users of the rail line, including grain and fruit shippers, intermodal users, ports, industries, aircraft manufacturers and passenger rail—all of whom are critically dependent on timely and affordable access to the rail system. This issue is particularly consequential in the context of cumulative effects. Even so, this terminal has such a significant impact—16-mile-plus-long trains

each day in many parts of the state and region—that even on its own there is an identifiable impact. (3277)

### Response to RT-34

Refer to Response to RT-1 and Response to RT-21.

## Comment RT-35

Similarly, the DEIS fails to analyze impacts, mitigation measures, and potential funding relating to the use of passenger rail on these same lines. The Amtrak Cascades Mid-Range Plan discusses how Washington and passenger rail advocates have significant plans for increases of passenger rail capacity, including adding additional high-speed passenger trains on the I-5 corridor. The DEIS must analyze how existing and expanded passenger rail uses will be impacted if freight traffic increases. The DEIS should also consider existing and prospective public funding for rail capacity to purchase passenger rail service. The public has spent billions of dollars on rail improvements to ensure that passenger rail fits with existing capacity, and it is imperative that the DEIS fully analyzes the past and prospective investments to ensure that public funds are not spent for private purposes. (3277)

### Response to RT-35

Draft EIS, Chapter 5, Section 5.1, *Rail Transportation*, described passenger rail service along the rail line segments on which Proposed Action–related trains would travel and included an analysis of potential impacts on rail transportation resulting from the Proposed Action. Refer to Response to RT-1.

## Comment RT-36

The DEIS must also account for the demand for public investment spurred by this project. Rail infrastructure improvements are anticipated, although it is far from clear how those improvements will be funded. Rail lines and infrastructure will also need to be regularly maintained, and there will be mitigation costs for structures such as overpasses, tunnels, and railroad crossings. The DEIS must also address whether the public will be expected to bear any costs for infrastructure constructed for private benefits. Federal and state governments commonly bear a significant share of the costs of freight rail capacity improvement projects. The DEIS should include all needed capacity improvements that will be required to address at least those areas where the planned oil train traffic will exceed the capacity of the existing system. (3277)

### Response to RT-36

Refer to Response to RT-1 and Response to RT-21.

## Comment RT-37

The DEIS sets a precedent by attempting to evaluate the effect the project will have on overall transportation infrastructure and throughways. While it is not unusual to evaluate a project for its transportation impacts, the Millennium DEIS adds no value in the way it examines this question. Under federal law, common carriers are required to provide service to all customers. How they accomplish this task is up to the utilities themselves. This is as much the case for BNSF as it is for

Puget Sound Energy, or a wireless provider. The DEIS adds no value by evaluating an impact outside the state's power to address. (3168)

### Response to RT-37

SEPA Rules state that a lead agency shall not limit the analysis of impacts from a proposal only to those aspects under its jurisdiction, including state and local boundaries (WAC 197-11-660(4)(b)). In accordance with SEPA Rules, the SEPA co-lead agencies defined the geographic study areas for the Draft EIS analyses to encompass the areas where the Proposed Action could result in significant adverse environmental impacts. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

## Comment RT-38

The DEIS also does not analyze the significant environmental impacts that would occur if rail improvements were made to facilitate the increased traffic. According to the DEIS, there would be a 64.7% increase in rail traffic over the Fallbridge Subdivision of the BNSF line through the Columbia River Gorge National Scenic Area at full operation which would put the tracks at 16 trains over capacity per day. DEIS at 5.1-11, 5.1-13. The DEIS acknowledges that selecting "[t]he Proposed Action would add 8 trains [per day] to a segment that would exceed capacity under 2028 baseline conditions." DEIS at 5.1-17. The DEIS then concludes that "[i]t is expected that BNSF and UP would make the necessary investments or operating changes to accommodate the growth in rail traffic, but it is unknown when these actions would be taken or permitted." 29 DEIS at 5.1-17. This significant foreseeable indirect adverse effect must be disclosed, analyzed, and mitigated in the EIS. (2508)

### Response to RT-38

Refer to Response to RT-1 and Response to RT-21.

## Comment RT-39

Either rail capacity would be increased due to the proposed project – resulting in significant adverse impacts to the protected resources of the Gorge – or rail capacity would not be increased and rail transportation would be negatively affected – resulting in a significant adverse impact to rail traffic in the Gorge. The conclusion that it is uncertain that the increase in rail will cause significant adverse effects on the environment is simply not supported by the DEIS. The EIS must disclose, analyze, and mitigate these significant adverse effects. (2508)

### Response to RT-39

Draft EIS Chapter 5, Sections 5.1, *Rail Transportation*, and 5.2, *Rail Safety*, assessed potential impacts on rail transportation and rail safety from the increase in traffic on rail routes for Proposed Action-related trains in Washington State, including through the Columbia River Gorge. Mitigation measures for these impacts were developed within the limits of the SEPA regulatory framework described in the Master Response for Mitigation Framework. The Proposed Action does not involve expanding or developing new rail lines in the Columbia River Gorge. Refer to the Master Response for Connected or Similar Actions for a discussion of why potential future rail line improvements are not evaluated in the EIS.

# Comment RT-40

The DEIS notes that without improvements to rail infrastructure to expand capacity, the Proposed Action could result in significant impacts on rail and vehicle transportation. However, no investments in infrastructure improvements are proposed as mitigation outside the local project area. Instead, proposed mitigations along rail main lines are focused on coordination and notification, shifting the burden for costly infrastructure improvements for crossing safety and traffic to communities like ours. (2449)

## Response to RT-40

Refer to Response to RT-1 and Response to RT-21.

# Comment RT-41

Double tracking will be required in many places, the report also says, and much rail infrastructure would need to be upgraded or replaced. Double tracking is already happening in communities like Cheney. WA. Bridges are on the decline, many are old. The FRA now allows officials in the U. S to report poor bridge infrastructure. I suggest the FEIS looks at anything reported in the travel area for rail for this new FRA program. (2536)

## Response to RT-41

Under FRA bridge safety standards, each track owner is required to adopt a bridge safety management program to prevent the deterioration of railroad bridges by preserving the bridges' capability to safely carry their respective and reduce the risk of human casualties, environmental damage, and disruption to the U.S. railroad transportation system (49 CFR 237.31). As such, all railroads in the study area are required by law to conduct inspections and maintain rail bridges along their tracks. Refer to Response to RT-27.

# Comment RT-42

Capacity issues will contribute to:

1. The sheer number of trains that will add more traffic to at-grade crossings for rail communities. The number of trains can produce negative impacts to businesses.
2. It will increase exposure to DPM and coal dust and thus, increase potential negative health impacts.
3. It will create more havoc for first responders and commuters.
4. It will create more noise for residents.
5. It will increase the chances for more derailments. (2536)

## Response to RT-42

The concerns raised by the commenter were analyzed in various sections of the Draft EIS including Chapter 3, Section 3.2, *Social and Community Resources*, and Chapter 5, Sections 5.2, *Rail Safety*, 5.3, *Vehicle Transportation*, 5.5, *Noise and Vibration*, 5.6, *Air Quality*, and 5.7, *Coal Dust*. The Master

Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

# Comment RT-43

We also wish to register concern for the lack of serious economic analysis of capacity issues on the rail lines serving the proposed port and the consequences to other shippers that result from the addition of 18 trains per day if the proposed port is constructed. (2268)

## Response to RT-43

Refer to Response to RT-1.

# Comment RT-44

In 2014, our report was updated with the publication of Heavy Traffic Still Ahead, http://www.heavytrafficahead.org/pdf/Heavy-Traffic-Still-Ahead-web.pdf

The report identified several issues most of which are not covered by the Draft EIS for MBT. They include:

- A major bottleneck is BNSF's 70.5-mile line between Sandpoint, ID, and Spokane, WA, which already has serious capacity issues and would feel the full potential impact of added BNSF PRB to PNW export coal trains. In addition, this line could see the addition of 22 trains per day of loaded and empty Bakken oil trains moving to the PNW.
- The 24.8 mile stretch between Huntley, MT, and Mossmain, MT (which traverses Montana's largest city, Billings) also represents a major bottleneck. Currently, this line handles approximately 18 to 22 trains per day. Total rail traffic through Billings could more than triple in a decade, depending on whether proposed export terminals are built in the Washington, or expanded in Canada.
- A variety of railroad freight shippers would likely be adversely impacted by tightened rail capacity if the export coal terminals are built. Intermodal container traffic and export grain traffic could experience higher freight rates, deteriorating service and higher equipment costs.
- Passenger and commuter rail traffic, including Amtrak's Empire Builder, which travels through the highly congested "Funnel" between Sand Point and Spokane, would likely be disrupted by increased rail congestion caused by an increase in export coal trains. (2268)

## Response to RT-44

Draft EIS Chapter 5, Section 5.1, *Rail Transportation*, assessed potential impacts on rail transportation that could result from the Proposed Action. The Draft EIS identified a potential unavoidable and significant adverse impact on rail transportation on the rail segment between the Idaho/Washington State Line and Spokane. Final EIS Chapter 5, Section 5.1, *Rail Transportation*, has been revised to provide additional details on the existing conditions and potential impacts on rail segments outside of Washington State. Regarding impacts on other freight, passenger, and commuter rail traffic, refer to Response to RT-1.

# Comment RT-45

DEIS Section 5.1.8 states: "Without improvements to increase capacity the rail line routs for the proposed action (the Reynolds Lead; BNSF Spur; and three segments on the BNSF main line routes in Washington State (Idaho/Washington State Line-Spokane, Spokane- Pasco, and Pasco-Vancouver) are not projected to have the capacity to handle the projected baseline rail traffic and Proposed Action-related rail traffic in 2028. BNSF could address capacity issues with capital improvements or operational changes, but it is unknown when these actions would be taken or permitted. Therefore, with existing infrastructure and using the methods to identify potential baseline rail traffic in 2028, the Proposed Action could result in a significant adverse environmental impact on rail transportation." The economic effects of these impacts on the ability of state agriculture products to get to market is not considered in the discussion. The FEIS should discuss how current and future rail line capacity needs will affect current state agricultural markets and the ability for getting Washington's agriculture crops to market using the current rail infrastructure. (2691)

## Response to RT-45

Refer to Response to RT-1.

# Comment RT-46

I think they should have frequency models for other users such as agriculture and Amtrak because the EIS itself explicitly says that currently the system from the Idaho line clear to Longview can't meet the rail traffic needs currently. It explicitly says that. So it needs in that infrastructure section account frequency of other users. (TRANS-SPOKANE-Q4-00006)

## Response to RT-46

Draft EIS Chapter 5, Section 5.1, *Rail Transportation*, described the methods to evaluate the potential impacts on rail transportation. Draft EIS Table 5.1-3, *Washington State Rail Route Segments*, identified estimated 2015 capacity and 2015 traffic in trains per day.

# Comment RT-47

The fee that the railroad is supposed to pay for environment mitigation going to the state as a whole, that should be paid to each individual county or city where the route goes through and paid on the basis of each level crossing that the train slows down, ambulance traffic or car traffic crossing the route of the coal train. Because there's going to be a lot of coal trains going through there and it's in small places, and they can do better with the money than just giving it to the State as a whole. (TRANS-PASCO-Q2-00002)

## Response to RT-47

The EIS does not propose a fee as mitigation for impacts on rail transportation. The mitigation presented in the Draft EIS was developed within the limits of the SEPA regulatory framework described in the Master Response for Mitigation Framework. For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

# Comment RT-48

Since the rail infrastructure is not sufficient, what would ensure that the new rail would actually be built? If it weren't actually built, the EIS should mention what rail would be bumped--Amtrak [?], wheat? (3545)

## Response to RT-48

Refer to Response to RT-1 and Response to RT-21.

# Comment RT-49

The DEIS acknowledges that the rail system in Longview simply can't handle 16 additional mile-plus-long trains of coal per day. [S-30] Who will pay for upgrades to the rail system? What will the impacts of those upgrades be? (3451)

## Response to RT-49

Refer to Response to RT-1 and Response to RT-21.

# Comment RT-50

Increasing rail traffic statewide would significantly exceed system capacity on almost all segments of rail in Washington. [S-30; 5.1-19] What will the economic impacts be for other users of the system, like agriculture? Who will have to bear the costs of improving the system? (3451)

## Response to RT-50

Refer to Response to RT-1.

# Comment RT-51

Unfortunately, in the Draft SEPA EIS Section 5.1 evaluation there does not appear to be tangible mitigation measures proposed in Applicant Mitigation (5.1.7.1) or in Other Measures to be Considered (5.1.7.2) that adequately provides for known and cumulative impacts. The mitigation proposed only speaks to participation and notification of the Millennium phasing and a report, but does not require anything further.

Existing transportation corridors connect the Port to international markets for the economic benefit of our community, state and nation. As a cargo transfer facility, we rely on river, rail and road connections to efficiently move cargo around the world. With dozens of existing industries and customers relying on current levels of transportation service, it is vital the EIS account for Millennium's impacts of increased river and rail traffic on existing users dependent on current levels of transportation service.

The increase of 16 trains at full build out will significantly impact community vehicular traffic at multiple at-grade crossings, as well as current and future industrial rail users. To accommodate existing users and in anticipation of growth in Longview's industrial area, improvements are underway to improve the road/rail interface along the SR432 corridor-improvements that will

directly benefit this proposed project. Financial support of transportation projects along the corridor would be an appropriate form of mitigation for increased rail traffic along the route.

Additionally, impacts to the existing limitations on the single track BNSF Cowlitz River Rail Bridge crossing should be mitigated through participation and/ or funding for a future study and construction of improvements for this crossing. (3326)

### Response to RT-51

Refer to Response to RT-1 and Response to RT-21.

Draft EIS Chapter 5, Sections 5.1, *Rail Transportation*, 5.3, *Vehicle Transportation*, and 5.4, *Vessel Transportation*, assessed the Proposed Action's potential impacts on rail, vehicle, and vessel transportation.

Regarding the Cowlitz River Bridge, refer to Response to RT-27.

## Comment RT-52

The DEIS notes that without improvements to rail infrastructure to expand capacity, the Proposed Action could result in significant impacts on rail and vehicle transportation. However, no investments in infrastructure improvements are proposed as mitigation outside the local project area. Instead, proposed mitigations along main lines are focused on coordination and notification, shifting the burden for costly infrastructure improvements for crossing safety and traffic to local communities along the line. Seattle will be directly impacted by the lack of necessary investment elsewhere on the rail corridor as it will make it harder to make shipments to and from our city. (3127)

### Response to RT-52

Refer to Response to RT-1 and Response to RT-21. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

## Comment RT-53

We strongly urge you to revise the EIS to: Shift the mitigation burden for costly infrastructure improvements to the project proponent. (3127)

### Response to RT-53

Refer to Response to RT-1 and Response to RT-21.

## Comment RT-54

Longview Rail Crossings Table 5.1.4. - BNSF Spur and Reynolds Lead At-Grade Crossing Detail for Proposed Action-Related Trains - Planned Track Infrastructure shows unit train speed of 20 MPH through the Oregon Way and Industrial Way at-grade crossings in Longview. Assuming coal unit trains are 1.3 miles in length and Millennium's rail entrance a distance of approximately 1.5 miles from Oregon Way and Industrial Way at-grade crossings, it is very unlikely unit trains could stop or

slow enough to enter Millennium's entrance traveling at this speed. One would assume the train would have to start braking "before" these two crossings. The ability of unit trains traveling at this 20 MPH speed and being able to complete the reported crossing time in 4 minutes cannot possibly be achieved. Please verify my findings and, if necessary, correct Table 5.1.4. (3001)

### Response to RT-54

Refer to Response to RT-8.

## Comment RT-55

With its 48~5-million-ton export capacity, MBTL would lead to an additional 16 coal trains per day passing through Montana on their way to the port, according to the DEIS. There are two rail routes through our state that converge in Sandpoint. However, the DEIS inexplicably assumes that all of these additional coal trains will be routed through the southern Montana Rail Link route, even though the MRL route has limited capacity for expansion and despite BNSF's significant investments in its Northern Tier through Whitefish in recent years. The DEIS provides no explanation for this assumption. Although most export-bound coal trains in Montana currently do utilize the southern route, some coal trains are routed through Whitefish regularly. Therefore, we believe it is reasonable to conclude that approval of MBTL resulting in an additional 16 coal trains per day passing through western Montana, will lead to increased coal train traffic through Whitefish. (2247)

### Response to RT-55

West of Mossmain, Montana, there are two rail routes to Sandpoint, Idaho: the southern Montana Rail Link (MRL) and the northern BNSF route using the Shelby and BNSF Hi Line routes (Shelby/Hi Line). The MRL route is 95.4 miles shorter than the Shelby/Hi Line route and is the primary route for the current BNSF coal unit trains. The Draft EIS assumed Proposed Action-related trains would use the MRL. The Applicant also confirmed this route is the most likely route for Proposed Action-related trains.

# Comment RT-56

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| A | **5.1 Rail Transportation**<br>Page 5.1-4, last paragraph | *"The Applicant assumes a 10% increase in throughput (4 million metric tons of coal per year) from rail car capacity that can be achieved through industry process and technological improvements by 2028."*<br>This is what the applicant actually stated …. The Applicant assumes a 10% increase in throughput (4 million metric tons of coal per year) is possible with rail car capacity increases, through process efficiencies and technological improvements by 2028" | Incorrect as written |
| B | **5.1 Rail Transportation**<br>Page 5.1-6, Future Rail Traffic, first line | *"Rail traffic estimates provided in the Washington State Rail Plan do not include the rail traffic for proposed coal or crude oil projects in Washington State. Therefore, Proposed Action-related rail traffic was added to 2028 baseline rail traffic estimates for the purposes of this analysis."* | We take issue with the addition of all Project related trains to the numbers included in the Rail Plan. The Rail Plan contains estimates for the next 19 years, we would think it reasonable that some or all of the additional Project-related 8 trains per day be included in that estimate. Otherwise, this could be double counting of new trains. Note 3 at the bottom of the page says it all: "The rail traffic estimates in the Washington State Rail Plan are based on data collected between 2010 and 2013. Rail traffic is highly dynamic and fluctuates as a result of changing demand. The 2028 rail traffic estimates are intended to provide a "snapshot" of estimated rail traffic volumes; the rail traffic estimates do not represent actual volumes for 2028." |
| C | **5.1 Rail Transportation**<br>Page 5.1-15, Add Temporary Rail Traffic for Transport of Construction Materials, first line | *"The Applicant proposes that approximately 2.1 million yards of ~~rock~~ suitable material would be needed for Construction"* | Replace "rock" with "suitable material" – fill materials may be other than rock |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| D | **5.1 Rail Transportation**<br>Page 5.1-17, Add Rail Traffic on the BNSF Main Line in Cowlitz County, second paragraph, | *"This segment has two main tracks with CTC. Projected 2028 capacity without improvements or operating changes is approximately 80 trains per day. Projected 2028 volume with Proposed Action-related BNSF trains to and from the Powder River Basin is 81 trains per day; therefore, the projected volume on this segment with Proposed Action-related trains would exceed capacity (80 trains per day)."* | This is an odd conclusion, 81 trains vs approximately 80 trains for a 12 year out estimate is well within the accuracy of the estimates |
| E | **5.1 Rail Transportation**<br>Page 5.1-24, Section 5.1.8 Unavoidable and Significant Adverse Environmental Impacts, last line | *"the Proposed Action could result in a significant adverse environmental impact on rail transportation."* | This conclusion is unsupported in the preceding section; there is no discussion of how a rail capacity issue results in a significant environmental impact. |
| F | **SEPA Rail Transportation TR**<br>Appendix A Coal Train Operating Plans Page A-2 | Coal Train Operating Plans should be regarded as indicative but not contractual.<br>Also there is a variety of abbreviation which we cannot find in the Abbreviations and Acronyms list. Eg ST | These plans have not been developed with MBTL. They should be regarded as indicative but not contractual. |
| G | **SEPA Rail Transportation TR**<br>Appendix A Coal Train Operating Plans Page A-2 | *"MBTL crew takes lead locomotives to end of loading loop, couple to empty train when unloading completed. From dumper, train proceeds into storage track awaiting outbound train crew"* | This comment seems to indicate that locomotives would be uncoupled from rail cars. This is a new criterion that has not been discussed before and was not part of any discussions with BNSF.<br>MBT-L proposes to keep the locomotives connected to the trains. The trains would be pushed around by indexer and when ready to leave, someone hops into the locomotive and drives – need to recheck the whole train when you reconnect locomotive |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| H | **SEPA Rail Transportation TR**<br>Appendix A Coal Train Operating Plans Technical Report, Page 21 | Figure 4 | We question what Figure 4 or the paragraph before it means, and expect that BNSF are being challenged by saying the 85% reduction in dust from trains is invalid. There is not any reference to this graph in the Technical Report, or T&B Report. Also, if it is based on the T&B report it is unreliable due to their inconclusive findings. |

(3070)

## Response to RT-56

The following describes the changes made to Final EIS Chapter 5, Section 5.1, *Rail Transportation*, and the *SEPA Rail Transportation Technical Report,* in response to these comments. Refer to the left-most column of the above table for lettering used to identify each comment.

- **Comment A:** *Train Parameters,* under Section 5.1.3.2, *Impact Analysis,* has been revised to correct the statement regarding how an increase in throughput would be achieved. The same revision has been made in the *SEPA Rail Transportation Technical Report*.
- **Comment C:** Section 5.1.5.1, *Proposed Action, Add Temporary Rail Traffic for Transport of Construction Materials*, has been revised to indicate that "suitable material" would be needed for construction. This revision has also been made in the *SEPA Rail Transportation Technical Report*.
- **Comment F:** The *SEPA Rail Transportation Technical Report*, Appendix A, *Coal Train Operating Plans,* has been revised to indicate the Applicant did not provide the operating plans and to identify acronyms and abbreviations.
- **Comment G:** The *SEPA Rail Transportation Technical Report*, Appendix A, Table A-1, *BNSF Coal Train Operating Plan,* has been revised to remove the sentence indicating that locomotives are coupled to empty trains after unloading is complete.
- **Comment H:** The *SEPA Coal Technical Report,* has been revised to clarify the information presented in Figure 4, *Coal Dust Emissions Adjustment Curve Based on Observed to Modeled Coal Dust Concentrations*. (This comment is related to the *SEPA Coal Technical Report* but addressed here because this comment was aligned by the commenter with the *SEPA Rail Technical Report*.)

Other comments were not specifically addressed in the Final EIS; responses to these comments are provided below.

- **Comment B:** Refer to Response to RT-12.
- **Comment D:** The methods used to analyze potential impacts on rail transportation resulting from the Proposed Action were described in Draft EIS, Chapter 5, Section 5.1.3, *Methods.* This section acknowledged the projections of future capacity and future baseline traffic are estimates and identifies the methods used to develop the estimates. The Final EIS has been revised to

clarify that projected baseline rail traffic with Proposed Action-related rail traffic would approximately equal capacity of the segment.

- **Comment E:** Final EIS Chapter 5, Section 5.1, *Rail Transportation*, has been revised to clarify how Proposed Action-related trains could result in an unavoidable and significant adverse impact on rail transportation.

# Comment RT-57

Rail impacts (traffic, emissions, and derailment risks) will extend from the Powder River Basin and the Uinta basin to the Project site. Please study the impacts all along both proposed routes. (0119)

## Response to RT-57

Refer to the Master Response for Geographic Study Areas of the EIS explains the rationale for the geographic limits of the study areas analyzed in the EIS. Final EIS Chapter 5, Section 5.1, *Rail Transportation*, and the *SEPA Rail Transportation Technical Report* have been revised to provide additional information about the potential impacts of the Proposed Action on the capacity of rail line segments outside of Washington State.

# Comment RT-58

The Draft EIS does not adequately address the impacts of rail transport of coal through communities in Idaho and Montana. (1934)

## Response to RT-58

Refer to Response to RT-57.

# Comment RT-59

The DEIS should have included detailed analyses of increased train traffic along the entire railway corridor from loading sites in the Powder River Basin in Montana and Wyoming to the terminus. (2437)

## Response to RT-59

Refer to Response to RT-57.

# Comment RT-60

In comments made to date regarding the Project, certain parties have suggested that the geographic scope of analysis under Washington State Environmental Policy Act ("SEPA") should extend well beyond the Project area in order to address the effects of train traffic and other purported impacts in localities throughout Washington State or even other states. For the reasons provided below, BNSF believes that extending the geographic scope of analysis beyond the area impacted by the Project would be inappropriate, and in conflict with applicable agency policies and regulations.

In particular, BNSF is concerned with any decision making whether to approve the Project based on potential impacts resulting from interstate commerce moving into Washington. As you are aware,

Article I, Section 8, Clause 3 of the United States Constitution grants to the United States Congress the power "To regulate commerce with foreign nations, and among the several states, and with the Indian Tribes." Further, the Interstate Commerce Commission Termination Act, 49 US. CA. §101 OJ et seq., gives exclusive jurisdiction to the Surface Transportation Board ("STB") over "the construction, acquisition, operation, abandonment, or discontinuance of spur, industrial, team, switching, or side tracks, or facilities, even if the tracks are located, or intended to be located, entirely in one state. 4 9 US C. § 105 01 (b). This federal scheme ensures that interstate rail operations occur in a safe, reliable manner that protect interstate commerce. Consequently, BNSF believes the Co-Lead Agencies should defer to the STB and Federal Railroad Administration consideration of the interstate rail system. (3218)

### Response to RT-60

Refer to Response to RT-37. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

## Comment RT-61

Leaving aside these federal law issues, it appears from reading the DEIS that virtually the entire document focuses on the impacts to the State of Washington from a maximum of eight loaded trains per day moving in interstate commerce to the Longview, Washington. It is difficult to understand how this particular train traffic triggers a statewide study of the interstate rail system. This seems to be a significant over-reach. (3218)

### Response to RT-61

Refer to Response to RT-37.

## Comment RT-62

The regulations specifically direct that an “agency shall not limit its consideration of a proposal’s impacts only to those aspects within its jurisdiction, including local or state boundaries.” WAC 197-11-060(4)(b). The DEIS acknowledges that an indirect effect of the terminal is increased rail traffic, and its attendant pollution, rail line congestion, and impacts on road traffic and emergency response. Ch. 5.1. However, the DEIS appears to assume that these impacts end at the state border. This makes little sense. The extensive traffic congestion and system user impacts will be just as serious in Idaho, Oregon, Montana, and Wyoming. For example, the DEIS acknowledges that capacity could be significantly constrained in those states. DEIS 5.1-14 (capacity as low as 30 trains a day in some locations, with existing traffic between 25 and 28 a day). These impacts should not be qualitatively dismissed, and indeed, WAC 197-11-060(4)(b) requires that they should be treated in the same manner as the in-state effects. While the Coalition understands that some limited qualitative information is given on out-of-state impacts, there is no reason to treat the out-of-state rail impacts differently. It does not even appear particularly challenging to provide the basic information on capacity deficits on individual rail segments, as is done for in-state rail. The Coalition asks that the FEIS include information on out-of-state impacts in the same manner. (3277)

### Response to RT-62

Refer to Response to RT-57.

# Comment RT-63

RCW 43.97.025(1) also applies to the review of this project: "all state agencies and counties are hereby directed and provided authority to carry out their respective functions and responsibilities in accordance with the [Columbia River Gorge Compact], the Columbia River Gorge National Scenic Area Act, and the provisions of" the Gorge Management Plan and state implementation of the Act. As such, Ecology and the County are required to take into account all impacts to the National Scenic Area and to ensure that decisions are consistent with all National Scenic Area authorities. (2508)

## Response to RT-63

Refer to Response to RT-37.

# Comment RT-64

Independent of the Scenic Area Act's mandates, SEPA requires that the EIS must include analysis of the likely increase in rail traffic and any accompanying expansions of railroad facilities within the National Scenic Area. Since the project would require extra rail capacity through the Gorge, the EIS must identify where new construction would be likely to occur in the National Scenic Area and the impacts that would occur to resources protected by the Gorge Act, the Gorge Management Plan, and local implementing ordinances. Deferring this analysis to later study does not satisfy SEPA requirements. (2508)

## Response to RT-64

Draft EIS Chapter 5, Section 5.1, *Rail Transportation*, assessed potential impacts on rail transportation from the increase in traffic on rail routes for Proposed Action-related trains in Washington State, including through the Columbia River Gorge. The Proposed Action does not involve expanding or developing new rail lines in the Columbia River Gorge National Scenic Area. Refer to the Master Response for Connected or Similar Actions for a discussion of why potential future rail line improvements are not evaluated in the EIS.

# Comment RT-65

Furthermore, railroads benefit from sweeping preemption of local laws and they will likely assert that the preemption applies to local laws that implement the Gorge Act. In fact, Union Pacific already has asserted that the laws that protect the NSA are preempted. While we believe the federal nature of the Gorge Act negates the preemption that Union Pacific asserts, this issue would require litigation and it could conceivably fall in the favor of the railroads. In that instance, this SEPA review is the only place to address railroad construction impacts to the Gorge NSA. As such, the EIS must address these impacts to the protected resources of the NSA and identify where the construction will be inconsistent with the Gorge Act, the Gorge Management Plan, and local ordinances. (2508)

## Response to RT-65

The Proposed Action does not involve expanding or developing new rail lines in the Columbia River Gorge National Scenic Area. Refer to the Master Response for Connected or Similar Actions for a discussion of why potential future rail line improvements are not evaluated in the EIS.

# Comment RT-66

If permitted and constructed, the MBTL facility would increase rail traffic that would have significant and deleterious consequences for Montanans. However, the analysis presented in the MBTL DEIS does not include the connected and cumulative impacts that this project would have on Montana (see below for details) communities crossed by the rail line. The DEIS does not entirely ignore Montana rail impacts, but it does not analyze the rail impacts to Montana. Instead, the DEIS makes vague, generalized references to Montana rail impacts, while very specifically and thoroughly analyzing rail impacts on specific segments of rail line in Washington. The DEIS completely ignores one Montana rail route that is currently used for coal transport: the Hi- Line, which is in northern Montana near the Canadian border and passes south of Glacier National Park on its path to Idaho and the West Coast. All of the coal trains that would haul coal to the MBTL project, as well as all of the empty coal trains on the daily return journey, would originate in the PRB of Wyoming and Montana. It is clear from the DEIS's analysis of rail impacts in Washington that the agency could evaluate and make a clear, thorough, and sophisticated study of rail impacts in Montana, but it does not. The environmental analysis must include such a study. The study area for rail transportation impacts in the MBTL DEIS is too narrow and completely ignores impacts to Montana and Montanans. (2504)

## Response to RT-66

Refer to Response to RT-55 and Response to RT-57. The Master Response for Connected or Similar Actions explains why improvements to existing rail infrastructure were not evaluated in the EIS. Draft EIS Chapter 6, *Cumulative Impacts*, assessed potential cumulative impacts on rail transportation.

# Comment RT-67

There will be a dramatic increase in coal train traffic through many communities in Montana. Any action alternative must fully assess the impacts of increased coal train traffic through Montana—from the coal mines in the PRB to the proposed MBTL port and back again. While the DEIS examines increased train traffic in Washington, those trains do not simply appear at the Washington state border; they come from somewhere. In fact, those trains originate at PRB coal mines in Wyoming and Montana and traverse Montana on their way to the proposed facility as well as on the way back to the PRB. The DEIS states that there will be 16 additional trains each day traveling the rails if MBTL is approved. There would be numerous impacts to Montanans and Montana communities from this increase in the number of trains—and those impacts are not just "inconveniences." There would be health, safety, quality of life, as well as actual financial costs to Montana citizens and communities as well as to our rural areas that would result from this increase in coal train traffic. (2504)

## Response to RT-67

Refer to Response to RT-57.

# Comment RT-68

The FEIS should assess the impacts on Glacier NP of increased rail traffic associated with MBTL. (2432)

### Response to RT-68

Draft EIS Chapter 5, Section 5.1, *Rail Transportation*, stated Proposed Action-related trains would travel along a rail route that would pass through Missoula, Montana. This route is approximately 90 miles from Glacier National Park; therefore, the Proposed Action would not likely have the potential for rail traffic impacts on Glacier National Park. Refer to the Master Response for Geographic Study Areas of the EIS.

## Comment RT-69

Successful MBTL operation is contingent on successful movement of trains through Montana. The DEIS partially addresses this for Montana, stating, "Without improvements to rail infrastructure to expand capacity (and safety) the Proposed Action could result in an unavoidable and significant adverse impact on rail transportation." (Summary p. 53-54) Such improvements are not discussed specifically for Montana and Missoula County. (2497)

### Response to RT-69

Refer to Response to RT-57.

## Comment RT-70

I'm here to mention a couple of things with the SEPA effort, specifically the at-grade crossings. In the Tri-Cities area it seems lacking in the documentation. There are reference to the mainlines that go down through the Columbia Gorge, but not on a return trip for your empty vessels. I would really like to see some further evaluation of those urban at- grade crossings not only in the Tri-Cities area, but Yakima, and Spokane. And that's the bulk of my comments. I'd like to see some increased evaluation of that and then some attempts to mitigate those impacts as that's nearly doubling or tripling the number of trips, depending on which line you're talking about. (TRANS-PASCO-M1-00013)

### Response to RT-70

Refer to Response to RT-57.

## Comment RT-71

I don't understand why it's draft Environmental Impact Statement doesn’t address impacts for rail traffic in Montana. (3836)

### Response to RT-71

Refer to Response to RT-57.

## Comment RT-72

The draft Environmental Impact Statement does not assess the rail impacts the MBT would have in Montana. The document acknowledges that trains destined for the port will originate in the Powder River Basin and travel through Montana, but does not study the impacts of increased rail

transportation outside of Washington's borders. I request that this issue be addressed in the final EIS. (3823)

### Response to RT-72

Refer to Response to RT-57.

## Comment RT-73

Increasing rail traffic statewide would significantly exceed system capacity on almost all segments of rail in Washington, including in the small town of Bucoda, here in Thurston County. In Bucoda, rail lines pass within 200 feet of the main street and many residential homes. The DEIS predicts over 11 additional rail-related accidents every year statewide. [Ch. 5.2 p 8-9] That number rises to as high as 19 when taking cumulative risk into consideration. [6-41] Broadly speaking, the DEIS relies too much on the ambiguous concept of "capacity" and should look more closely at the practical impacts for people who live in small communities like Bucoda and its neighbors including Tenino, East Olympia, and the Nisqually Valley. (3461)

### Response to RT-73

Refer to Response to RT-1.

## Comment RT-74

Rail Traffic: The Draft EIS demonstrates Millennium would have a severe impact on rail and road congestion, along the rail corridor, particularly in Longview itself, and in Spokane County. The DEIS acknowledges that the rail system in Longview simply can't handle 16 additional coal trains, over a mile long each, per day. Who would pay for the upgrades, and what would the impact of those upgrades be? (2513)

### Response to RT-74

Refer to Response to RT-1.

# 5.2 Rail Safety

This section presents responses to substantive comments related to rail safety.

## Comment RS-1

Contrary to conclusions reached in the Draft EIS, rail safety impacts from the operation of the existing rail system are not within MBT-Longview's control, will exist with or without the Project and therefore cannot be attributed to the Project. Any rail safety concerns are the same with or without the Project. The only material difference between the State Rail Plan projection of capacity constraints, and the capacity forecast in the Draft EIS is one of timing--i.e., when capacity constraints might be reached without rail system management by the owners of the system. The corresponding effect on rail safety is that there is no probable significant impact on rail safety caused by the Project for the same reasons addressed above that the Project does not cause the rail system to reach capacity constraints. The Draft EIS and the No-Action Alternative should conclude that the Project will not cause a probable significant impact to rail safety along the rail system as compared to the No-Action Alternative. (3070)

### Response to RS-1

Draft EIS Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, described the Proposed Action including off-site transport of coal by vessel and rail. As described in Draft EIS Chapter 5, Section 5.1, *Rail Transportation*, the types and number of baseline and projected train traffic beyond Longview Junction on main line routes were developed from the *Washington State Rail Plan*. As noted in Section 5.1, the Rail Plan's demand and capacity forecast did not include the rail traffic for proposed coal or crude oil projects in Washington State, including the Proposed Action. The Rail Plan indicates that if any specific proposed coal export facilities in the Pacific Northwest are completed, they could place additional demands on the state's rail system and accelerate the rate of rail traffic growth. Therefore, Proposed Action-related train traffic was not attributed to the projected future baseline rail traffic numbers provided in the Rail Plan. Proposed Action-related rail traffic and the predicted accident frequency is evaluated in addition to baseline rail traffic because the respective rail traffic would not occur without construction and operation of the proposed export terminal The predicted accident frequencies are shown in Final EIS Chapter 5, Section 5.2, *Rail Safety*.

## Comment RS-2

Using an FRA financial reporting threshold as a significance threshold is improper because it skews the incident rates of so called significant adverse impacts. The Final EIS should use thresholds of significance that effectively narrows the incidents that are properly labeled as "accidents." This requires that the Final EIS refine and narrow the definition of an accident as applied in the Draft EIS to those accidents that may actually be significant adverse impacts. This does not require a new analysis, only a refinement of the existing forecasts, which must be applied to the No-Action Alternative in relation to the projected growth of the rail system and the forecast that the system will reach capacity by 2035 with or without the Project. (3070)

## Response to RS-2

The Federal Railroad Safety Act of 1970 gives the Federal Railroad Administration (FRA) rulemaking authority over all areas of rail line safety. FRA has established federal regulations pertaining to the safety of interstate commerce. These regulations set standards for all railroads dealing with the interchange of railroad cars and equipment. As explained in Draft EIS Chapter 5, Section 5.2, *Rail Safety*, existing rail accident data from FRA were used as the basis for the rail safety and accident analysis. FRA's data were used to estimate accidents per million train miles. These data, broken down by track class, form the basis of the rail safety analysis. While the analysis of rail safety in the Draft EIS uses the FRA reporting threshold of $10,500 in sustained damage to define an accident, this value is not used as a threshold for significance of impacts. Rather, the analysis determines the potential impacts on rail safety resulting from Proposed Action-related trains by assessing the change in anticipated accident frequencies with Proposed Action-related trains as compared to the baseline condition. The Draft EIS acknowledged that not every accident of a loaded Proposed Action-related train would result in a spill or derailment. The co-lead agencies determined the Proposed Action could result in an unavoidable and significant adverse impact on rail safety as described in Final EIS Chapter 5, Section 5.2, *Rail Safety*.

# Comment RS-3

The Draft EIS appears to have used the percentage increase in rail traffic and applied that factor to rail safety. "The predicted accident frequency would increase over baseline conditions in 2028 by approximately 22% in Cowlitz County and Washington State with trains related to the Proposed Action." (page S-31) A 22 percent increase in the rate of accidents, even if properly attributed to the Project, would still result in a very small number of new events compared to existing accident rates. This is another example of an improper aggregation of events over time and is not a probable significant adverse impact caused by the Project. (3070)

## Response to RS-3

The Draft EIS determined the potential impacts on rail safety resulting from the Proposed Action by assessing the change in anticipated accident frequencies under the Proposed Action as compared to the baseline condition. The predicted number of accidents per year was calculated by multiplying segment length by the number of trains per year and by the applicable accident rate; the number was then adjusted for track classification based on published accident data research by track class. As such, the percentage increase in rail traffic is one of several factors considered in evaluating potential impacts on rail safety. The co-lead agencies determined the Proposed Action could result in an unavoidable and significant adverse impact on rail safety as described in Final EIS Chapter 5, Section 5.2, *Rail Safety*.

# Comment RS-4

The accident statistics used in the Draft EIS do not establish that rail accidents are a significant problem, or that the chance of future accidents is an impact that could be properly attributed to the Project. For example, the Draft EIS establishes that "cased on FRA data, there were two accidents in Cowlitz County in 2014, and neither involved an injury or fatality. One incident was in a rail yard with no derailment and the other involved a derailment of 11 cars on main line track." (Draft EIS, page 5.2-5). It goes on to state that "in Washington State, there were 36 accidents in 2014, two of

which involved an injury. Thirteen accidents were on main line track, and the remainder was in rail yards or on industry track. Derailments (main line and industry track) involved between 0 and 11 rail cars." (Draft EIS, page 5.2-5). The Final EIS should clarify that the fact that trains traveling to and from the Project will be carrying coal instead of some other commodity has absolutely no bearing on the rate of accidents or on rail safety more generally. The Final EIS should affirmatively declare that the Project does not cause a significant adverse impact in relation to rail safety. (3070)

## Response to RS-4

Draft EIS Chapter 5, Section 5.2.5.1, *Proposed Action*, described the potential impacts on rail safety—including the increased potential for train accidents—that could occur as a result of the Proposed Action. The *SEPA Rail Safety Technical Report* notes that train accident rates are distinguished only by freight versus passenger service, not by specific cargoes. Final EIS Chapter 5, Section 5.2, *Rail Safety*, has been revised to clarify this aspect of the accident rates. As noted in the Draft EIS, the Proposed Action would increase the potential for train accidents by adding loaded and empty rail traffic on rail routes in Washington State. The co-lead agencies determined the Proposed Action could result in an unavoidable and significant adverse impact on rail safety as described in Final EIS Chapter 5, Section 5.2, *Rail Safety*.

# Comment RS-5

Existing rail transportation is a consistent cause of wildland fires due to sparks emitted from train wheels in contact with rail tracks. Rail spark emissions can - and regularly do- ignite fires in vegetation adjacent to rail lines. The DEIS does not address the increase in numbers of wildfire starts that are likely due to the additional "unit trains" (125 rail cars each) per day. The rail lines designated for transporting coal from markets and for empty-car backhauls traverse areas of the state that are particularly wildfire-prone, especially during extended periods of hot dry conditions. The empty backhaul route for BNSF trains moves east over Stampede Pass, an area that is remote and difficult to access for wildfire response. The DEIS should address likely increases in wildfires and potential mitigation for wildfire risk due to the increase in rail traffic. (2691)

## Response to RS-5

Based on available data on wildfire starts, the likelihood of a train starting a wildfire is very low and the area of such a wildfire would likely be small (California Department of Forestry and Fire Protection et al. 1999, Prestemon et al. 2013, Oregon Partnership for Disaster Resilience 2012, Montana Department of Military Affairs Disaster and Emergency Services 2010). Between January 2000 and December 2008, railroads accounted for 0.49% of all wildfire starts and 0.21% of the total areas burned on Department of Interior and U.S. Forest Service land. In western regions of U.S. Forest Service and Department of Interior lands, railroads accounted for a similar percentage of wildfire starts—0.41% (Prestemon et al. 2013). In comparison, the single greatest cause of wildfire starts (45.34%) and area burned (79.90%) was lightning (Prestemon et al. 2013). Records maintained by the Oregon Department of Forestry also show that railroad-caused wildfires are infrequent (Oregon Partnership for Disaster Resilience 2012). Wildfires could be compounded by the increasing risk of wildfires from warmer, drier conditions induced by climate change from increases in regional average temperatures and reductions in summer precipitation values (University of Washington 2013). In Washington State, the Washington State Department of Natural

Resources provides wildfire information to the interagency risk information management system, However, different causes of human-related wildfire starts are not available through this resource.

In addition, if a fire does occur on railroad property or a right-of-way, the railroad has a legal responsibility to report it to the fire protection agency and to implement measures to suppress the fire.

The likelihood of a railroad-related wildfire incident would be low and, given existing rail traffic in the study area, potential impacts would be similar to impacts that could occur under existing conditions or baseline conditions. Therefore, potential impacts from rail-related fires are not assessed in the EIS.

# Comment RS-6

We note that the potential consequences of catastrophic accidents heighten when the mix of train traffic includes growth trends for oil and passengers trains. The EPA recommends that the Final EIS include additional information on MM RT-2 "Coordinate with BNSF and UP about Operations on Main Line Routes" and provide more information for the public about what strategies would effectively mitigate predicted rail accident increases. (3306)

## Response to RS-6

Potential mitigation measure MM RT-2 in the Draft EIS was intended to address potential impacts on rail capacity, not rail accidents. Rail capacity improvements could also address rail safety. As noted in Draft EIS Chapter 5, Section 5.2, *Rail Safety*, BNSF and UP could address rail safety in Cowlitz County and Washington State using capital improvements or operational changes. Although these strategies could mitigate train accidents resulting from the Proposed Action, it is unknown when these actions would be taken or permitted. The Applicant has no legal authority or jurisdiction to make railroad improvements or set operational standards for trains that are the responsibility of BNSF and UP. For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

# Comment RS-7

Among the more startling admissions of the DEIS is that the project will proximately cause a substantial increase in the number of rail accidents—a 22% increase statewide. What is not disclosed is any meaningful analysis of the potential safety, human health and environmental risks of such accidents. Just this month, a unit train carrying Bakken crude oil derailed in the Columbia River Gorge near Mosier, Oregon, creating a massive fire and public health emergency, closing an interstate highway, and leaking oil into the Columbia River. Initial reports blamed the incident on track failure. What is undisclosed in the DEIS is how frequent operations of coal unit trains—among the longest and heaviest trains on the rail system— contribute to higher-than-normal degradation of rail infrastructure, increasing the risk of accidents. Given the desire to substantially increase the amount of crude oil on the regional rail system, the DEIS needs to look closely at the extent to which the project will contribute not just to accidents generally but to crude oil accidents specifically. Any increase in the risk of a crude oil accident is totally unacceptable. (3277)

## Response to RS-7

The Draft EIS analyzed the potential impacts of the construction and operation of the Proposed Action. Draft EIS Chapter 5, Section 5.2, *Rail Safety*, identified predicted rail accident probability increase under the Proposed Action. An accident for the purpose of the analysis includes a number of incident types and is not limited to derailments. FRA general regulations require track inspections using a schedule dependent on the track class. For example, Class 1, 2, and, 3 tracks are required to be inspected weekly to ensure they are in compliance with federally regulated safety standards. Thus, if Proposed Action-related rail traffic resulted in increased wear of track, it would be addressed through regular inspections, maintenance, and repairs.

# Comment RS-8

The first three events I've cited the two-year anniversary of the Williams Pipeline LNG Plant Explosion; the three-year anniversary of the destruction of the downtown of Lac-Mégantic, Quebec, and 47 of its residents; and the ten-day anniversary of the Mosier Union Pacific derailment and fire– were the result of human error and corporate mismanagement.

The three-hundred-sixteenth anniversary of the Cascadia earthquake memorializes a natural fault that is completely beyond the control of humanity. All we can do about the certainty of the next rupture of the Cascadia subduction zone is work diligently for mitigation And adaptation–and do nothing to increase our risks. Can we guarantee that no more human Error will occur in our management of dangerous fossil fuels and inadequately maintained–

Even obsolete–infrastructure? Of course not. Can we guarantee that the Cascadia earthquake Will occur only when it is convenient? The question is so absurd as to be outrageous: we are Nowhere close to prepared for an event that could occur completely without warning at any moment. What are the odds that more mismanagement by Williams, or BNSF, or Union Pacific, could derail a coal train? Relatively slim, perhaps, but they are nowhere close to zero. Imagine that the Cascadia earthquake does hit at a time when a coal train is passing by the Williams facility, with its antique LNG tanks and gas pipeline infrastructure–and a Bakken crude train is right on its heels. What are the odds that the derailment of a coal train could occur at a time and place that allow it to burn? Very slim, to be sure-but they are not zero. (3410)

## Response to RS-8

Potential impacts on rail safety from Proposed Action-related trains during construction and operation were identified in Draft EIS Chapter 5, Section 5.2, *Rail Safety*. As described in detail in the Master Response for Purpose and Focus of the EIS, an EIS is not required to document all of the possible effects and considerations of a decision (WAC 197-11-448), but should focus on elements of the environment that may be significantly affected by a proposal and alternatives.

# Comment RS-9

The EIS estimates 2.59 extra train accidents per year between Pasco and Vancouver on the Washington side of the border due to the proposed MBTL coal export terminal. DEIS at 5.2-8. Accident occurrence in the DEIS was not adjusted based upon increased coal dust emissions caused by the proposed project. DEIS at 5.2-4. However, "BNSF has determined that coal dust poses a serious threat to the stability of the track structure and the operational integrity of" its railroad

network. Coal dust emitted from train cars gets into the rock ballast that supports the railroad ties, making the track unstable and more susceptible to damage.

In fact, BNSF has attributed derailments to ballast contaminated with coal dust. While the DEIS acknowledges that coal dust causes additional safety issues, it does not take this into account and simply calculates the additional number of accidents based upon the extra trains that would run on the tracks. DEIS at 5.7-15, DEIS at 5.2-4. The extra derailments due to damage to railroad ballast caused by fugitive coal dust emissions must be considered in the calculation of rail accidents caused by the proposed project. Additionally, as heavier trains result in more damage to tracks, the weight of coal trains must be considered in the rail accident calculations. (2508)

## Response to RS-9

Draft EIS Chapter 5, Section 5.7, *Coal Dust*, discussed the potential safety impacts of coal dust, including ballast fouling. Section 5.7 estimated coal dust deposition that would occur along the rail line routes that would be used by Proposed Action-related trains on the BNSF main line in Cowlitz County and Washington State outside of Cowlitz County. There are no federal or state rail safety guidelines regarding acceptable levels of coal dust deposition along a rail line. FRA general regulations require track inspections to ensure they are in compliance with federally regulated safety standards. These regulations require inspections, maintenance, and repairs.

Draft EIS Section 5.7 acknowledged that coal dust deposition in railroad ballast may negatively affect the stability of the ballast. Draft EIS Chapter 5, Section 5.2, *Rail Safety*, evaluated potential impacts on rail safety based on FRA accident data, which includes existing coal trains. As described in the Master Response for Purpose and Focus of the EIS, an EIS focuses on elements of the environment that may be significantly affected by a proposal and alternatives.

# Comment RS-10

The DEIS also does not consider the adverse environmental effects of increased train accidents spilling other commodities besides coal. BNSF acknowledges that coal dust gets into the rail ballast and damages the track infrastructure and that this damage has eventually resulted in derailments. BNSF and Union Pacific carry various hazardous materials over their rail networks, including Bakken crude oil. Of course, the elephant in the room is the June 3, 2016 derailment of a Union Pacific Bakken crude oil train in Mosier Oregon in the Columbia River Gorge. The weight of crude oil trains makes them more susceptible to derailment than are other trains when rail infrastructure is previously damaged. Coal dust damages rail infrastructure. The increased coal dust emissions as a result of the proposed action would result in more incidents involving trains carrying Bakken crude oil. When Bakken crude oil trains derail they inevitably break open, leak, and explode. That is exactly what happened in Mosier. All of the potential significant adverse effects that would occur from an oil train crashing in the Gorge due to fouled railroad ballast from coal dust emissions due to the MBTL coal terminal must be taken into account in the EIS. The increased chances of a Bakken crude oil spill and explosion due to the fouling of the railroad ballast by fugitive coal dust emissions must be disclosed, analyzed, and mitigated in the EIS. The effects on human lives as well as the effects on the scenic, cultural, recreational, and natural12 resources of the Gorge NSA must be included. (2508)

## Response to RS-10

Refer to Response to RS-7 and Response to RS-9.

# Comment RS-11

Additionally, coal dust has been shown to have a negative impact on rail infrastructure in that the dust is corrosive and weakens rail lines. Spokane is the site of accelerated volatile crude oil-by-rail traffic, and weakened rails increase the odds of a catastrophic rail accident and consequent oil spill and or fire in our community or in our river. (3280)

## Response to RS-11

Refer to Response to RS-7 and Response to RS-9.

# Comment RS-12

Also missing from the Rail Safety section was any mention or analysis of increased need for emergency response in the event of a derailment, accident or spill along the rail transportation routes. DNR's Wildfire Program serves a statewide Emergency Support Function (ESF 4) for not only wildfires, but all-hazards emergency response with incident command and response resources if needed. The potential increase in emergency response (in which DNR and other emergency response agencies may have significant roles) along the rail transportation routes should be acknowledged, and potential mitigation should be addressed in the FEIS. (2691)

## Response to RS-12

Draft EIS Chapter 3, Section 3.6, *Hazardous Materials*, described the potential impacts related to hazardous materials that would result from the Proposed Action. This section identified the potential for Proposed Action-related trains to release hazardous materials during routine rail operations or a collision or derailment. As noted in that section, if a release of hazardous materials in the project area were to result from a collision or derailment, emergency response and cleanup measures would be implemented as required by federal and state laws, including Washington State regulations under RCW 90.56. The federal and state spill response regulations apply throughout Washington State.

As noted in Draft EIS Chapter 5, Section 5.2, *Rail Safety*, BNSF and UP could address safety issues in Cowlitz County and Washington State as they emerge using capital improvements or operational changes. Although these strategies could improve rail safety along the routes for Proposed Action-related trains, it is unknown when these actions would be taken or permitted. The Applicant has no legal authority or jurisdiction to make railroad improvements or set operational standards for trains that are the responsibility of BNSF and UP. More information about the development, implementation, and enforcement of mitigation measures is in the Master Response for Mitigation Framework.

# Comment RS-13

The DEIS model predicts that by itself the Millennium project will increase train accidents in Cowlitz County by.46 per year for loaded coal trains and.5 per year for empty trains-about one accident every two years for loaded and unloaded trains in Cowlitz County. This number of accidents would be increased without promised improvements by the Longview Switching Company for the BSNF Spur and Reynolds Lead. Outside these railroad lines, the DEIS states that the Millennium project

alone would increase the number of accidents on train lines within Washington State by 5.16 per year of loaded car trains and 6.23 per year of empty trains.

However, the cumulative effects of adding the Millennium project to expected baseline rail traffic will be an increase of 11.38 accidents per year in Washington State. The DEIS acknowledges that this is a high level of increase in accidents and these are significant adverse effects, but proposes no mitigation by Millennium. Millennium should be required to provide mitigation for the amount of increased accidents that can be attributed to its share of rail traffic, based on actual data, not modeling. (3465)

### Response to RS-13

As noted in Draft EIS Chapter 5, Section 5.2, *Rail Safety*, BNSF and UP could address safety issues in Cowlitz County and Washington State using capital improvements or operational changes. Although these strategies could improve rail safety along the routes for Proposed Action-related trains, it is unknown when these actions would be taken or permitted. The Applicant has no legal authority or jurisdiction to make railroad improvements or set operational standards for trains that are the responsibility of BNSF and UP. For additional information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

## Comment RS-14

It is not clear from the DEIS how much this increase in accidents can be reduced by upgrading rail tracks and facilities or if other measures will be necessary. The DEIS states that the capacity of segments of the BSNF mainline will be exceeded by 1 to 34 trains per day. The DEIS suggests that the railroad companies will upgrade their tracks and facilities in response to new freight demands, and reminds us that the state of Washington has no direct control over these commercial decisions. However, the rail industry has a recent record of waiting until AFTER rail congestion problems to upgrade lines-even at the Powder River Basin itself (UP, BSNF 2006). The oil train derailment near Mosier on June 3, 2016, after recent routine inspections and minor repairs to the track, is evidence that business as usual will not be sufficient to have safe operations of fossil-fuel-bearing trains. The final EIS should not be issued unless the railroads produce publicly available plans and committed funds for upgrades in anticipation of increases in freight train traffic. (3465)

### Response to RS-14

The Final EIS will be used by agency decision-makers and the public to understand potential environmental impacts associated with the Proposed Action, the proposed mitigation measures to reduce those impacts, and whether the Proposed Action would result in significant unavoidable adverse impacts. For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework. Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

## Comment RS-15

The EIS does not include train accidents. (1388)

### Response to RS-15

Chapter 5, Section 5.2, *Rail Safety*, of the Draft EIS assessed the impacts on rail safety—including train accidents—that could result from the construction and operation of the Proposed Action.

## Comment RS-16

How many coal train derailments can be expected along the rail corridor per year of operation of the proposed export terminal? (1763)

### Response to RS-16

Draft EIS Chapter 5, Section 5.2, *Rail Safety*, identified the predicted number of accidents per year as a result of construction and operation of the Proposed Action. As described in Section 5.2, the predicted increase in rail accidents attributable to the Proposed Action within Washington State is predicted to be approximately 11.38 per year (a 22% increase over the baseline). As noted in the Draft EIS, not every accident of a loaded Proposed Action-related train would result in a coal spill. For the purposes of the analysis, an "accident" was defined as involving one or more railroads that have sustained combined track, equipment, and/or structural damage in excess of the 2015 FRA reporting threshold of $10,500. Therefore, the increase in accidents that could result from the Proposed Action would include a variety of incident types and severity and would not be limited to derailment or spills. Based on available data, it is not possible to specifically predict the number of coal train derailments that may occur or their location.

## Comment RS-17

How many coal train derailments would be anticipated to occur across the states of Washington and Oregon over the lifetime of the project?

Where are the likely sites of these derailments, and are any of these potentially dangerous or inadequately designed rail lines in major population densities? (1763)

### Response to RS-17

Refer to Response to RS-16.

## Comment RS-18

The proposed coal terminal will dramatically increase train traffic in the Columbia River Gorge, negatively affecting automobile traffic at crossings, including emergency vehicle response time. The potential for train accidents will be increased. (1929)

### Response to RS-18

Increased rail traffic that would occur as a result of construction and operation of the Proposed Action was described in Draft EIS Chapter 5, Section 5.1, *Rail Transportation*. As indicated in that analysis, the Proposed Action would add 8 trains per day on the BNSF main line between Pasco and Vancouver, Washington (including the Columbia River Gorge). The projected rail traffic on this segment is 56 trains per day in 2028. Potential impacts on vehicle delay, including delay to emergency vehicles, was described in Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, at

study crossings in the Columbia River Gorge. Proposed Action-related trains are projected to increase the number of trains per day in the Columbia River Gorge by 14% in 2028. A Proposed Action-related train traveling at 50 miles per hour would take approximately 2.25 minutes to pass each crossing in the Columbia River Gorge. Draft EIS Chapter 5, Section 5.2, *Rail Safety*, described the potential increases in train accident frequencies that could occur on the BNSF main line in the Columbia River Gorge. Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, evaluated the potential impacts of the Proposed Action on vehicle traffic and safety. Vehicle safety at the study crossings in the Columbia River Gorge was analyzed using the FRA GradeDec.Net model to estimate future accident frequency and the corresponding predicted interval between accidents with and without the addition of Proposed Action-related rail traffic. Section 5.3 concluded that Proposed Action-related trains would have not have a vehicle safety impact at any of the statewide study crossings.

# Comment RS-19

Excessive flange loading is the key to derailments. The Draft EIS does not assess this safety factor and states that the proposed coal train is like any train that is now used on BNSF track. What is missing is an analysis of the repeated loading of many mile-long coal trains fatiguing the rail system. (2238)

## Response to RS-19

Refer Response to RS-9.

# Comment RS-20

The final EIS must address the Wildland fires that will be a result of increased Coal train traffic. The Cumulative effects must be addressed and mitigated in the final EIS. (2352)

## Response to RS-20

Refer to Response to RS-5.

# Comment RS-21

The Draft Environmental Impact Statement (DEIS) fails to address this highly likely, significant and serious impact of the Millennium Bulk Terminals proposal – coal trains create safety hazards for all trains travelling on those same tracks. In a 2011 lawsuit about the cause of train derailments1, BNSF testified that the train derailments were caused by coal dust from coal trains. BNSF testified that its own studies proved that coal dust from coal trains, “destabilizes rail bed ballast”, “interferes with track stability”, and “when combined with water from extraordinary amounts of precipitation weakens the rail bed and causes track failure”. When Millennium Bulk Terminals was first proposed, highly explosive Bakken crude oil was not transported by train through Washington State but at the present time more than 19 trains per week carry crude oil through Washington State. Millennium’s 16 (8 full/8 empty) daily coal trains would use the exact same track as the crude oil and chemical trains heading to Washington State’s existing refineries and industrial facilities. Millennium’s coal trains would increase the risks of railroad track failure for all trains traveling the same tracks. Millennium’s coal trains would increase the risks of a catastrophic crude oil or chemical train

derailment/spill/explosion. The DEIS does not assess nor address the risks coal trains pose to the safe transport of trains carrying highly explosive crude oil or other hazardous chemicals. (2550)

### Response to RS-21

Refer to Response to RS-9.

## Comment RS-22

The entire 3,723 page document is very challenging to find specific information to make a specific comment. An example does the DEIS adequately address rail issues in Washington forest lands to prevent, eliminate, or contain, a fire started from a passing coal train. The proposal has 730,000 rail cars trips a year going loaded from the mines to the Terminal and returning empty to the mines. Each rail car has 8 wheels resulting in 5.84 million wheels that can generate a spark to ignite a major forest fire in remote regions. Where to look for this answer is not an easy matter and results in a question unanswered. Better search capabilities and a Master Volume I, Volume II, Volume III and Volume IV is needed. Page 12 (Fact Sheet 8) (2572)

### Response to RS-22

Refer to Response to RS-5.

## Comment RS-23

After an extensive study, the company (BNSF) determined a dust buildup can prevent water from draining from track beds, which in turn can push steel rails out of gauge and cause derailments. BNSF has spent millions in track repair near the Powder River Basin. However, coal dust escapes the coal cars as they would traverse the route to Longview. The danger of derailments increases with more coal being transported. The DEIS needs to address coal dust in the rail beds and ultimately reject the Millennium proposal. (2579)

### Response to RS-23

Refer to Response to RS-9.

## Comment RS-24

The Scope of Environmental Assessments should be comprehensive and analyze all potential human and natural environmental effects caused or generated by the construction of coal export terminals:

Documentation of the history of rail accidents, fires caused by rail car brake or wheel bearing failures, and derailments along the projected coal train transportation routes. (2980)

### Response to RS-24

Draft EIS Chapter 5, Section 5.2, *Rail Safety*, assessed the impacts of the Proposed Action on rail safety along the expected routes of Proposed Action-related trains in Washington State.

Refer to Response to RS-5.

# Comment RS-25

The Scope of Environmental Assessments should be comprehensive and analyze all potential human and natural environmental effects caused or generated by the construction of coal export terminals:

Traffic and Safety- The documentation of coal train rail and barge traffic potential for accidents, spills, derailments, fire, local community impacts at both marked, signaled, non-signaled, urban and rural crossings, and bridges crossing streams and rivers. (2980)

## Response to RS-25

Draft EIS Chapter 5, Section 5.2, *Rail Safety*, discussed impacts on rail safety. Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, described impacts on vessel transportation. The potential impacts on vehicle safety, including crossing safety and emergency vehicle response delay, was described in Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*. Potential impacts related to a coal spill during rail transport were assessed in Draft EIS Chapter 4, Sections 4.5, *Water Quality,* 4.7, *Fish,* and 4.8, *Wildlife*.

As noted in the Master Response for Purpose and Focus of the EIS, an EIS is not required to document all of the possible effects and considerations of a decision (WAC 197-11-448), but should focus on elements of the environment that may be significantly affected by a proposal and alternatives. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

# Comment RS-26

It needs to have mathematical models for derailments especially near city centers and waterways. It needs infrastructure science where heat and freezing are most likely to occur in the rails, where wind may affect dust and particulates, and also in the design section under infrastructure where slopes and curves most likely require reduced speeds.

In other words, I want the EIS to address the transport from the state line all the way through Washington to Longview from a safety point of view. That's what infrastructure new section is about, and I spoke to have the number of trestles and bridges examined for weakness, and I spoke to having the riverways, lakes, aquifers, and aquifer sources as part of this mapping of the infrastructure section. (TRANS-SPOKANE-Q4-00006)

## Response to RS-26

Draft EIS Chapter 5, Section 5.2, *Rail Safety*, assessed potential impacts on rail safety. The analysis described the methods used to calculate the predicted number of accidents per year. Potential coal dust emissions were described in Draft EIS Chapter 5, Section 5.7, *Coal Dust*, and potential impacts to waterbodies and aquifers were assessed in Draft EIS Chapter 4, Sections 4.2, *Surface Water and Floodplains,* 4.4, *Groundwater,* and 4.5, *Water Quality*.

As noted in the Master Response for Purpose and Focus of the EIS, an EIS is not required to document all of the possible effects and considerations of a decision (WAC 197-11-448), but should focus on elements of the environment that may be significantly affected by a proposal and alternatives. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

# Comment RS-27

I think there needs to be mathematical models so we really do have a scientific understanding of the total number of adverse impacts we could be facing because they're going to increase with the increase in traffic that we know the system is not designed to take. (TRANS-SPOKANE-Q4-00006)

## Response to RS-27

Quantitative models were used to prepare the Draft and Final EIS impact analyses, including for the rail transportation, vehicle transportation, vessel transportation, noise and vibration, air quality, coal dust, and greenhouse gas emissions analyses. Information sources and methods are provided in the Draft and Final EISs for each resource area, and information was extracted from technical reports located in Volume III of the Draft and Final EISs and incorporated by reference. The technical reports include more detailed discussions on the determination of study areas, methods used for analysis, and potential impacts.

# Comment RS-28

The DEIS predicts 19 train accidents per year, but will not address who will pay for the cleanup. It does not talk about who will restore the environment. It does not address the environmental degradation that will unfortunately last for decades. (TRANS-PASCO-M1-00039)

## Response to RS-28

The 19 predicted accidents of loaded coal trains in Washington State is related to loaded coal trains for the cumulative analysis in 2038, which includes all cumulative projects and is not limited to Proposed Action-related trains. As described in Draft EIS Chapter 5, Section 5.2, *Rail Safety*, the predicted increase in rail accidents attributable to the Proposed Action within Washington State is predicted to be approximately 11.38 per year (a 22% increase over the baseline). As noted in the Draft EIS, not every accident of a loaded Proposed Action-related train would result in a coal spill. For the purposes of the analysis, an "accident" was defined as involving one or more railroads that have sustained combined track, equipment, and/or structural damage in excess of the 2015 FRA reporting threshold of $10,500. Therefore, the increase in accidents that could result from the Proposed Action would include a variety of incident types and severity and would not be limited to derailment or spills.

As discussed in Draft EIS Chapter 3, Section 3.6, *Hazardous Materials*, if a release of hazardous materials was to occur, the rail operator would implement emergency response and cleanup actions as required by Occupational Safety and Health Administration rules (29 CFR 1910.120); the Washington State Oil and Hazardous Substance Spill Prevention and Response regulations (90.56 RCW) and/or the Model Toxic Control Act Cleanup Regulations (WAC 173-340). In addition, FRA accident reporting requirements (49 CFR 225) that apply to railroad operators include measures to avoid or minimize the potential for a spill of fuel or other potentially hazardous materials from affecting groundwater quality, through quick response, containment and cleanup. Impacts from coal spills on the natural environment were addressed in Draft EIS Chapter 4, Sections 4.5, *Water Quality*, 4.6, *Vegetation*, 4.7, *Fish*, and 4.8, *Wildlife*.

# Comment RS-29

The DEIS produces 19 train accidents per year, yet does not address who will pay for the cleanup. It does not talk about who will restore the environment. It does not talk about the environmental degradation which unfortunately will last for decades. (TRANS-LV-M2-00084)

## Response to RS-29

Refer to Response to RS-28.

# Comment RS-30

How many rail crossing accidents, injuries, and deaths will be attributed to this increased rail traffic? (TRANS-LV-M1-00001)

## Response to RS-30

Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, evaluated the potential impacts of the Proposed Action on vehicle traffic and safety. Vehicle safety at the Cowlitz County study crossings and statewide crossings was analyzed using the FRA GradeDec.Net model to estimate future accident frequency and the corresponding predicted interval between accidents with and without the addition of Proposed Action-related rail traffic. This model accounts for accident history and frequency of trains at existing at-grade crossings, traffic volumes, existing safety devices, and other factors to determine the potential impacts from an increase in rail traffic. The analysis did not predict the likelihood of injury or death resulting from accidents involving Proposed Action-related trains.

# Comment RS-31

The question of whether a train derailment can adversely affect automobile traffic where a road and the railroad tracks are relatively close together, needs to be addressed both from the accident itself and from recovery efforts. (3487)

## Response to RS-31

Refer to Response to RS-16. It is not possible to estimate the likelihood that such an event would occur at a place and time where it could affect a nearby roadway. Refer to the Master Response for Purpose and Focus of the EIS.

# Comment RS-32

The review of rail transport safety is inadequate. A train derailment or accident anywhere along the line from the source to the terminal is likely to impact streams and rivers, with downstream impacts being cumulative over time and extremely adverse. The draft EIS is inadequate at truly evaluating the impact across many watersheds in many states. (3396)

### Response to RS-32

Draft EIS Chapter 4, Section 4.5, *Water Quality*, assessed potential impacts from coal spills on water quality. Cumulative impacts resulting from the addition of impacts from the Proposed Action to impacts from other past, present, and reasonably foreseeable future actions, was analyzed in Draft EIS Chapter 6, *Cumulative Impacts*. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

## Comment RS-33

Acknowledging that there are numerous possible causes for derailments, we ought to note that coal trains and oil trains are using the same tracks. If the accumulation of coal dust really is a problem leading to railbed instability, then we ought to weigh the possible consequences of exploding tank cars, in addition to all the other health risks of coal dust. (3229)

### Response to RS-33

Refer to Response to RS-7 and Response to RS-9.

## Comment RS-34

The DEIS predicts 19 coal train accidents per year, which is likely an underestimate. Rail and shipping accidents happen (look at Mosier right now) and overloading the system with coal will make them even more likely. (1912)

### Response to RS-34

The 19 predicted accidents of loaded coal trains in Washington State is related to loaded coal trains for the cumulative analysis in 2038, which includes all cumulative projects and is not limited to Proposed Action-related trains. As described in Draft EIS Chapter 5, Section 5.2.5.1, *Proposed Action*, the predicted increase in rail accidents attributable to the Proposed Action within Washington State (loaded and empty trains) is predicted to be approximately 11.38 per year (a 22% increase over baseline conditions). For the purposes of the analysis, an "accident" was defined as involving one or more railroads that have sustained combined track, equipment, and/or structural damage in excess of the 2015 FRA reporting threshold of $10,500. Refer to Draft EIS Chapter 5, Section 5.2, *Rail Safety*, for a description of the methods used to evaluate accident frequency.

## Comment RS-35

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| A | **Summary**<br>Page S-30<br>Rail Safety, Operations | "The predicted accident frequency would increase over baseline conditions in 2028 by approximately 22% in Cowlitz County and Washington State with trains related to the Proposed Action." | This impact is due to more freight trains on the track, not specific to coal trains; more importantly, perhaps, the impact is projected and expected to occur within a period of years afterwards under the No-Action Alternative. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| B | **Summary**<br>Page S-54, Section 5.2, Rail Safety | *"Without improvements to rail infrastructure to improve rail safety, the Proposed Action could result in an unavoidable and significant adverse impact on rail safety."* | The suggestion that coal trains are causational is misleading, suggesting it has something to do with the coal being transported. If the statement about more accidents is true then it is about more trains, not coal trains. |
| C | **5.2 Rail Safety**<br>Page 5.2-2 | 5.2.3.1 Information sources. In this section an accident is defined by things adding up to $10,500. In the 1st Paragraph of Section 5.2 it is stated "Rail safety for this analysis refers to train derailments and collisions that could lead to a loss of cargo". | There is an inconsistency in these two statements. Which one is it? |
| D | **5.2 Rail Safety**<br>Page 5.2-7, Increase the Potential for Train Accidents, first bullet | *"With track improvements to the Reynolds Lead and BNSF Spur (Track Class 2): The predicted number of accidents is 0.25 per year for loaded Proposed Action-related trains, and 0.25 accident per year for empty Proposed Action-related trains. Therefore, 1.0 accident for each type of train (loaded and empty) every 4 years is predicted. Proposed Action–related traffic would increase the predicted accident frequency on the Reynolds Lead and BNSF Spur from 0.11 accidents per year to 0.61 accidents per year for all rail traffic."* | These statements are inconsistent. Correct the language. |
| E | **5.2 Rail Safety**<br>Page 5.2-9, Statewide Impacts, second paragraph | *"Adding the train accidents from the inbound and outbound trains related to the Proposed Action to the total accident baseline would increase accidents from 50.43 accidents per year to 61.81 accidents per year. This means that within Washington State, the predicted increase in rail traffic accidents related to the Proposed Action is approximately 11.38 accidents per year (an increase of approximately 22% over the baseline)."* | Please clarify or explain why an increase of 8 trains or 10% of capacity would cause a 22% increase in accidents. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| F | **5.2 Rail Safety**<br>Page 5.2-10, Section 5.2.8 Unavoidable and Significant Adverse Environmental Impacts | Delete the word "in": *"potential train accidents along ~~in~~ the rail routes in Cowlitz County"* | typo |

(3070)

## Response to RS-35

The following describes the changes made to the Final EIS *Summary* and Chapter 5, Section 5.2, *Rail Safety*, in response to these comments. Refer to the left-most column of the above table for lettering used to identify each comment.

- **Comment C:** The first paragraph in Chapter 5, Section 5.2, *Rail Safety*, has been revised to remove the reference to loss of cargo.
- **Comment F:** The typo in Chapter 5, Section 5.2.8, *Unavoidable and Significant Adverse Environmental Impacts*, has been corrected.

Other comments did not require a revision for the Final EIS. The responses to these comments are provided below.

- **Comment A:** The No-Action Alternative would require 2 trains along the Reynolds Lead and BNSF Spur with an undefined destination beyond Longview Junction. The Proposed Action would add 16 trains on main line routes between the Idaho/Washington State line and the project area. As described in Draft EIS Section 5.1, *Rail Transportation*, the Proposed Action would have impacts on rail transportation that would not occur under the No-Action Alternative, namely 16 trains per day on main line routes between the Idaho/Washington State border and the project area. Also refer to Response to RS-1.
- **Comment B:** As explained in the *SEPA Rail Safety Technical Report*, train accident rates are distinguished only by freight versus passenger service, not by specific cargoes. The analysis determined the potential impacts on rail safety resulting from the Proposed Action by assessing the change in the predicted number of accidents under the Proposed Action as compared to the baseline condition. The analysis did not consider the type of cargo.
- **Comment C:** The text is correct as written. Along the Reynolds Lead and BNSF Spur, Proposed Action-related loaded trains would have a predicted accident frequency of 0.25 per year (or 1.0 accident every 4 years). Unloaded trains along these rail segments would separately have the same predicted accident frequency. Therefore, in total, the accident prediction frequency for all Proposed Action–related trains would be 0.5 per year, leading to an increase accident frequency from the baseline of 0.11 up to 0.61 accident per year.
- **Comment D:** The text in question is providing the anticipated increase in accident frequency when adding "inbound and outbound trains," which would consist of 16 trains per day.

# Comment RS-36

The DEIS has many flaws. For example, the DEIS under-inclusively examined rail impacts stemming from transporting coal from the Washington border to Longview. The coal would originate in the Powder River Basin in Montana or Wyoming or in the Uinta Basin in Utah. DEIS at 5.1-7. Transporting the coal to the Washington border was not examined. Eliminating a large part of the trip does not provide the full disclosure required by SEPA. WAC 197-11-060(4)(b). (2508)

## Response to RS-36

In accordance with SEPA Rules, the SEPA co-lead agencies defined the geographic study areas for the Draft EIS analyses to encompass the areas where the Proposed Action could result in significant adverse environmental impacts. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment RS-37

Risk of derailment and spills: The DEIS predicts more than 11 rail-related accidents every year across the state of Washington, and 19 coal train accidents annually when other projects are considered. These numbers do not consider the potential number of accidents that could occur in Idaho or Montana. Unlike Washington State, Idaho is uniquely reliant on BNSF and the other railways to conduct adequate inspections of their railroad tracks. Idaho has none of its own track inspectors. The only independent track inspector, employed by the Federal Railroad Administration, covers all of Idaho, Eastern Washington and Montana. (3492)

## Response to RS-37

Refer to Response to RS-36.

# Comment RS-38

Finally, an increase in the number of trains could increase the number of wildfires in Montana. The dry, windy conditions found in southeastern and central Montana can favor fire risk and its spread. Worn brakes, sparks from brake shoes or wheels, arcing from traction motors, failed wheel bearings, dripping oil, sparks smoldering on old creosoted cross-ties, and thrown rods from locomotives all have the potential to start fires. Because of reduced employee numbers on trains, a train-caused fire might not be detected until it is burning more intensely. The potential for more wildfires that are the result of increased train traffic is a connected and cumulative impact of the proposed MBTL project and must be recognized and thoroughly examined in the environmental analysis and considered by the decision makers. (2504)

## Response to RS-38

Refer to Response to RS-5 and Response to RS-36.

# Comment RS-39

Analysis of future train accidents is incomplete because it does not calculate the number of accidents that would be caused by increased rail traffic by Millennium on tracks outside Washington State.

The Final EIS for Washington should not be issued until a plan can be finalized with other states for the share of mitigation that Millennium should pay for accidents in their jurisdictions. (3465)

## Response to RS-39

Refer to Response to RS-36.

# Comment RS-40

The DEIS also ignores any possibility of train incidents occurring in the Gorge in Oregon due to the increased train traffic that the proposed action would bring. Union Pacific, which operates the tracks on the South side of the Columbia River, has an even worse safety record than BNSF. Impacts in Oregon cannot be lawfully ignored. WAC 197-11-060(4)(b). The increased incidence of accidents in Oregon that would result from building the coal terminal in Longview must also be disclosed and mitigated in the EIS. (2508)

## Response to RS-40

Refer to Response to RS-36.

# 5.3 Vehicle Transportation

This section presents responses to substantive comments related to vehicle transportation.

## Comment VEH-1

This section needs to be expanded to document that adverse conditions will also develop in Spokane County as we have at least 25 at grade crossings which will experience the same volume of trains moving through Spokane as will move through Cowlitz County on tracks that section S.7.4 on page S 41 has identified as not having capacity to handle the increased rail traffic and will experience unavoidable and significant adverse impacts. (0478)

### Response to VEH-1

The vehicle transportation study area included all active public and private at-grade crossings on the Reynolds Lead and BNSF Spur, and all at-grade public crossings on the BNSF main line in Cowlitz County. A review of at-grade crossings of interest along the BNSF main line in Washington State identified by the Washington State Department of Transportation during the scoping process was also conducted. A quantitative review of vehicle transportation at these crossings was included in Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*. Section 5.3 provided the estimated daily gate downtime from Proposed Action-related trains at the at-grade crossing of interest along the BNSF main line in Washington State. The Master Response for Geographic Study Areas of the EIS explains the study areas analyzed in the EIS. For potential impacts on rail capacity, refer to Final EIS Chapter 5, Section 5.1, *Rail Transportation*.

## Comment VEH-2

A detailed, quantitative, analysis was conducted in the Cowlitz County area, but only a qualitative, cursory analysis was conducted for Spokane County. Even though train volume is going to go from the current 70 trains a day to a projected 200 trains per day in 2038 (see below) in the Spokane Corridor. This near tripling of train volume will create significant additional vehicle delay at these at grade crossings without accounting for increases in vehicle congestion that is going to occur on these roads during the next 20 years. In Spokane County, on just the BNSF rail line to Pasco, there are 25 “at Grade” crossings. The average daily traffic count for these roads is currently more than 51,000 cars per day. A significant portion of this traffic volume will be subjected to increased congestion for so many minutes per day as the additional train volume traverses the county. Over the course of a year, this will cost Spokane County drivers millions of dollars in increased congestion costs. The increase in traffic congestion created by the additional trains being added to the existing rail network needs to be identified and properly mitigated. Transportation projects under construction in just Spokane County are spending billions of dollars to add capacity to the transportation road grid and these coal trains are going to increase traffic congestion on dozens of arterials that cross rail lines at the “at Grade” crossings. The DEIS needs to do a quantitative analysis of these traffic impacts for the Spokane area. (0478)

### Response to VEH-2

Refer to Response to VEH-1.

The potential mitigation measure presented in the Draft EIS was developed within the limits of the SEPA regulatory framework described in the Master Response for Mitigation Framework. As noted in the master response, an applicant must be reasonably able to implement required mitigation and cannot be required to act beyond its legal authority or jurisdiction. For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

# Comment VEH-3

Transportation/traffic - In the EIS summary it's stated that if the "mitigating actions – 432 project" is not implemented rail traffic to the Millennium Project would have a detrimental effect on traffic flow in the community. It's my concern that the statement should say "a serious detrimental effect on the health, safety and traffic flow in the community. I believe it would be totally irresponsible to allow the coal export facility to operate until all the mitigating transportation actions are in place and usable. This should be a requirement of any approval. (1134)

## Response to VEH-3

Refer to the Master Response for Mitigation Framework.

# Comment VEH-4

I am especially concerned with traffic delays which will occur at "at grade crossings." (1934)

## Response to VEH-4

Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, included an assessment of the potential impacts of the Proposed Action in the study area on vehicle delay.

# Comment VEH-5

Every Railroad Crossing would need an overpass to ensure public safety and that is not even proposed. The final EIS must address the fact that ambulances cannot jump over coal trains and find a way to mitigate the losses. (2352)

## Response to VEH-5

Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, included an evaluation of the potential impacts of the Proposed Action on vehicle delay in the study area, including possible delays to emergency response vehicles.

# Comment VEH-6

Traffic delays. The proposed coal trains will cause substantial traffic delays all along the rail route from the mines to Longview. Just getting to work or picking up your kids from school could be a nightmare. The DEIS does not adequately address this issue. (2435)

### Response to VEH-6

Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, included an assessment of the potential impacts of the Proposed Action on vehicle delay in the study area.

## Comment VEH-7

Delays to emergency vehicles from the considerable increase in rail traffic by 16 trains/day needs consideration in communities along the entire rail route. In Longview alone consider this: How would 130 minutes per day of extra "down time" at rail crossings affect ambulance transport of a patient suffering heart attack, stroke, or severe trauma? (2511)

### Response to VEH-7

Refer to Response to VEH-1 and Response to VEH-5.

## Comment VEH-8

These impacts would result in increased wait times at grade crossings, increased emergency vehicle delays at rail crossings, increase in train accidents, and unacceptable level of service at multiple rail crossings due to delays from cumulative projects. What do these impacts mean to real people in everyday life? For example, commuters during rush hour, or picking a kid up from school? (2513)

### Response to VEH-8

Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, evaluated the potential impacts of the Proposed Action on vehicle delay in the study area. The analysis included a calculation of vehicle delay for average driver over a 24-hour period, and during the peak hour traffic per the methods described in Section 5.3.

## Comment VEH-9

They would also cause more traffic congestion and safety hazards, with ambulances and fire engines being trapped at rail crossings behind mile-long trains separating them from emergencies. (2532)

### Response to VEH-9

Refer to Response to VEH-5.

## Comment VEH-10

Given the overall concern about vehicle transportation effects in low income and minority areas, and challenges associated with mitigating these effects, we highlight that two of the study crossings with the largest increase in vehicle delay compared to baseline 2028 conditions – Pine Road-SR27 and Park Road in Spokane County (State DEIS, Table 5.3-39) – are located in a low-income area (As Identified using the EPA's tool EJScreen). We recommend that the State EIS include additional information on whether vehicle delays at these two crossings and any other statewide at-grade crossing would be disproportionate and adverse for low income and minority populations. The State

could consider conducting Level of Service, vehicle queue, emergency services and community access analysis for impacted intersections in low income and minority population areas. (3306)

### Response to VEH-10

Final EIS Chapter 3, Section 3.2, *Social and Community Resources*, has been revised to identify a potential disproportionately high and adverse impact on low-income and minority communities from vehicle delay within the study area defined for the analysis. Other crossings outside of Cowlitz County are outside the study area defined for the analysis of low-income and minority populations. Refer to the Master Response for Geographic Study Areas of the EIS.

## Comment VEH-11

Page 5.3-13 of the DEIS notes that vehicle queuing will extend to nearby intersections. However, there is no analysis of these intersections, nor is there an analysis of the impacts to the streets that cross at these intersections. Likewise, Page 5.3-32 analyzes the delay of vehicles at the railroad grade crossings, but not at the nearby intersections. Several grade crossings are close together and will be closed simultaneously. Four private crossings are immediately adjacent to SR 432 and with essentially no queueing space between the railroad and the state highway, WSDOT believes that train traffic over these crossings would back up traffic too, and impact, the state highways. WSDOT requests the analysis includes all queuing information for the interim and full build out scenarios and the associated LOS. (2734)

### Response to VEH-11

Final EIS Chapter 5, Section 5.3, *Vehicle Transportation*, has been revised to include the vehicle delay analysis at upstream intersections in the State Route 432 corridor. Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, presented estimated queue lengths at the upstream intersections. This analysis has been updated in Final EIS Chapter 5, Section 5.3.

## Comment VEH-12

Additionally, railroads often “fleet” trains in single-track territory. In order to increase track capacity, rail dispatch will run multiple closely spaced trains in one direction, then run multiple closely spaced trains in the other. By doing so, multiple trains could run on the same section of track at the same time, as they are going in the same direction. Part of the improvements proposed by the Longview Switching Company is implementation of this type of dispatching. WSDOT is concerned that trains could be stacked, not permitting vehicle queues to clear between trains.

The Longview Switching Company may make improvements, such as track upgrades, if and when they determine these improvements are warranted. These improvements would result in an increase of the speed limit in this area from 10 MPH to 25 MPH, and permit trains to be spaced closer together. The higher speed limit would result in a shorter gate-downtime at the crossings. WSDOT believes that it is unlikely that a loaded coal train will significantly accelerate in that short distance only to slow down again. Please provide that analysis that trains can and will actually be travelling at speeds up to 20 MPH at these crossings. If this will not be the case, please determine how fast they will be travelling at these crossings and analyze the impact at these crossings and the adjacent intersections. Likewise, if this proponent knows of specific timing for the upgrade, that information should be added and the ramifications of that upgrade analyzed. (2734)

## Response to VEH-12

Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation,* described that freight trains do not run on a schedule; rather, railroad companies evaluate each situation and dispatch trains based on a number of criteria, including available crew, number of cars, cost of fuel, and overall revenue. Because freight trains do not operate on a schedule, the 24-hour average delay was analyzed to represent the delay for the average driver. To analyze the highest potential vehicle delay impacts that could occur, an analysis of vehicle delay during the PM (afternoon) peak traffic hour was also completed. This analysis assumed one Proposed Action-related train would travel during the peak traffic hour with current track infrastructure on the Reynolds Lead and BNSF Spur, and two Proposed Action-related trains with future planned track infrastructure. While "fleeting" of trains is possible, it is not considered to be part of the probable operation of Proposed Action-related trains on the Reynolds Lead and BNSF Spur.

Draft EIS Chapter 5, Section 5.1, *Rail Transportation,* and the *SEPA Rail Transportation Technical Report* (ICF 2017) described the methods and assumptions used to evaluate potential impacts of the Proposed Action on rail transportation. This section acknowledged train acceleration and deceleration would take place at various points on the Reynolds Lead and BNSF Spur. It also provided the estimated speed for Proposed Action-related trains at the public crossings on the Reynolds Lead and BNSF Spur. Final EIS, Chapter 5, Section 5.1, *Rail Transportation*, has been revised to clarify that acceleration and deceleration were used to estimate the time Proposed Action-related trains would transit each at-grade crossing. The *SEPA Rail Technical Report* has been revised to describe the model that was used to estimate train speeds at these points on the Reynolds Lead and BNSF Spur.

The Master Response for Connected or Similar Actions addresses the commenter's concern about evaluating the impacts of improvements to the existing rail infrastructure.

# Comment VEH-13

A discussion of delay to emergency vehicle response is on Page 5.3-36 of the DEIS. The total gate downtime would increase 130 minutes per day at the public crossings. The DEIS should disclose that the Oregon Way crossing is the only practical route between Rainier and other Oregon communities and medical facilities in Longview. This may warrant a change in the indirect impacts study related to Social and Community Cohesion and Public Services (Chapter 3.2 of the DEIS). Also, multiple accesses to Weyerhaeuser mill could easily be blocked at the same time by the same train. Please provide a response on how emergency service response time and access can be mitigated in the interim and full build out scenarios. Pedestrian and bicycle safety at highway intersections impacted by increased vehicle delay also needs to be analyzed, and mitigation discussed in the Final EIS. (2734)

## Response to VEH-13

Final EIS Section 5.3, *Vehicle Transportation*, has been revised to acknowledge that the Lewis and Clark Bridge/State Route 433 is the only practical route for emergency service providers between medical facilities in Kelso-Longview and Rainier and other Oregon communities. The study area for vehicle transportation as described in Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, included active public and private at-grade crossings on the Reynolds Lead and BNSF Spur, and all at-grade public crossings on the BNSF main line in Cowlitz County. A review of at-grade crossings of

interest identified by the Washington State Department of Transportation (WSDOT) during the EIS scoping process along the BNSF main line in Washington State was also considered. Emergency service providers within the study area defined for the analysis were also identified in Section 5.3. The Master Response for Geographic Study Areas of the EIS explains the study areas analyzed in the EIS. Potential mitigation in the Draft EIS would address vehicle delay impacts at grade crossings for all vehicles (including emergency response vehicles) on the Reynolds Lead and BNSF Spur. Refer to the Master Response for Mitigation Framework for information regarding how the potential mitigation measures presented in the Final EIS were developed within the limits of the SEPA regulatory framework.

Final EIS Chapter 3, Section 3.2, *Social and Community Resources*, has been revised to include a description of potential impacts on pedestrians and bicyclists under the Proposed Action.

# Comment VEH-14

The basis for the safety threshold described in Chapter 5.3.3.2 and elsewhere is unclear and requires explanation. The Accident Prediction Model is a prioritization tool for allocation of funds between safety projects. The Final EIS should be cautious in suggesting that a model threshold would define a safe versus unsafe crossing. (2734)

## Response to VEH-14

Final EIS Chapter 5, Section 5.3, *Vehicle Transportation*, has been revised to define a vehicle safety impact as a study crossing that would have an expected accident frequency above 0.075 accident per year under the Proposed Action that would be at or below 0.075 accident per year under the No-Action Alternative. As described in Section 5.3, the FRA GradeDec.Net model (Federal Railroad Administration 2016) was used to analyze the study crossings to calculate the expected accident frequency. This model accounts for accident history and frequency of trains at existing at-grade crossings, volume of vehicle traffic, existing safety devices at the at-grade crossings, and other factors to determine the potential impacts of an increase in rail traffic. The *Railroad-Highway Grade Crossing Handbook–Revised Second Edition* (Federal Highway Administration 2007) indicates active devices with automatic gates, or grade separation should be considered as options when certain criteria are met. One criterion is if the expected accident frequency, as calculated by the U.S. Department of Transportation Accident Prediction formula, exceeds 0.075 per year for active devices with automatic gates, and 0.50 per year for grade separation. Final EIS Section 5.3 found that none of the study crossings on the Reynolds Lead, BNSF Spur, and BNSF main line in Cowlitz County would be above the benchmark used for the analysis (0.075 accident per year) with existing crossing safety protection. Proposed Action-related trains would not have a vehicle safety impact at the study crossings in Cowlitz County.

# Comment VEH-15

Given our concerns identified, WSDOT believes that the impact of this proposal will be significantly greater than identified in the DEIS, and the proposed mitigation measures are inadequate. WSDOT respectfully requests additional mitigation based on the additional analysis needed, as identified above. (2734)

## Response to VEH-15

Refer to Response to VEH-2.

The Draft EIS identified potential mitigation measures and concluded while improvements for rail and road infrastructure have been proposed, it is unknown when these actions would be permitted and implemented. Therefore, the Proposed Action at full operations in 2028 could result in an unavoidable and significant adverse environmental impact on vehicle transportation.

# Comment VEH-16

| | | | |
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| 6 | Chapter 5: Operations: Existing Conditions, Project Impacts, and Potential Mitigation Measures | Two of the existing grade crossings are on SR 432. Additional analysis of the impact to the Level of Service (LOS) to the transportation network, as described below, should be provided. | Southwest Region Staff |
| 7 | Chapter 5: Operations: Existing Conditions, Project Impacts, and Potential Mitigation Measures | Two public grade crossings are on major city streets near the intersection with SR 432 and/or SR 433. California Way is classified as a Minor Arterial and Oregon Way is a Principal Arterial. Additionally, Oregon Way is the primary route between Rainier and other Oregon communities and various services in the Kelso/Longview area. WSDOT believes that train traffic over these crossings would back traffic up to, and impact the state highways. Additional analysis of the impact to the Level of Service (LOS) to the transportation network, as described below, should be provided. | Southwest Region Staff |
| 8 | Chapter 5: Operations: Existing Conditions, Project Impacts, and Potential Mitigation Measures | The four private grade crossings serve industries across the tracks from SR 432. These crossings are immediately adjacent to SR 432, and there is essentially no queueing space between the railroad and the state highway. Trucks utilize these crossings as they serve these industries. Additional analysis of the impact to the Level of Service (LOS) to the transportation network, as described below, should be provided. | Southwest Region Staff |
| 9 | Chapter 5: Operations: Existing Conditions, Project Impacts, and Potential Mitigation Measures | According to the DEIS, two peak hour trains are predicted in 2028. Additionally, the following circumstances could bunch up trains:<br>• Freight trains don't run on a schedule. They run randomly. Even if they are spaced as they leave the coal mine, trains are delayed for numerous reasons, reducing the space between trains.<br>• Railroads often "fleet" trains in single-track territory. In order to increase track capacity, they will run multiple closely spaced trains in one direction, then run multiple closely spaced trains in the other. By doing so, multiple trains could run on the same section of track at the same time, as they are going in the same direction.<br>• Part of the improvements proposed by the LVSW is CTC dispatching and track upgrades. This would allow closer spacing of trains.<br><br>WSDOT is concerned that trains could be stacked, not permitting vehicle queues at crossings/intersections to clear between trains. Please provide additional analysis. | Southwest Region Staff |
| 10 | Chapter 5: Operations: Existing Conditions, Project Impacts, and Potential Mitigation Measures | The proposed coal terminal at Cherry Point will not be permitted by the United States Corp of Engineers. Will that cause pressure to add more trains to the Millennium project? If so, the traffic impact analysis should be revised accordingly. | Southwest Region Staff |

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|---|---|---|---|
| 11 | Chapter 5: Operations: Existing Conditions, Project Impacts, and Potential Mitigation Measures | As noted above, LVSW may make improvements if and when it determines these improvements are warranted. These improvements would result in an increase of the speed limit in this area from 10 MPH to 25 MPH, and permit trains to be spaced closer together. The higher speed limit would result in a shorter gate-down time at the crossings. Table 5.1-4 of the DEIS lists estimated train passing time and speed at several grade crossings, both with and without the proposed track infrastructure improvements. This table shows trains crossing Oregon Way and Industrial Way at 20 MPH. However, even with the proposed rail improvements, these speeds and times are optimistic. There are no plans to increase the speed limit of the railroad bridge over the Cowlitz River above the current 10 MPH. Likewise, the train speeds would be limited at the Millennium site. A westbound train would not be able to accelerate above the 10 MPH limit over the bridge until the end of the train has cleared the bridge. These trains will be 125 cars long with 3 locomotive units. The total length is 6,844 feet per Table 5.1-2. Therefore, the front of the train would be 1.3 miles past the bridge before it could accelerate. Likewise, at the Millennium end, the rear of the train would be 1.3 miles east of the speed restriction as the front of the train enters the coal terminal. The distance between the west end of the Cowlitz River Bridge and the entrance to the coal terminal is six miles. WSDOT believes that it is unlikely that a loaded coal train will significantly accelerate in that short distance only to slow down again. Please provide the analysis that trains can and will actually be travelling at speeds up to 20 MPH at these crossings. If this will not be the case, please determine how fast they will be travelling at these crossings and analyze the impact at these crossings and the adjacent intersections. Are there future improvements planned at the Cowlitz River Bridge? If so, they need to be included in the analysis. | Southwest Region Staff |

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| 12 | Chapter 5: Operations: Existing Conditions, Project Impacts, and Potential Mitigation Measures | Page 5.3-13 of the DEIS notes that vehicle queuing will extend to nearby intersections. However, there is no analysis of these intersections, nor is there an analysis of the impacts to the streets that cross at these intersections. Likewise, Page 5.3-32 analyzes the delay of vehicles at the railroad grade crossings, but not at the nearby intersections. The grade crossings of SR 432 (3rd Ave.) SRMP 7.19 and California Way are very close to each other, and both crossings would be blocked simultaneously. In addition to impacting these roads at the grade crossings, train crossings would also impact the intersection of California Way and Industrial Way (SR 432) and 3rd Ave. (SR 432) and Industrial Way, as well as other nearby intersections. Likewise, the grade crossings of Oregon Way and SR 432 (Industrial Way) MP 5.90 are very close to each other, and both crossings would be blocked by a train simultaneously. This would severely impact the intersection of Oregon Way and Industrial Way. Therefore, WSDOT requests the analysis to include all queuing information for the interim and full build out scenarios and the associated LOS. | Southwest Region Staff |
| 13 | Chapter 5: Operations: Existing Conditions, Project Impacts, and Potential Mitigation Measures | A discussion of delay to emergency vehicle response is on Page 5.3-36 of the DEIS. The total gate downtime would increase 130 minutes per day at the public crossings. The DEIS should disclose that the Oregon Way crossing is the only practical route between Rainier and other Oregon communities and medical facilities in Longview. This may warrant a change in the indirect impacts study related to Social and Community Cohesion and Public Services (Chapter 3.2 of the DEIS). Also, multiple accesses to the Weyerhaeuser mill could easily be blocked at the same time by the same train. Please provide a response on how emergency service response time and access can be mitigated in the interim and full build out scenarios. | Southwest Region Staff |
| 14 | Chapter 5: Operations: Existing Conditions, Project Impacts, and Potential Mitigation Measures | Pedestrian and bicycle safety at highway intersections impacted by increased vehicle delay needs to be analyzed, and mitigation discussed in the DEIS. | Southwest Region Staff |
| 15 | Chapter 5: Operations: Existing Conditions, Project Impacts, and Potential Mitigation Measures | Given our concerns identified above, WSDOT believes that the impact of this development will be significantly greater than identified in the DEIS, and the proposed mitigation measures on Pages 5.3-41 and 5.3-42 are inadequate. WSDOT respectfully requests additional mitigation based on the additional analysis identified above. | Southwest Region Staff |

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| 16 | 5.3.3.2 Railroad Crossing Performance Measures (5.3-11) | What is the basis for 0.04 (i.e., 1 crash every 25 years) to be the safety threshold? The methodology or precedent used to establish this should be clarified. Accident Prediction Model (AMP) is a prioritization tool for allocation of funds between safety projects. The EIS should be cautious in suggestion that an AMP threshold would define a safe versus unsafe crossing. | Ahmer Nizam |
| 17 | 5.3.5.1 Statewide Study Crossings - Increase Predicted Accident Probability on BNSF Main Line Routes beyond Cowlitz County (5.3-40) | Same comment as in Vehicle Transportation Chapter - please explain the basis for the 0.04 threshold. | Ahmer Nizam |

(2734)

### Response to VEH-16

The following provides responses to the above comments.

- **Comments 6, 7, 8.** Refer to Response to VEH-11.
- **Comment 9.** Two peak hour trains during the peak with planned track infrastructure on the Reynolds Lead and BNSF Spur were assumed for the vehicle transportation analysis. Refer to Response to VEH-12.
- **Comment 10.** The applicant for the Gateway Pacific Marine Terminal in Whatcom County, Washington had not withdrawn their development application at the time the Final EIS was prepared. This project is considered in the evaluation of potential cumulative impacts in Final EIS Chapter 6, *Cumulative Impacts*.
- **Comment 11.** Refer to Response to VEH-12. Final EIS Chapter 5, Section 5.1, *Rail Transportation*, and the Master Response for Connected or Similar Actions, describes that the Proposed Action does not require off-site rail line improvements to receive coal by rail, and therefore potential improvements to existing rail infrastructure on main line routes are not evaluated in the EIS. No improvements are planned for the Cowlitz River Bridge.
- **Comment 12.** Refer to Response to VEH-11.
- **Comments 13, 14.** Refer to Response to VEH-5 and Response to VEH-13.
- **Comment 15.** Refer to Response to VEH-2 and Response to VEH-15.
- **Comments 16, 17.** Refer to Response to VEH-14.

## Comment VEH-17

Change the vehicle safety metric to crashes involving fatalities and serious injuries. This better aligns with Washington State's traffic safety goals. We further recommend that the project make investments in the intersections identified as having risks of greater than 0.04 accidents per year that are sufficient to support Washington State's Target Zero goal. (2823)

### Response to VEH-17

Refer to Response to VEH-2 and Response to VEH-14.

## Comment VEH-18

The accident probability analysis consists almost entirely of using the Federal Railroad Administration (FRA) GradeDec.NET web-based software to estimate the predicted annual accident probability at each crossing in the study. The commission has no concerns with the use of this software for initial analysis. It is a tool sponsored by the FRA that is used nationally by railroad safety specialists, including commission staff, for a wide variety of applications. However, the GradeDec.Net software is of limited analytical value on its own. Rather, this software was designed as an investment planning tool. It was intended to be used by planning, policy, and investment decision makers to evaluate the benefits and costs of various crossing upgrades, grade separations, and crossing closures. It can be used for other purposes, as it is in the DEIS, but only in combination with other site-specific information, and an on-site safety review by local road authorities (e.g., city of Longview), the railroad, commission staff and other interested parties.

While the analysis in the DEIS has produced some preliminary results, the commission does not believe that the results of the analysis can be considered determinative in deciding whether additional safety devices are necessary at the five public LVSW crossings. The GradeDec.Net model captures limited data elements and produces only basic potential starting point results. For instance, the model captures such things as accident history (five years), train and traffic volumes, level of protection, and number of roadway lanes, but does not capture other site specific characteristics such as approach grades, angle of crossing, train and vehicle speeds, and available sight distances. The DEIS rationalizes the importance of these critical elements by stating that "the accident history at these crossings would likely reflect these characteristics." (Vehicle Transportation, Section 5.3.3.2, Impact Analysis, page 5.3-13). Yet, this statement may or may not be correct: One may expect accident histories at crossings to remain consistent, but the addition of increased rail traffic, congestion at the crossings and continued growth in population could potentially alter the risk in a way that is not consistent with past accidents. The commission urges on the county and Ecology to reject conclusory statements that make assertions on safety without reference to any definitive analysis or academic studies on the subject. (3311)

### Response to VEH-18

Refer to Response to VEH-2 and Response to VEH-14.

## Comment VEH-19

The analysis is further compromised by the use of an unattributed performance measure. In the Vehicle Transportation section at 5.3.3 (Methods) page 5.3-14, the DEIS states, "Based on other applications of the model, a vehicle safety impact was defined as a study crossing that would have a predicted accident probability above 0.04 under the Proposed Action that would be at or below 0.04 under the No-Action scenario." Further, the SEPA Vehicle Transportation Technical Report at 3.1.1.3, page 3-21, states, "For this analysis, a predicted accident probability of 0.04 per year, or one every 25 years, was used as a performance measure for when grade-separation should be considered at study crossings for safety reasons. This was based on a peer review of similar applications of the FRA GradeDec.Net module."

The commission is unfamiliar with this measure and, since it is unattributed, is unable to attest to the validity of its use as a performance measure in the DEIS. The U.S. Department of Transportation, Federal Highway Administration, determined one of the criteria for considering active devices with automatic gates is an expected accident frequency as calculated by the USDOT Accident Prediction formula, including a five-year accident history, exceeding 0.075 per year. To be considered for grade-separation, the expected accident frequency would be 0.5 per year, or one predicted accident every two years. (See Guidance on Traffic Control Devices at Highway-Rail Grade Crossings, November, 2002, at pages 29 and 30, and Railroad-Highway Grade Crossing Handbook, August, 2007, at pages 149 and 151). To give these numbers context, in Washington there are 78 public crossings (out of 2,800 total public crossings) that currently exceed the 0.04 threshold. There are 25 that exceed 0.075; and no crossing exceeds 0.5. The commission strongly supports crossing safety and would not oppose consideration of grade separation but wants to ensure consistency in the methodology and parameters of grade separation discussions to ensure efforts are focused on those projects that are in greatest need. (3311)

### Response to VEH-19

Refer to Response to VEH-14.

## Comment VEH-20

Using the previously mentioned performance measure of predicted accident probability, .04 accidents per year, the increased train traffic would result in an adverse vehicle safety impact at the 3rd Avenue crossing (USDOT #101826T). (Vehicle Transportation Section at 5.3.5.1 (Proposed Action), page 5.3-36). The analysis shows that predicted accident probability would be above 0.04 accidents per year if the proposal and associated increased train traffic is approved. The commission is concerned that there is no related mitigation measure proposed to address the increased risk and there is no apparent recognition of the finding as an Unavoidable and Significant Adverse Environmental Impact at 5.3.8, pages 5.3-42 & 43 beyond the statement, "The Proposed Action would also result in a vehicle safety impact at the 3rd Avenue crossing of the Reynolds Lead." If the DEIS is adopting a performance measure that would classify a crossing as being higher risk and require thorough consideration of grade separation, there should be a mitigation measure or a reference in the section on Unavoidable and Significant Adverse Environmental Impact noting the impact and its significance. Without these changes, the commission does not believe the project should move forward. (3311)

### Response to VEH-20

Refer to Response to VEH-2 and Response to VEH-14.

## Comment VEH-21

In the DEIS, the Applicant offered to fund installation of crossing gates at the Reynolds Lead crossing of Industrial Way "to mitigate the safety impacts from increased rail traffic, before beginning operations."(Vehicle Transportation, Section 5.3.7.1, Voluntary Mitigation, Page 5.3- 42). The commission appreciates the Applicant's willingness to fund this improvement at the Industrial Way crossing voluntarily. However, the commission believes more specific language, including an evaluation of the condition of existing signal equipment to ensure the crossing meets safety standards, is necessary. (3311)

### Response to VEH-21

The commenter is referring to voluntary mitigation the Applicant provided and committed to implementing. Final EIS Chapter 5, Section 5.3, *Vehicle Transportation*, has been revised to include additional voluntary mitigation committed to by the Applicant in response to comments on the Draft EIS.

## Comment VEH-22

1. In the Vehicle Transportation section at 5.3.3.2, page 5.3-14, the DEIS states "Based on other applications of the model, a vehicle safety impact was defined as a study crossing that would have a predicted accident probability above 0.04 under the Proposed Action that would be at or below 0.04 under the No-Action scenario." Add a footnote specifically identifying the other applications of the model relied upon. Alternatively, use performance measures based upon

measures identified in U.S. Department of Transportation, Federal Highway Administration publications mentioned previously.

2. In the SEPA Vehicle Transportation Technical Report at 3.1.1.3, page 3-21, the DEIS states "For this analysis, a predicted accident probability of 0.04 per year, or one every 25 years, was used as a performance measure for when grade-separation should be considered at study crossings for safety reasons. This was based on a peer review of similar applications of the FRA GradeDec.Net module (sic)." Add language specifically identifying the similar applications of the FRA GradeDec.Net Module and each specific peer review relied upon. Alternatively, the Applicant must use performance measures identified in U.S. Department of Transportation, Federal Highway Administration publications mentioned previously. (3311)

### Response to VEH-22

Refer to Response to VEH-14. The *SEPA Vehicle Transportation Technical Report* has also been revised per Response to VEH-14.

## Comment VEH-23

4) In the Vehicle Transportation section at 5.3.7.1 - Voluntary Mitigation, page 5.3.42, the second bullet reads "To mitigate the safety impacts from increased rail traffic, before beginning operations, the Applicant will fund installation of crossing gates at the Reynolds Lead crossing of industrial Way." The sentence should be reworded as "To mitigate the safety impacts from increased rail traffic, before beginning operations at Stage la (start-up operations), the Applicant will fund replacement of existing active warning devices at the Reynolds Lead crossing of Industrial Way (USDOT # 101806G) with shoulder-mounted LED lights and gates." Commission staff notes that the signal cabinet at this crossing is antiquated and will likely need to be replaced in conjunction with installation of new signal equipment. (3311)

### Response to VEH-23

Refer to Response to VEH-21.

## Comment VEH-24

5) The commission recommends that the Applicant, as part of its required mitigation in the Vehicle Safety section, convene a safety review team consisting of representatives of the Applicant, LVSW, City of Longview, commission staff and other interested parties prior to or in conjunction with Stage la (start-up operations). The purpose of the team is to recommend safety improvements at the other four LVSW public crossings and determine what is necessary to create a quiet zone under federal rules. The Applicant should be required to fund safety upgrades recommended by the team, such as replacing eight-inch lenses with the current standard of 12 inch; replacing incandescent lenses with LED lenses; and making appropriate changes to warning signs and pavement markings. (3311)

### Response to VEH-24

Refer to Response to VEH-2.

# Comment VEH-25

The DEIS acknowledges that there will be significant traffic delays associated with this proposal (It is not clear whether any of the traffic analysis considers the addition of up to 88,000 trucks carrying the anticipated 2.1 million cubic yards of fill that will be required, a staggering volume that would be concentrated in a single year. DEIS 2-19. This additional truck traffic adds pollution and reduces safety while compounding traffic problems.). However, it is surprisingly dismissive of the risk that increased rail traffic will cause real harm to emergency services and responses. Frequent long trains at rail crossings will mean delayed emergency medical service response times (Ex. 25. This testimony was prepared for another project nearby, the Tesoro-Savage oil terminal. It addresses a number of factors, such as diesel exhaust, noise, and delay of emergency vehicles, that are pertinent to this project.). The FEIS should provide more quantitative analysis at specific crossings throughout the state, particularly where congestion is greatest. The analysis should also be done with respect to the cumulative impacts of this project alongside many others. For example, the cumulative impacts section observes future rail traffic of 200 trains per day near Spokane—what would be the impact of that level of traffic on emergency vehicles in those communities? (3277)

## Response to VEH-25

Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, assumed approximately 56,000 loaded trucks would be needed during the peak construction year. All Draft EIS resource sections analyzed direct and indirect impacts of the construction and operation of the Proposed Action. Analysis of construction impacts included the evaluation of potential impacts from construction vehicles including both trucks and trains. Section 5.3 described the direct impacts of construction in the project area and the indirect construction impacts outside the project area on vehicle delay, including emergency vehicles, and vehicle safety. The potential cumulative impacts on emergency response vehicles were described in Draft EIS Chapter 6, Section 6.3.3.3, *Vehicle Transportation*. Refer to Response to VEH-1 and Response to VEH-5.

# Comment VEH-26

In the Summary document, on page S-42, under the section labeled S.7.6 the document discusses how the Proposed Action will have unavoidable and significant adverse impacts on vehicle transportation in Cowlitz County. This section needs to be expanded to document that adverse conditions will also develop in Spokane County as we have at least 25 at grade crossings which will experience the same volume of trains moving through Spokane as will move through Cowlitz County on tracks that section S.7.4 on page S-41 has identified as not having capacity to handle the increased rail traffic and will experience unavoidable and significant adverse impacts. (0478)

## Response to VEH-26

Refer to Response to VEH-1.

# Comment VEH-27

While the EIS does identify impacts to first responders in Cowlitz County, it does not analyze the proximity of fire stations to the railroad through the Gorge nor does it analyze the potential areas impacted by waiting first responders. The analysis also does not address the cumulative impacts of all currently active coal and oil transport proposals. (2508)

### Response to VEH-27

Draft EIS, in Chapter 5, Section 5.3, *Vehicle Transportation,* described the increase in vehicle delay on BNSF main line routes beyond Cowlitz County including delay on emergency response vehicles. The Master Response for Geographic Study Areas of the EIS explains the study areas analyzed in the EIS. Draft EIS Chapter 6, *Cumulative Impacts*, describes the relevant past and present reasonably foreseeable actions in the existing conditions discussion for each respective resource section of Chapters 3, 4, and 5 of the Draft EIS and accounted for in the impacts analysis. The reasonably foreseeable future actions that were considered in the cumulative impacts analysis were identified in Draft EIS Chapter 6, Table 6-2. Final EIS Chapter 6, *Cumulative Impacts*, has been updated to reflect changes in the status of projects identified and analyzed in the Draft EIS. These projects include potential coal export projects and potential crude oil-by-rail projects that would introduce rail traffic to the BNSF main line routes in Washington State and vessel traffic on the lower Columbia River.

## Comment VEH-28

The analysis in the EIS should also discuss the businesses and recreation sites that could be affected by the increased delays at crossings. Importantly, the BNSF railroad lies between Washington State Route 14 and numerous recreation sites and local port districts. As such, any increase in delays at at-grade crossings would directly impact the response time for first-responders serving these areas. These impacts must be adequately documented in the EIS. (2508)

### Response to VEH-28

Refer to Response to VEH-1 and Response to VEH-27.

## Comment VEH-29

Notably, one possible mitigation measure that could reduce delays at at-grade crossings would be to construct grade-separation structures (overpasses or underpasses). The need and cost of such mitigation can only be disclosed if sufficiently detailed analysis of impacts is disclosed in the EIS. Absent adequate disclosures, the burden of installing grade separation would be transferred to local communities and other businesses instead of the applicant. The full effects of increased wait times at crossings constitutes a significant adverse impact that must be disclosed and mitigated in the EIS. (2508)

### Response to VEH-29

Refer to Response to VEH-2.

## Comment VEH-30

Rail Traffic will slow Traffic and Emergency Vehicles

S6 of the DEIS says, “Proposed Action…related rail traffic would not affect land use because existing land uses currently coexist with rail traffic.” This misses the larger point. Sixteen trains each having a length of over one mile means of necessity traffic will be significantly delayed. More critical are emergency vehicles that will be delayed likely resulting in loss of property and lives. (1910)

## Response to VEH-30

Refer to Response to VEH-5.

# Comment VEH-31

Emergency Services: At grade crossings block vehicular traffic irritating drivers but sometimes causing delays in emergency services for fires, and most especially medical emergencies.

1. Look at at-grade crossings in all rail communities and determine the most vulnerable by calculating the number of all trains crossing the tracks.
2. Look at all the unprotected rail crossings that exist on the rail lines. Only 44 rail crossings were studied in Washington State but there are hundreds on the rail lines.
3. Consider in the study that emergency vehicles have to often cross twice at at-grade crossings coming and going to an emergency. Some of the rail lines are double-tracked. That presents a situation that increases train traffic, even if one train has passed, another may stop a vehicle on the way back through the crossing. Double and triple train track crossings need to be inventoried.
4. Look at alternative crossings that emergency vehicles could use, and how long it would take them.
5. What are the anticipated coal train derailments along the routes?
6. Is there a system available for EMS vehicles to be notified of trains crossing at –grade? If so how much is it and who pays for it?
7. What are some of the foreseeable consequences if a fire burns down a building before first responders can get to it or someone dies en-route to hospital because trains are blocking the way?
8. What is the psychology of community members and first responders worried about at grade crossings and trains blocking it in emergencies? (2536)

## Response to VEH-31

The following provides responses to the comments above.

- **Comments 1, 2, and 3.** Refer to Response to VEH-1, Response to VEH-5, and Response to VEH-12.
- **Comment 4.** Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, noted that the potential for the Proposed Action-related trains to affect emergency response would depend on whether the dispatched emergency vehicle would need to cross the rail line and the availability of alternative routes if a Proposed Action-related train occupies the crossing at the time of the emergency call. The amount of time that that it would take emergency response vehicles to use alternative routes would be dependent on a number of site- and location-specific factors.
- **Comment 5.** Final EIS Chapter 5, Section 5.2, *Rail Safety*, identifies predicted rail accident probability increase under the Proposed Action.

- **Comment 6.** There is no current established system. For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.
- **Comments 7 and 8.** The concerns raised by the commenter are outside the scope of a SEPA EIS. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

# Comment VEH-32

Among the more startling admissions of the DEIS is that the project will proximately cause a substantial increase in the number of rail accidents—a 22% increase statewide. What is not disclosed is any meaningful analysis of the potential safety, human health and environmental risks of such accidents. Increased rail traffic of the magnitude that is proposed has significant potential for increased traumatic injury and death at rail crossings or by derailments. Many crossings on the rail corridor in several states have no barriers or other warning signals, and local city, county, and state governments are struggling financially with limited funds for providing this basic safety service. Data from the Federal Railroad Administration Office of Safety inform us that there were 739 fatalities and 8,167 injuries at railroad crossings nationally in 2010. There were at least 19 coal train derailments in North America in 2012, including fatalities. (3327)

## Response to VEH-32

For the purposes of the analysis, an “accident” was defined as involving one or more railroads that have sustained combined track, equipment, and/or structural damage in excess of the 2015 FRA reporting threshold of $10,500. Therefore, the increase in accidents that could result from the Proposed Action would include a wide variety of incident types and severity. The concerns raised by the commenter are outside the scope of a SEPA EIS. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

# Comment VEH-33

The DEIS states "In a 24-hour period, trains for the Proposed Action would increase the probability of emergency response vehicles being delayed by 10% at crossings along the Reynolds Lead and BNSF Spur with existing track infrastructure" (p. S-32). With planned improvements to these two lines, the probability of delay decreases considerably. However, for train crossings outside of Cowlitz County, there are no planned improvements, despite ''the probability of an increase in emergency response time at all statewide study crossings [due to more frequent blockage by train cars]" (p. S-32). Our emergency response departments pride themselves on reducing response time for a reason--quick responses can mean the difference between minor and severe damages, and even life and death. On page 5.1.23, the DEIS states "BNSF could address capacity issues with capital improvements or operational changes, but it is unknown when these actions would be taken or permitted." The DEIS states that the train crossing delays are an unavoidable adverse effect, but no mitigation is proposed. Instead, DOE should negotiate agreements with the railroads to lock in the needed upgrades to crossings. In addition, Millennium should be required to mitigate for injuries, deaths, and property destruction caused by emergency vehicle delays at crossings. (3465)

### Response to VEH-33

Refer to Response to VEH-2, Response to VEH-5, and Response to VEH-15.

## Comment VEH-34

There will be 8 trains coming full of coal to the coal plant each day and 8 leaving empty. The trains will equal 16 trains with a 120 rail cars per train. It will take time and stop traffic going to Lewis and Clark Bridge. What happens to person has a medical emergency and need to get to the hospital? (1177)

### Response to VEH-34

Refer to Response to VEH-5.

## Comment VEH-35

1. How many rail crossings are there along potential rail corridors from the Powder River Basin and the Unita Basin to Longview and back to the Powder River Basin and Unita Basin? How many of these are at-grade crossings? Why did you only select 44 at-grade crossings in the state of Washington to review?
2. How many of these rail crossings are unprotected?
3. What are the costs to provide protective barriers at these crossings and who will bear these costs? (1763)

### Response to VEH-35

Refer to Response to VEH-1.

With respect to the protective barriers (i.e., crossing gates), refer to the Master Response for Mitigation Framework for more information about the development, implementation, and enforcement of mitigation measures. The Master Response for Geographic Study Areas of the EIS explains the study areas analyzed in the EIS.

## Comment VEH-36

4. How often and for how long will each of these crossings be blocked by the increased rail traffic en route to MBTL? Delay should be calculated for each crossing to account for differences in local circumstances. (1763)

### Response to VEH-36

Refer to Response to VEH-1.

## Comment VEH-37

5. How many times daily do EMS vehicles, including police, fire and medic units, cross rail lines? Please note that an ambulance often needs to cross twice to get a patient to a hospital. (1763)

### Response to VEH-37

Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, estimated future-year traffic volume at study crossings for all vehicles including emergency vehicles. The vehicle delay analysis in Section 5.3 described how average vehicle delay for all vehicles, including emergency vehicles, would be affected with the Proposed Action. The impact to emergency vehicle response would depend on the location of the origin and destination of the response incident in relation to the at-grade crossings. The potential for a Proposed Action-related train to affect emergency response would also depend on whether the dispatched emergency vehicle would need to cross the rail line and the availability of alternative routes if a Proposed Action-related train occupies the crossings at the time of the call.

## Comment VEH-38

6. What will be the cumulative and per incident delay in access to these services caused by rail traffic en route to MBTL (including actual blockage of the crossing, as well as alleviation of resultant congestion)? Please again note that an ambulance often needs to cross twice to get a patient to a hospital. (1763)

### Response to VEH-38

Refer to Response to VEH-5. Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, described the potential for the Proposed Action-related train to affect emergency response would also depend on whether the dispatched emergency vehicle would need to cross the rail line and the availability of alternative routes if a Proposed Action-related train occupies the crossing at the time of the emergency call. For a discussion of potential cumulative impacts on emergency response vehicles, refer to the Final EIS, Chapter 6, *Cumulative Impacts*.

## Comment VEH-39

7. How many people are affected at each crossing, based on current and projected population as shown in relevant planning documents? (1763)

### Response to VEH-39

Refer to the Master Response for Purpose and Focus of the EIS, which describes the purpose of the EIS and applicable SEPA rules that were used to determine the appropriate scope of the analysis.

## Comment VEH-40

8. What crossings and locations are most likely to result in significant delays at crossings? (1763)

### Response to VEH-40

Refer to Final EIS Chapter 5, Section 5.3, *Vehicle Transportation*, for a discussion of the impacts of the Proposed Action on vehicle transportation, including crossing safety and delay.

## Comment VEH-41

9. How often are there alternative crossings? How much time is lost to route through alternate crossings, rather than the shortest route? (1763)

### Response to VEH-41

Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, noted the potential for the Proposed Action-related trains to affect emergency response would depend on whether the dispatched emergency vehicle would need to cross the rail line and the availability of alternative routes if a Proposed Action-related train occupies the crossing at the time of the emergency call. The amount of time that that it would take emergency response vehicles to use alternative routes would depend on a number of site- and location-specific factors.

## Comment VEH-42

10. Is there any current established system to alert EMS vehicles of impending crossing closures?
11. How much would such a system cost and who would bear the cost of developing such systems? (1763)

### Response to VEH-42

There is no current established system. For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

## Comment VEH-43

12. How does backed up traffic at crossings and the dispersion of that traffic effect EMS response times throughout the entire state of Washington? (1763)

### Response to VEH-43

Refer to Response to VEH-1 and Response to VEH-5.

## Comment VEH-44

13. How often and to what severity will these delays in EMS response times lead to delays in care and to otherwise avoidable outcomes such as death or permanent disability? (1763)

### Response to VEH-44

Refer to the Master Response for Purpose and Focus of the EIS and the Master Response for Geographic Study Areas of the EIS.

## Comment VEH-45

14. What is the amount of healthcare cost attributable to patients receiving delayed EMS services as a result of increased rail traffic? (1763)

### Response to VEH-45

SEPA Rules (WAC 197-11-448) do not require that an EIS analyze the economic or social policy impacts of an action, nor is it required to contain a cost-benefit analysis (WAC 197-11-450 and 197-

11-762). The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

# Comment VEH-46

15. How will the project applicant mitigate these impacts (grade separation at crossings, construction of new hospitals, support for additional paramedics, medivac services, etc.?) What percent of the total cost will the project applicant pay for grade separation at crossings, etc.? (1763)

## Response to VEH-46

Refer to Response to VEH-2.

# Comment VEH-47

16. How many rail crossing accidents, injuries, and deaths will be attributable to increased rail traffic en route to MBTL?
17. What is the anticipated cost of these accidents, including anticipated litigation and long term care costs? (1763)

## Response to VEH-47

Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, discussed the increase in predicted accident frequency with Proposed Action-related trains. SEPA Rules (WAC 197-11-448) do not require that an EIS analyze the economic or social policy impacts of an action, nor is it required to contain a cost-benefit analysis (WAC 197-11-450 and 197-11-762). The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

# Comment VEH-48

Rail: this project cannot go forward until the Reynolds lead from the switch yard to the coal site is totally upgraded and the intersections with rail have been separated. While there are plans to change the intersection at Oregon Way and Industrial, no other plans are forthcoming for the remainder of the at-grade crossings. When the Port of Longview was looking to bring in ADM to export grains in the late 90's, the Port hired Mainline Management, a rail consulting firm, to review the ingress and egress of unit trains and its effects upon vehicle traffic. With volumes of 5 million to 10 million tons of grain the Port and ADM learned that this volume would overwhelm traffic particularly at the bridge. The Port then constructed the alternate rail corridor into the Port thereby bypassing the old route over Industrial Way. The cost was millions and a new overpass to Longview Fibre had to be built to insure staff could get to work on time and emergency vehicles could pass quickly. The railroads contributed nothing in terms of investment dollars to this project. Today the State is looking at $ 85 to $ 200 million to handle coal trains to the terminal and I'm sure the railroads again will not participate and neither will the proponents. So when Millennium came to town in 2010 offering 5 million tons per annum of coal exports I was concerned enough to attend the Cowlitz Commission meeting which at the time was considering the issuance of a Shoreline permit. Honestly I don't believe anyone in the room had a clue as to the impact of 5 million tons in unit trains routed over the old lead would cause to the traffic and emergency access to this

community. Since then proponents had to fess up to their real intentions to ship 44 million tons and have made no attempt to reconcile the cost of the rail upgrades to facilitate rail through town. Mitigation: I would recommend that even at a base level of 5 million tons the grade separations must be in place first before terminal operations can begin. (2201)

### Response to VEH-48

An EIS is not a decisional document; it does not approve or deny a proposal. Agency decisions related to an underlying action, such as a decision to issue a permit for the Proposed Action, are addressed through procedures specific to the permitting agency and the specific permits being considered. Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action. Regarding mitigation, refer to Response to VEH-2.

## Comment VEH-49

As do traffic problem in communities in which train traffic separates one part of the city from another. (2245)

### Response to VEH-49

Refer to Final EIS Chapter 5, Section 5.3, *Vehicle Transportation*, for a description of vehicle transportation in the study area and potential impacts on vehicle transportation that could result from the Proposed Action.

## Comment VEH-50

The coal export facility will also lead to 16 additional large coal trains every day on Washington's rail corridors. This significant increase in rail traffic will create economic and safety impacts for communities across the Pacific Northwest. (2453)

### Response to VEH-50

SEPA does not require an EIS analyze the economic or social policy impacts of an action (WAC 197-11-448(3)). Rail and vehicle safety impacts in the study area are evaluated in Final EIS Chapter 5 Sections 5.2, *Rail Safety*, and 5.3, *Vehicle Transportation*, respectively. Refer to the Master Response for Geographic Study Areas of the EIS.

## Comment VEH-51

Figure 5.3.6 Statewide Crossings Study on page 5.3-23 or page 63/243 is grossly inadequate and covers 44 rail crossings and omits many of the counties and cities of Washington State and is only part of the study area. Any and all analysis based on this data does not represent the status of the rail system related to the MBTL-Longview Coal Export Terminal and needs to be done more thoroughly prior to the final EIS Report. Page 5.3-23 SEPA DEIS pdf 63/243. (2572)

### Response to VEH-51

Refer to Response to VEH-1.

# Comment VEH-52

Table 6-14. Projected Rail Traffic at Statewide Study Crossings in 2038 has 44 rail crossings and fails to include Clark County Washington and also the Many, Many, Many at grade rail crossings in Washington State that are impacted by the proposed facility. Page 6-52 SEPA DEIS pdf 52/73. (2572)

## Response to VEH-52

Refer to Response to VEH-1.

# Comment VEH-53

Given the projected length of the trains (up to a mile and-a-half per train) and 8 such trains per day that will be moving through Vancouver, there will be substantial delays at at-grade vehicle crossings. Such delays will result in increased residential and commercial traffic congestion, lost productivity; increased tailpipe emissions from idling vehicles, etc. The direct and cumulative impacts from blocked crossings need to be studied in the FEIS, and mitigated to a level of non-significance. The DEIS should address the impacts of increased train volume and train accidents to transportation and emergency response in Vancouver and Clark County. (2745)

## Response to VEH-53

Refer to Response to VEH-1.

# Comment VEH-54

What about delays in emergency medical services, police and fire when grade level crossings are closed for five to seven minutes for coal trains that are over a mile and a quarter in length? (TRANS-LV-M1-00001)

## Response to VEH-54

Refer to Response to VEH-5.

# Comment VEH-55

The EIS shows many rail crossing do not meet the 20s [indecipherable] necessary (for intersections). The EIS does not show how individual emergency vehicles would be affected (nor individuals recalls personal or business) nor how their 5-7 minute delay and affect human health & mentality. (3545)

## Response to VEH-55

Refer to Response to VEH-37 and Response to VEH-5.

The concerns raised by the commenter regarding the effects of vehicle delay on mental health are outside the scope of a SEPA EIS. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus. An HIA for the Proposed Action is being prepared separately from the SEPA environmental review. An HIA Steering

Committee was formed and determined the topics to be addressed in the HIA, with input from focus groups. One of these topics is air quality. Refer to the Master Response for the Health Impact Assessment for information on the HIA process, including the study area for the assessment, the selection of topics analyzed, and opportunities for public review and comment.

# Comment VEH-56

Adding those trains in Longview means over two hours of additional rail gate "down time" every day in Longview [S-32] But the DEIS masks the impacts this will have to vehicles by using highly technical "level of service" :framework and 24 hour averages. [5.3-30] What does it mean for an actual commuter during rush hour or parent trying to pick up their child at school? (3451)

## Response to VEH-56

Refer to Response to VEH-8 and Response to VEH-12.

# Comment VEH-57

The mitigation measures discussed in Section 5.3.7 fail to adequately address the impacts of the project on the studied at-grade crossings. Adverse impacts are identified, but are not mitigated. It is anticipated that similar unmitigated adverse impacts will occur at the at-grade crossings in Washougal. These impacts must be mitigated. (3166)

## Response to VEH-57

Refer to Response to VEH-2 and Response to VEH-27.

# Comment VEH-58

Delays of emergency vehicles at rail crossings outside Washington State were not evaluated. In the area served by the Bonner Milltown Community Council there are four MRL/BNSF rail crossings, two of which have no alternate road to residential areas. Using the 6,844 foot length of a coal unit train traveling at 50mph for calculation, the 16 trains/day (8 loaded, 8 empty) will add a half hour's delay every day to each crossing. Local emergency services have had no opportunity to evaluate potential consequences of this added delay, which would be longer if train speeds are slower. (2233)

## Response to VEH-58

Refer to Response to VEH-1 and Response to VEH-5.

# Comment VEH-59

The DEIS understates the risks and costs of delayed emergency response times from increased frequency of long trains and delays at at-grade crossings. (3327)

## Response to VEH-59

The commenter has not specifically identified how the Draft EIS understated risks and costs of delayed emergency response. Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, described the

potential impacts on vehicle crossing delay, including delay on emergency response vehicles with Proposed Action-related trains.

# Comment VEH-60

In the holistic view of all the components which will go into this project, the transportation infrastructure may be the most vulnerable aspect going forward. Neither the railroads nor the various government entities have quite addressed all that this project will require in terms of traffic congestion mitigation, rail security and emergency response. Minimum standards may have been met, but I feel they fall short in many communities who will suffer long EMS response times due to the road-level rail intersections. Included in this are the small communities of the Lower Columbia (with nearby populations in Oregon) and Longview in particular, which will be denied access to nearby EMS during long coal trains. Major changes to highways and/or rail are necessary to prevent EMS and existing industrial/commercial commerce interruptions. Millennium will need to be a part of the mitigation, probably via a percentage-tontax Trust Fund to be divided among communities impacted according to need, such that entities may float bonds backed by their share of income, thereby immediately construct necessary remediation before the long trains begin hauling. (2565)

## Response to VEH-60

Refer to Response to VEH-1, Response to VEH-2, and Response to VEH-5.

# Comment VEH-61

Between Longview Junction and the project area there are five public and three private at-grade road crossings. The Longview Municipal Code 11.40.080 (Railroad Trains Not to Block Streets – Prohibits trains from using and street or highway for a period of time longer than five minutes, except trains or cars in motion other than those engaged in switching activities. It appears with 16 trains at a length of 6,844 feet each there is a STRONG PROBABLY that the Trains will exceed the 5 minute Municipal Code. The City of Longview can make more money from Citations than it ever will make off coal. Alternately, how many new $85 Million Dollar overpasses will be required? This confirms that the No Action Alternative is recommended. Page 5.1-8 SEPA DEIS pdf 14/243. (2572)

## Response to VEH-61

The Draft EIS analyzed potential vehicle delay at grade crossings in the study. Refer to Final EIS Chapter 5, Section 5.3, *Vehicle Transportation*, and the *SEPA Vehicle Transportation Technical Report* for more information. Refer to Response to VEH-48.

# Comment VEH-62

The speed limits and passing times for at grade crossings in Table 5.1-4 are incomplete, simplistic, and unrealistic because it fails to take into account the private crossings and the Spur/Lead switch, and the distance and time it takes to move or stop a 1.3 mile coal unit train. This last factor is also variable due to weather, track conditions, and train equipment. Accurate passing times at major intersections are critical to understanding adverse impacts on road traffic and congestion. (2687)

### Response to VEH-62

Refer to Response to VEH-12.

## Comment VEH-63

The rail transport corridor includes more than 200 at-grade crossings, including numerous under-protected crossings (USFWS 2016b). Increased rail traffic, resulting disruptions to community resources and access, and increased risk of derailments or other train accidents (e.g., collisions at crossings) represent significant adverse impacts. To date, the Applicant and SEPA co-leads have failed to identify mitigation measures that would meaningfully and adequately avoid these significant impacts. (3458)

### Response to VEH-63

Refer to Response to VEH-1, Response to VEH-2, and Response to VEH-15.

## Comment VEH-64

Commission staff conducted its own independent assessment of these LVSW crossings, including review of FRA and commission crossing inventory records and inspection reports, and a preliminary on-site crossing of safety review. It found that the five public crossings are adequately protected for current levels of train and vehicle traffic. Although some of the signal equipment is dated, it is still functional and the crossings are in general compliance with state law, commission rules, and the Manual on Uniform Traffic Control Devices (MUTCD) 2009 edition. However, LVSW's analysis does not address the adequacy of safety measures in light of the considerable increased in train traffic that will result from the proposed project. (3311)

### Response to VEH-64

The Draft EIS provided information about the relative change in risks related to the Proposed Action. Consistent with this approach, general consideration was given to the crossings identified in the comment, by conducting a rail safety analysis as described in Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*. Assessing the adequacy of the crossing protection at each crossing under current and future conditions is outside of the scope of the SEPA analysis. Refer to the Master Response for Purpose and Focus of the EIS, which describes the purpose of the EIS and applicable SEPA Rules that were used to determine the appropriate scope of the analysis.

## Comment VEH-65

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| A | **5.3 Vehicle Transportation Page 5.3-8,** Vehicles, last sentence of first paragraph | *"This factor was used to ~~covert~~ convert count data from peak hour."* | typo |
| B | **5.3 Vehicle Transportation** Page 5.3-11, Railroad Crossing Performance Measures, last bullet | Under vehicle safety impact, there is a 0.04 rate shown in the third bullet | What is the unit for the 0.04, accidents per year? |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| C | **5.3 Vehicle Transportation** Page 5.3-12, Level of Service, third paragraph below Figure 5.3-3 | The third paragraph under Figure 5.3-3. It indicates that the 2000 HCM is being used to calculate a signalized PM peak hour level of service for each affected rail crossing. | This methodology will calculate an average delay for not only automobiles at the crossing, but for the trains also. Since the trains go through the crossings without any delay, was the calculated train delay deleted from methodology at some point? |
| D | **5.3 Vehicle Transportation** Page 5.3-12, Level of Service, fourth paragraph below Figure 5.3-3 | The fourth paragraph under Figure 5.3-3 indicates that the 2000 HCM is being used to calculate a signalized daily level of service for each affected rail crossing. | Since the trains go through the crossing without delay, was the calculated train delay deleted from methodology at some point? Since the HCM methodology is based on calculation of an hourly level of service, how was this rectified to get to a daily average delay estimate? |
| E | **5.3 Vehicle Transportation** Page 5.3-14, second paragraph | 2nd paragraph again has a 0.04 rate | What are the units for this rate (again accidents per year)? |
| F | **5.3 Vehicle Transportation** Page 5.3-24, Average Vehicle Delay | Under Average Vehicle Delay, the text indicates that all study area crossings operate at LOS A in 2018 | This does not appear to be the case in Table 5.3-5. Please clarify as to which is correct. |
| G | **5.3 Vehicle Transportation** Page 5.3-24, Table 5.3-5 | Table 5.3-5 level of service | Some of the levels of service in Table 5.3-5 don't appear to match what is in the attached Synchro worksheets. Is this because the calculated rail delay was removed from the level of service calculation? The analysis worksheets should be checked against the referenced tables. |

(3070)

## Response to VEH-65

The following describes the changes made to Final EIS Chapter 5, Section 5.3, *Vehicle Transportation*, in response to these comments. Refer to the left-most column of the above table for lettering used to identify each comment.

- **Comment A.** This typo has been corrected in Final EIS Chapter 5, Section 5.3.3.2, *Impact Analysis*, and the *SEPA Vehicle Transportation Technical Report*.

- **Comment B.** The accident probability benchmark has been revised and the units have been defined in the Final EIS. Refer to Response to VEH-14.
- **Comment C.** The Draft EIS analysis reported the movement delays, not the average intersection delay. The reported results are based on the roadway approaches to the crossing only.
- **Comment D.** The analysis used the movement delay, not the intersection average delay. The train delay was not included in the calculation.
- **Comment E.** The accident probability benchmark has been revised for the Final EIS. The units have been defined in the Final EIS. Refer to Response to VEH-14.
- **Comment F.** The text in question is specific to average delay over the course of a 24-hour day, while the table is specific to peak-hour delay. A 24-hour average vehicle delay table was not necessary because all crossings would operate at level of service A.
- **Comment G.** The Synchro worksheets reported the movement delays for the roadway approaches, not the average intersection delay. This is why some of the average intersection LOS values do not match what was included the Draft EIS in Table 5.3-5. However, the roadway movement LOS values in the Draft EIS matched the Synchro worksheets.

# Comment VEH-66

I live in the Tri-Cities and as they're doing all of the up to 16 circuits in full capability, eight trains -- eight sets of trains -- I don't know what you call it -- going and eight empties going back, has there been any study on the impact of trains going through the towns like the Tri-Cities, personal opinion or personal problem, impacting traffic?

Because I live close to a set of train tracks in town and sometimes I'm stopped, and I'm going miles out of my way to do a loop on the highway to go half a mile away from my house. And, with increased train usage on the tracks, has there been any study on that, are they doing anything to mitigate what times of day, is it going to be all hours? (TRANS-PASCO-Q2-00003)

## Response to VEH-66

Final EIS Chapter 5, Section 5.3, *Vehicle Transportation*, identifies the at-grade crossings evaluated in the Final EIS and proposed mitigation measures. For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework. Refer to Response to VEH-1.

# Comment VEH-67

Pedestrians and bicyclists need to be considered at railroad crossings as well. They use them and there are hundreds of rail crossings with increased traffic. (2536)

## Response to VEH-67

Final EIS Chapter 3, Section 3.2, *Social and Community Resources*, has been revised to include a description of potential impacts on pedestrians and bicyclists at at-grade crossings on the Reynolds Lead under the Proposed Action.

# Comment VEH-68

Traffic Concerns: Rail traffic is expected to dramatically increase from both Bakken oil trains and coal trains through North Idaho. North Idaho has dozens of unprotected atgrade crossings. The increase in trains will mean more tragic accidents at crossings as impatient drivers try to "beat the train." Additionally, stopped traffic at at-grade crossings means delays for emergency vehicles, making a life or death difference for waiting patients. Traffic delays are expected to increase by 1 to 3 hours per day from increased coal train traffic if the Millenium Bulk Terminals-Longview project is built. Many atgrade crossings will need improvements to deal with the increased traffic. Our local and state jurisdictions simply do not have the funds to pay for overpasses and underpasses.

Unless required as a mitigation measure, railroads are not required to pay for crossing improvements, leaving taxpayers footing the bill for essential safety infrastructure made necessary by this industrial expansion. (3492)

## Response to VEH-68

Refer to Response to VEH-1 and Response to VEH-2.

# Comment VEH-69

An increase in the number of trains would mean more frequent and longer traffic delays at rail crossings. This would disrupt the business and commerce of all Montana communities bisected by the rail line. Delays due to increased coal train traffic would also disrupt residents and businesses in rural areas where at-grade, private crossings connect farms and ranches with public roads and highways. Already, idled trains that block rural private crossings are a major complaint of rural residents. (2504)

## Response to VEH-69

Refer to Response to VEH-1.

# Comment VEH-70

An increase in the number of trains would also result in a greater potential for vehicle collisions with trains and for pedestrian accidents. While the MBTL DEIS analyzes rail safety impacts from the proposed action in the project area and along selected rail routes in Washington,24 it ignores rail safety impacts in Montana. Coal train traffic to and from MBTL would negatively impact Montana rail routes and the communities they bisect equally as that traffic affects those routes and communities in Washington.

Importantly, for all communities and rural areas, an increase in the number of trains decreases access across the train tracks. This is especially problematic for emergency services such as fire trucks and ambulances. With an additional 16 full-length coal trains on the rails, emergency responders and other emergency services would be further delayed in reaching residents when there is a medical emergency, a fire, or the need for police. Several medical emergency conditions are time-sensitive. In certain stroke patients, five minutes may make the difference between being able to treat the patient with thrombolytics or not (in certain stroke patients, thrombolytics can reverse devastating neurological effects of a stroke). In heart attack victims, a delay of minutes can

result in heart muscle death. And, in major traumas, time delays can result in increased blood loss and organ failure. These impacts are a connected and cumulative impact of the proposed MBTL project and must be recognized and thoroughly examined in the environmental analysis. These connected and cumulative issues must be considered by permitting officials at the Washington State Department of Ecology and Cowlitz County. (2504)

### Response to VEH-70

Refer to Response to VEH-1 and Response to VEH-5.

## Comment VEH-71

Your EIS mentions unavoidable and significant delays at rail crossings near the facility but should also take into account multiple delays route- wide, from eastern Montana to western Washington. (1162)

### Response to VEH-71

Refer to Response to VEH-1.

## Comment VEH-72

Rail traffic impacts upon neighboring states were not evaluated in the DEIS.

Although the DEIS is thorough and well documented for Washington State, impacts outside the State are not considered. While this omission is inherent in an action that is a fulfillment of Washington State law, it is a serious shortcoming in the DEIS process because it ignores impacts upon neighboring states. Impacts of one's actions upon neighbors are essential considerations. (2233)

### Response to VEH-72

Refer to Response to VEH-1.

## Comment VEH-73

The City of Vancouver is particularly concerned that no discussion was included in the DEIS of the impact on vehicle delays at at-grade crossings in Clark County even though analyses were completed on these delays for Cowlitz, Skamania, Spokane, Franklin, Benton, Klickitat, Lewis, and Yakima Counties. This project does not just impact Longview. Vancouver alone has as many as 18 private at-grade crossings and at least eight public at-grade crossings. The DEIS estimates eight unit trains per day will travel through Vancouver. (TRANS-LV-M2-00048)

### Response to VEH-73

Refer to Response to VEH-1.

## Comment VEH-74

We request that the impact statements include impacts to traffic from increased closure of at-grade crossings, impacts to the City of Camas's ability to render emergency services due to inability to

cross the train tracks, and health and safety impacts related to coal dust and other particulates being blown from open coal cars. (3656)

### Response to VEH-74

Refer to Response to VEH-1. Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation,* described the increase in vehicle delay on BNSF main line routes beyond Cowlitz County including delay on emergency response vehicles.

The potential impacts on air quality and coal dust from Proposed Action-related trains are discussed in Final EIS Chapter 5, Sections 5.6, *Air Quality*, and 5.7, *Coal Dust*.

## Comment VEH-75

There are numerous at-grade crossings in Washington that would slow down emergency responders. One example is Kennewick, where the local head of transportation wants more emphasis on this problem in the EIS. Another example is my home town, Washougal, where we have 5 at-grade crossings and 1 overpass. More coal trains would slow emergency responders here too. More concern should be reflected in the EIS for this problem. (3208)

### Response to VEH-75

Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, described the increase in vehicle delay on BNSF main line routes beyond Cowlitz County including delay on emergency response vehicles. Refer to Response to VEH-1.

## Comment VEH-76

Section 5.3.4.2 identifies statewide at-grade crossings that were studied for impacts due to increased rail traffic attributed to the project. The crossings identified for study are indicated in Table 5.3-4 and Figure 5.3-6. However, none of the at-grade crossings in Clark County were identified, specifically the six (6) at-grade crossings located in the City of Washougal. Therefore, no analysis of impacts was performed regarding Level of Service and Cause of Delay Emergency Services at City of Washougal at-grade crossings, as was done for other at-grade crossings in the state that were studied. This analysis is discussed in Section 5.3.5 and tabulated in Table 5.3-13. The level of analysis done for the "state-wide" crossings is not as complete or thorough as was done for crossings located closer to the terminal site. The level of analysis is inadequate. (3166)

### Response to VEH-76

Refer to Response to VEH-1.

## Comment VEH-77

The annual average daily traffic volume for the 32nd Street crossing in Washougal is 12,629 vehicles. This crossing is identified as crossing 6 on the attached Figure 1. This is the highest traffic volume of any grade level crossing along the BNSF rail line between Spokane and the project location, and is higher than any of the studied crossings. 32nd St is located in close proximity to SR14, and serves as a major arterial from the SR14 into Washougal. Impacts to the 32nd Street

crossing not only impact 32nd Street, but also SR14. Clearly, with such an AADT and impact, this crossing warrants attention and study for impacts and required mitigation, as do all of the crossings in Washougal and Clark County. (3166)

### Response to VEH-77

Refer to Response to VEH-1 and Response to VEH-2.

## Comment VEH-78

A complete study of the impacts of the proposed action on the at-grade crossings located in the City of Washougal (and all of Clark County) should be performed. This study should address Level of Service, Cause of Delay Emergency Services and Predicted Accident Probability, as was addressed for the studied crossings in the vicinity of the terminal. The analysis should be more comprehensive and thorough than was performed for "state-wide" crossings. Adverse impacts should then be adequately mitigated. Replacing the at-grade crossing at 32nd Street with a grade separated crossing located in the vicinity would reduce this impact to a level of non-significance. (3166)

### Response to VEH-78

Refer to Response to VEH-1 and Response to VEH-2.

## Comment VEH-79

DEIS did not do the detailing [?] traffic modeling that they did in Cowlitz County in Spokane County. I'm told WDOE [?] didn't request that analysis for Spokane County. That is unacceptable. (3696)

### Response to VEH-79

Refer to Response to VEH-1.

## Comment VEH-80

The increased rail traffic from this project will exceed rail capacity. And when other reasonable foreseeable projects are included train traffic will more than double rail capacity. This will undoubtedly increase delays for local traffic and emergency response vehicles. An evaluation of such delays in Clark County is absolutely warranted. (TRANS-LV-M2-00048)

### Response to VEH-80

Refer to Response to VEH-1 and Response to VEH-27.

## Comment VEH-81

The Draft EIS improperly aggregates crossing incidents to create total per-day crossing times to indicate a significant adverse impact. Each crossing event functionally has the same crossing time as the current conditions, regardless of growth in the use of the system under the No-Action Alternative. Simply put, the Draft EIS erroneously aggregated the crossing times of individual crossing events to suggest a higher per-crossing risk. The Final EIS should correct this error and the resulting erroneous conclusion. The Final EIS should reject the aggregation of the time of individual

crossing delays as a method of impact analysis resulting from a single crossing delay. An increase in the number of individual crossing delays per day does not change the delay time of any single crossing delay. The Final EIS should state that because the time of individual crossing delays is not altered by the Project, the Project does not cause a significant adverse impact. (3070)

## Response to VEH-81

The Draft EIS employed methods based on the 2000 Highway Capacity Manual (Transportation Research Board 2000) for the vehicle transportation analysis. For both peak hour and 24-hour average daily vehicle delay, the estimated delay is generally based on the number of trains, train length, train speed, and vehicle traffic in both directions. The total number of train crossings under the Proposed Action would increase, which would increase vehicle delay. Furthermore, total gate downtime alone was not used to determine the significance of impacts on vehicle delay. As described in Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, performance measures to determine vehicle transportation impacts included level of service, vehicle queuing, and vehicle safety.

# 5.4 Vessel Transportation

This section presents responses to substantive comments related to vessel transportation.

## Comment VES-1

The Columbia River Main Shipping Channel is 43 feet deep at low tide. The Fleet of 840 marine vessel loadings is 80 % Panamax Vessels and 20 % Handymax Vessels. According to the Chapter 2 page 16 of the Millennium Bulk Terminals – Longview Draft SEPA Environmental Impact Statement the footnote 13 indicate the Panamax Vessels have a draft between 42 and 49 feet. Therefore the fleet of Panamax Vessels will drag bottom. (0358)

### Response to VES-1

As described in Draft EIS Chapter 5, Section 5.4.4.2, *Vessel Transportation*, *Vessel Traffic Management*, transit planning for draft-constrained vessels considers tidal elevation to ensure sufficient water under keel. Pilots have final decision for vessel movements and determine if the planned operation can be successfully completed. The Columbia River Pilot's Vessel Movement Guidelines state that vessels may be permitted to sail with a maximum fresh water draft of 43 feet if the river level, tide, and conditions permit. Outbound transit plans are developed at least 8 hours and as much as 24 hours in advance. Pilots operating draft-constrained vessels in the study area have to adjust the time of their transit to allow for at least 2 feet of under-keel clearance on the river plus expected squat. The drafts noted are for fully loaded vessels; the actual draft would depend on the amount of cargo or ballast water onboard and this information is provided to pilots prior to transiting the Columbia River.

## Comment VES-2

Increased vessel traffic is identified as an "unavoidable and significant adverse environmental Impact" due to a potential incident, such as a collision (S.7.7, pg S-42). Recently completed channel deepening of the Columbia River was intended to increase vessel traffic while investments in training and navigational technology by the CRSOA, pilots, and the tug and towboat industry have increased the safety of vessel operations and movements (5.4.4.2, pg 5.4-20). CRSOA is concerned that increased vessel activity is considered a negative impact. 1,377 ships called the Columbia River in 2015, well below the recent high of 2,283, recorded in 2000 (Merchants Exchange). Increased vessel traffic resulting from the proposed project is projected to be below this recent high and unlikely to result in vessel traffic congestion. The Columbia River has the capacity for growth. Not only is the river not being utilized to capacity, but the federal navigation channel's designated purpose is commercial marine traffic and transportation (33 CFR §328.3(a)(1); 40 CFR §230.3(s)(1)). In 2010, the Columbia River was officially designated by the U.S. Department of Transportation and the Maritime Administration as a Marine Highway (M-84)– with a vision to 'ensure that reliable, regularly scheduled, competitive, and sustainable services are a routine choice for shippers' (46 CFR §393.3). Increased vessel activity in the Columbia River is necessary to support continued investments by existing and planned facilities and the maritime service industry that supports them. (2265)

### Response to VES-2

Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, which evaluated potential impacts on vessel transportation and safety in the study area from Proposed Action-related vessel traffic, concluded that the existing infrastructure for the Columbia River could accommodate the additional Proposed Action-related vessels. It also concluded that compliance with laws and implementation of potential mitigation measures would reduce impacts related to vessel transportation. Separately, the analysis determined the risk of an incident increased with the additional 840 Proposed Action-related vessels per year. It acknowledged that the likelihood of a serious incident is very low, but if an incident were to occur, impacts could be significant.

## Comment VES-3

The DEIS in Chapter 5 states that the proposed project would generate a 44% increase over exiting traffic levels. In fact, the proposed project will be served primarily by Handymax and Panamax vessels, which have been calling in the Columbia River for decades and which account for a majority of the bulk carriers taking on grain cargoes on the Columbia River. The Bar Pilots are confident that the Columbia River system can easily accommodate an additional 840 cargo vessels per year. During the six-year period of 1995- 2000, the number of inbound vessels averaged over 2,000 per year. In contrast, the five-year time frame of 2009-2013 has averaged 1475 vessels annually. (2342)

### Response to VES-3

Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, did not identify capacity constraints on the Columbia River as an impact of Proposed Action-related vessel traffic. Section 5.4 described historical large commercial vessel traffic volumes in the study area over an 11-year period (2004 to 2014) and acknowledged vessel traffic volumes were higher between 1979 and 2000. Although vessel traffic volumes have been considerably lower over the past 11 years compared to earlier peak years, vessel sizes and total cargo tonnages have increased in recent years.

## Comment VES-4

We find no record either in this subsection or anywhere else in the DEIS that mentions that Columbia River towing operators such as Tidewater were directly contacted to collect vessel transportation information. We suggest contacting Tidewater and other the towing operators mentioned in the DEIS due to the fact that they been safely operating on the Columbia River for many years. Furthermore, our industry's incident statistics and safety record shows that the towing industry in Washington has one of the best programs for moving commodities in the nation. (2450)

### Response to VES-4

Information on tug operations on the Columbia River was collected from conversations with the River Pilots and tow operators, including Rob Rich of the Shaver Transportation Company, who also represents the Columbia River Towboat Association and from the tug operator websites and River Pilot guidelines. This information was provided in the *SEPA Vessel Transportation Technical Report*, Chapter 2. Draft EIS Chapter 5, Section 5.4, *Vessel Traffic*, described tug services provided in the study area. Final EIS Section 5.4 has been revised to reflect the most recent updates to provider services.

# Comment VES-5

Tidewater is capable of responding to a potential spill into the Columbia River system. We did not find mention of our capabilities in the DEIS, so wanted to include the following information:

Tidewater is a Primary Response Contractor for Washington State's Department of Ecology and is able to respond to a spill to the Columbia River system. Tidewater has equipment that can be deployed and personnel trained in Hazardous Waste Operations and Emergency Response (HAZWOPER) and the Incident Command System (ICS).

Here is a summary of Tidewater's personnel and equipment that can be deployed following a spill into the Columbia River system:

- Containment Boom- 32,100 feet
- Barge and Tank Storage- 94,935 bbls
- Boom Boats- 21 boats
- Vessels of Opportunity (VOO) - 18 tug boats and 4 work boats
- Skimmers - 18 skimmers
- Vacuum Trucks 13 80-120 bbls
- Drop Boxes- 100+ boxes
- Pumps (trash, centrifugal, diaphragm, vacuum) - 36 pumps
- Response Trailers - 10 trailers
- HA WOPER Trained Personnel- 65 People
- ICS Trained Personnel- 75 People (2450)

## Response to VES-5

Draft EIS Chapter 5, Section 5.4.4.5, *Incident Management and Response Systems*, described the planning framework in place for oil and hazardous substance spill response in the study area, and identified plans that include equipment and personnel available to respond to oil spills. The EIS evaluates potential environmental impacts. The EIS is not a response plan and does not include lists of response equipment by company.

# Comment VES-6

Subsection 5.4.8 - Unavoidable and Significant Adverse Environmental Impacts (page 47)

The conclusions in this subsection were formed without all of the pertinent vessel transportation information. We believe that if you had involved the Columbia River's towing operators to understand their Best-Of-Class operations and emergency spill response capabilities, that classifying vessel incidents as having "Significant Adverse Environmental Impacts" would not be an appropriate conclusion. (2450)

## Response to VES-6

Refer to Response to VES-2.

# Comment VES-7

The Millennium Bulk Terminals at Longview Coal Export Terminal Proposal will be the largest Coal Export Terminal in North America at 44 million Metric Tons per year. This proposal will receive 365,000 rail cars a year and load out 840 Marine Vessels of the Panamax and Handymax Class for Asian ports.

The Draft SEPA Environmental Impact Statement on page 2-16 states that the Panamax Vessels have a draft of 42 to 49 feet and that the main shipping channel on the Columbia River is 43 feet deep at low tide.

If my math is correct, it looks like the Panamax Vessels will drag bottom. Page 2-16. (2572)

## Response to VES-7

Refer to Response to VES-1.

# Comment VES-8

The list of types of vessels on the Columbia River do not document the United States Navy and "Fleet Week" in Portland Oregon related to the Rose Festival the second week in June from Wednesday through the following Monday. These are large ships that impact all other river traffic. Page 5.4-29 SEPA DEIS pdf 112/243. (2572)

## Response to VES-8

As described in Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, vessels transiting the study area include a small number of military ships, research vessels, and industrial construction vessels. The vessel transits presented in Draft EIS Table 5.4-7 reflect a small number (approximately 2% annually) of noncommercial vessels (e.g., military ships and research vessels).

# Comment VES-9

A total of 151 incidents on the river for the period 2001 to 2014 does not speak very well for the numerous precautions, regulations and skills. With 3,600 transits annually or 50,400 for the 14 year period, the incident rate will only get worse with an additional 840 ships or 1,680 Transits Annually. Extrapolation could assume an additional 5 incidents a year related to the Millennium Bulk Terminals Longview Coal Export Terminal and this is unacceptable. Page 5.4-30 SEPA DEIS pdf 113/243. (2572)

## Response to VES-9

As described in Draft EIS Chapter 5, Section 5.4.4.3, *Ship Casualty Survey*, of the 151 incidents recorded during the 11-year period, approximately two-thirds resulted in no damage, one-third in some damage, and less than 3% in total loss.

The impacts discussion in Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, described the potential increase in risk of an allision, collision, and grounding from Proposed Action-related vessels.

# Comment VES-10

It is just sloppy to show the Panamax and Handymax vessel sizes in meters and not in feet as in the rest of the report. This is confusing to many readers and inconsistent use of units of measure. Page 5.4-36 SEPA DEIS pdf 119/243. (2572)

## Response to VES-10

The dimensions have been converted to feet in the Final EIS table for consistency with the rest of the units of measure in Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*.

# Comment VES-11

MM VS-2. Notify if Bunkering at Docks Occurs. The risk of an oil spill at Docks 2 and 3 would primarily be during bunkering (refueling) operations. The Applicant has committed to no bunkering at Docks 2 and 3. If this changes and bunkering is proposed at Docks 2 and 3, the Applicant will notify Cowlitz County and Ecology who will determine if additional environmental review is required before bunkering operations are conducted. An enforceable Penalty or Bond of $1,000,000 for the first time violation of the No Bunkering Rule would make this more effective. To make a recommendation only without enforcement allows operators to abuse the regulations as the Port Westward Crude oil Transit Terminal where volumes were significantly over the permitted. A $1,000,000 penalty would be a wake up call in at least the Corporate Boardrooms. Page 5.4-47 SEPA DEIS pdf 130/243. (2572)

## Response to VES-11

Refer to the Master Response for Purpose and Focus of the EIS and Master Response for Mitigation Framework.

# Comment VES-12

The only “mitigation” offered by applicant is to attend a safety committee meeting once a year and refrain from bunkering at docks 2 and 3 (DEIS 5.4.7). Attending annual meetings is no mitigation at all. It would not lower the severity of a vessel accident, would not effectively lower risks of accidents resulting from such a significant increase in vessel traffic, and would not ensure avoidance of consequences of vessel accidents even in the limited study area. Nor would applicant’s attendance at annual meetings concerning the Columbia River serve as mitigation or effectively lower risks and consequences of vessel accidents in the study area or along the rest of the vessel transportation route to and from Asia, particularly in areas like Unimak Pass. (2589)

## Response to VES-12

The Master Response for Mitigation Framework describes the limits of the SEPA regulatory framework within which the Draft EIS was developed. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment VES-13

Barge traffic on the Columbia River will dramatically increase. This raises the potential for accidents and the possibility that coal will be spilled into the river. (1929)

## Response to VES-13

The impacts discussion in Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, described the potential increase in risk of an allision, collision, and grounding related to the Proposed Action. The analysis considered the potential impacts of the Proposed Action in 2028 and accounted for increases in baseline vessel traffic including barge traffic.

# Comment VES-14

One other area covered by the DEIS is Vessel Transportation safety. The Columbia River has a shipping lane therefore it has been deemed safe for shipping coal. However, with Longview, WA, located between the Columbia Bar and Portland, OR, this area on the Columbia River will see two ships being loaded per day. The 35 mile stretch of the river will see two additional ships heading to Longview and two additional ships traveling to Longview. The DEIS does not evaluate the area for traffic safety. (2238)

## Response to VES-14

Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, described potential indirect impacts on vessel safety in the study area from increased vessel traffic related to the Proposed Action. The indirect impacts study area includes the waterways that would be used by, or could be affected by, vessels calling at the project area.

# Comment VES-15

VESSEL SIZE At the proposed Millennium Coal Terminal in Longview, the ships used to transport coal from the Port of Longview down the Columbia River will be very large - in the Panamax and Handy max Class. The Panamax will require about 42 - 49 feet of water to make it down the river when loaded with coal. The Columbia River Channel, however, is generally maintained to a depth 43 feet in the stretch downriver from Longview to the coast. The Washington State Department of Ecology Drought Watch reported on June 10, 2016, that the snowpack in Southwest Washington is down to 39% of normal (down from 116 % above normal in January). This suggests a low water year. If this does turn out to be another low water summer reminiscent of last year (2015), what is the plan to float these ships down the river without running aground? It is difficult to see how it won't happen at some point. A further possibility is a collision or an allision. If fuel leaked out, this could have very damaging results depending on the wind, weather, water level, and location. A fuel leak into the Columbia River Estuary could never be mitigated. Groundings, allisions, and collisions cannot be ruled out with these enormous ships making 4 - 5 river transits a day. (2543)

## Response to VES-15

Refer to Response to VES-1 and Response to VES-2.

# Comment VES-16

We have read the DEIS prepared by your office and we have noticed that Foss Maritime was not mentioned in the "Tug Assistance" portion of the document. Foss Maritime was founded in the State of Washington over 125 years ago, and Foss Maritime is ISO 9001, ISO 14001, and ISM certified. In order to continuously improve our operations, ensure the safety of our people, equipment, and the environment, Foss complies with and is certified by both domestic and international quality and safety standards. Foss completed an energy audit on our vessels and are developing an energy management plan to reduce fuel and energy consumption. We have made some recommended changes to the portion labeled 'Tug Assistance' in the DEIS as seen below. QTE Shaver Transportation Company, Foss Maritime and Olympic Tug and Barge, all based in Portland, provide tugs suitable for safely docking and undocking ships in the study area. Based on River Pilot (2014) guidelines, at least eight of Shaver's 12 study area tugs and 5 of Foss's 6 study area tugs are suitable for assisting Panamax and Handymax ships in and out of their berth; one or two of Olympic's four study area tugs are suitable. Foss Maritime and Shaver Transportation each offers tugs that can be used in the escort roll. The three listed tug companies offer services enhanced by years of safe operating experience on the Columbia River, and adhere to safety and environmental protection standards set forth in the American Waterway's Operators Responsible Carriers Program and the International Safety Management Code. END In conclusion, we fully support Millennium Bulk's efforts to improve the economy in our area, providing good paying jobs and a future to our youth for generations to come. (0783)

## Response to VES-16

Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, described tug services provided in the study area. The Final EIS section has been revised to reflect the most recent updates to provider services and to include Foss Maritime.

# Comment VES-17

The DEIS also minimizes the potential effects of the additional deep draft vessels that this project will require. In the Columbia River, the current annual average of vessel traffic is 1,500 (or 3,000 trips). The Millennium coal project will add 840 deep draft vessels (or 1,680) trips per year, a nearly 60% increase. These ships, primarily "panamax" sized, will be the largest currently in the river. This is not insignificant. More vessels in the river increases risk of grounding as deep draft vessels have to work to avoid collision in the limited navigation channel of the Columbia River. The Tesoro Savage project is proposed to add an additional 365 deep draft oil tankers (730 trips) per year. Cumulatively this would represent an 80% increase in deep draft vessels in the lower Columbia River, crossing a notoriously dangerous bar with highly volatile materials. Interestingly, Washington State is currently conducting a vessel safety study to determine the effect of these projects on the safety of the lower Columbia River. It would be pragmatic for Ecology to delay approving the Millenium coal terminal until this study is complete. (3287)

## Response to VES-17

A risk assessment was conducted for the Draft EIS to estimate the Proposed Action's impact on navigational safety, marine incidents, and oil-spill risk in the lower Columbia River. This assessment was presented in the *SEPA Vessel Transportation Technical Report,* Appendix A). The results are

described in Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, under *Operations—Indirect Impacts, Increase the Risk of Vessel Incidents during Transit*. Draft EIS Chapter 6, *Cumulative Impacts,* presented the analysis of risk based on the risk assessment related to cumulative projects. The Tesoro Savage Vancouver Energy Project was included in the cumulative projects considered. Any future studies, such as the Columbia River Vessel Safety Assessment, could be considered for permit decisions.

Draft EIS Chapter 5, Section 5.4, *Vessel Transportation,* Table 5.4-14, presented the vessel traffic numbers used in the risk analysis for existing conditions (No-Action Alternative [2028] and Proposed Action [2028]).

# Comment VES-18

The Washington Department of Ecology must complete an evaluation and assessment of vessel traffic management and vessel traffic safety within and near the mouth of the Columbia River. This includes an analysis of the amount of new oil being transferred onto vessels as a result of rail traffic. The assessment will help inform risk assessments that will be undertaken during the 2015-17 biennium. Ecology must consult with a number of organizations including tribes, the U.S. Coast Guard, Oregon pilots and public ports. The assessment must include, but is not limited to addressing: (a) the need for tug escorts for oil tankers, articulated tug barges, and other towed waterborne vessels or barges; (b) best achievable protection; and (c) required tug capabilities to ensure safe escort of vessels. Recommendations made to the Legislature must include vessel traffic management and vessel traffic safety measures, including recommendations for tug escort requirements for vessels transporting oil as bulk cargo. Any decisions on approving the Millennium Bulk Terminal should await the conclusion of this study (est. June, 2018) and its careful application to considering the effects of this and other proposals that would increase vessel traffic on the Columbia River. (3287)

## Response to VES-18

Refer to Response to VES-17 regarding the risk assessment conducted for the Draft EIS. Any future studies, such as the Columbia River Vessel Safety Assessment, could be considered for permit decisions.

Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

# Comment VES-19

We are also concerned that the issue of spill risk during bunkering is dismissed since the proponent promises not to bunker onsite. The promise simply begs the question of where will bunkering occur, as the vessels will not arrive from Asia fully fueled. If vessels will not be bunkering in the Columbia as claimed, that means necessarily that they will be bunkering in the Salish Sea, either on the way to or back from the facility. As other studies have revealed, bunkering results in frequent spills of fuel into environmentally sensitive waters, and elevated risks of spills. Transit of Panamax-sized bulk vessels into the Salish Sea for bunkering would also increase traffic in that area, which adds a risk of vessel incidents that is growing cumulatively with many additional new projects proposed in the region. We ask that these omissions be rectified in the FEIS. (3277)

## Response to VES-19

The operations impacts discussion in Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, described the potential increased risk of an oil spill during bunkering of Proposed Action-related vessels at anchorages in the study area. The Salish Sea is outside of the study are for indirect impacts of vessel transportation considered in the Draft EIS. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment VES-20

To provide additional information about the relative likelihood of various sized oil spills, the DEIS risk assessment quantitatively evaluated the incremental increase in risks of a spill in the event of a collision or grounding. The DEIS does not include a qualitative or quantitative risk analysis of bunkering (i.e., refueling). The DEIS, however, acknowledges oil spill risks associated with bunkering, stating:

> Increased vessel traffic associated with the Proposed Action also has the potential to result in an increased risk of oil spills during bunkering activities. Causes of oil spills during bunkering transfers include overflow of the tank, parting the hose due to mooring fault, operator error in connecting the hose, failure of the hose or pipework, and failure of bunker tanks (HSE 2012). Experience from insurance claims (Gard 2002) is that most bunker spills result from an overflow of the bunker tank due to carelessness or negligence, either on the part of those supplying the bunkers, or those on board the vessel receiving them.95

The DEIS notes that utilizing best practices during bunkering is the best safeguard against bunkering spills. The DEIS makes a preliminary effort to quantify the risk of a bunkering spill, but falls short. In particular, the DEIS describes projections on the frequency of spills during bunkering, stating:

> Spills of oil cargoes are better documented than spills from bunkering. Therefore, previous risk analyses (DNV GL 2011) have assumed the frequency of spills during bunkering is the same as during transfer of liquid cargoes: 1.8 x 10-4 (.00018) per bunkering operation for spills exceeding 1 metric ton (7.3 barrels or 308 gallons). The frequency of smaller spills is likely to be much greater. This implies that the annual likelihood depends on the number of bunkering operations. If the vessel bunkers 10 times per year, the likelihood of a spill of 1 metric ton or more would be 1.8 x 10-3 (.0018 or .00018*10) per year, or approximately 1 chance in 500 per year.97

The DEIS notes that there were nine oil spills during refueling of large cargo vessels in the study area from 2004 to 2014.

The DEIS cuts short the bunkering oil spill risk analysis. The DEIS fails to analyze the risk of bunkering spills from 840 new, deep-draft vessels servicing MBT. Nonetheless, the DEIS vessel traffic technical report concludes: "Although it is not possible to predict the number of vessels that may bunker or where they would bunker, the risks of a spill during transfer would increase slightly due to the increase in vessel trips under the Proposed Action." The DEIS fails to provide any technical support for its conclusion characterizing the increased risk of a bunkering spill as "slight."

In general terms, the DEIS describes the impacts of a bunker fuel spill in the "marine environment," but fails to analyze potential impacts in the Columbia River estuary, a confined estuarine environment. Specifically, the DEIS technical report states:

> The consequences of a spill of heavy fuel oil into the marine environment are, in general, considered to be more severe than for other fuels, although this may depend on the sensitivity of the local

> environment to acute toxicity (DNV GL 2011). Undoubtedly, spills of heavy fuel oil will be more persistent, taking longer to weather naturally and being more difficult to clean-up.99

The DEIS identifies ports and anchorages where bunkering may occur, see Figure 5.4-1, but fails to analyze the consequences of a bunkering spill at potential bunkering locations within the estuary or other locations. The Co-leads must revise the DEIS to address the impacts of a bunker oil spill at different locations in the Columbia River estuary and at other potential bunkering locations. (3277)

## Response to VES-20

Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, provided a qualitative risk analysis of oil spills during bunkering activities for Proposed Action-related vessels. The Applicant has committed to not allow vessel bunkering from barges or tanker trucks at the proposed docks; therefore, there would be no increased risks of oil spills at the proposed docks associated with oil transfers. No bunkering operations related to the Proposed Action are proposed at the existing Dock 1. Proposed mitigation measure MM VS-2 states that if this changes and bunkering is proposed at Docks 2 and 3, the Applicant will notify Cowlitz County and Ecology who will determine if additional environmental review is required before bunkering operations are conducted.

As stated in the section, the number of Proposed Action-related vessels that would bunker in the study area is unknown. Therefore, the section identified the frequency of spills during bunkering operations assumed in previous analyses and noted that nine oil spills occurred during bunkering of large cargo vessels in the study area from 2004 to 2014. Based on this information, the section concluded that risks of a spill during bunkering would increase slightly in the study area due to the increase in vessels calling under the Proposed Action.

Potential impacts of a bunker oil spill in the study area from an incident involving a Proposed Action-related vessel would be similar in type and magnitude to impacts that could occur under existing conditions or the No-Action Alternative. These safety concerns are considered during responses as part of the Incident Management and Response System described in Draft EIS Chapter 5, Section 5.4.4.5, *Incident Management and Response Systems*. Therefore, such impacts are not analyzed in the EIS.

# Comment VES-21

The DEIS fails to disclose reasonable alternatives to vessel traffic patterns and operations to reduce the project's adverse impacts to fish, water quality, and shoreline erosion. The DEIS again ignores WDNR's scoping comments. WDNR recommended that the DEIS "analyze alternative berthing times and seasonal restrictions to ensure that cargo vessel and tug operations do not adversely affect the spawning and migration behavior of salmon, eulachon, sturgeon, and other species that utilize the proposed project area." The DEIS lacks the analysis requested by WDNR.

Information disclosed in the DEIS supports an alternatives analysis on vessel traffic operations. The DEIS acknowledges vessel maneuvering challenges at the existing dock:

> Currently, maneuvering a vessel to the existing berth (Dock 1) can be challenging upstream of the project area due to the strong current outflow from the bank (Amos pers. comm.). [River] Pilots expect that conditions for the proposed docks (Docks 2 and 3) would be the same as they are at Dock 1 (Gill pers. comm.). Pilots would be aware of this issue and would consider it during planning and operations.112

While the DEIS discloses vessel maneuvering challenges, the DEIS does not evaluate alternative dock designs to address known risks. Likewise, the DEIS does not incorporate the known challenges of docking at Dock 1 into the oil spill risk analysis for Docks 2 and 3. (3277)

### Response to VES-21

As noted in the Master Response for Project Objectives, the Proposed Action is a private project; as such, the objectives and proposal are defined by the Applicant. Refer to the Master Response for Alternatives for an explanation of the requirements related to considering alternatives in a SEPA EIS.

As explained in the impacts discussion of the *SEPA Vessel Transportation Technical Report*, potential operational impacts of the Proposed Action factored in the existing conditions of the project area included maneuvering challenges at the docks.

Draft EIS Chapter 4, Sections 4.1, *Geology and Soils*, 4.5, *Water Quality*, and 4.7, *Fish*, described potential impacts on shoreline erosion, water quality, and fish, respectively.

## Comment VES-22

Forecasting future river traffic is a fundamentally speculative endeavor. It can be reasonably expected that at some time in the future ship traffic may return to historic levels. The data show that, if historic shipping levels return as a result of the Project, such an increase would not present capacity constraints. The Draft EIS should have concluded that the Project would not cause a probable significant impact to the navigability of the Columbia River, or its use as an interstate and foreign commercial transportation channel.

The No-Action Alternative did not properly account for anticipated growth, similar to the errors found in the rail transportation analysis. Market-driven fluctuations in vessel traffic on the Columbia can be anticipated to occur over time whether or not the Project is ever permitted. Indeed, the No-Action Alternative assumes growth in river traffic, such as that anticipated to result of the Project. Under traditional vessel traffic modeling, a projected future growth factor would anticipate new development on the River, such as that proposed by MBT-Longview. The Draft EIS errs in increasing the anticipated future growth number by adding traffic generated by the Project, and attributing that expected growth to the Project.9 As shown on page 5.4-35 of the Draft EIS: "The Proposed Action would load 70 vessels per month or 840 vessels per year, which would equate to 1,680 vessel transits in the Columbia River." Table 5.4-1 4. Existing and Projected Large Commercial Vessel Traffic in the Lower Columbia River, page 5.4-39 of the Draft EIS, identifies future No-Action Alternative (2028) traffic at 4,440 trips per year, and Proposed Action (2028) at 6,120 trips, a difference of 1,680 vessel transits. The Draft EIS thus improperly assigns all new trips associated with the Project to the proposed Action rather than as a natural growth factor that would occur with or without the Project. Table 5.4-9 (page 5.4-29) shows an anticipated growth in vessel traffic to 4,440 transits in year 2028 without the Project, and 6,120 with the Project. The result is to over-estimate Project impacts.

The Final EIS should conclude that vessel traffic rates will be generally the same, with or without the Project and that any nominal differences resulting from the Project do not rise to a level of "significance" within the meaning of SEPA. Consistent with the above, the Final EIS should clarify that river traffic as a result of the Project will not reach capacity constraints. In short, the Final EIS should conclude that the Project does not cause a significant adverse impact to the navigability of

the Columbia River, the function of the Columbia River as a system of commerce (both interstate and foreign commerce), or the capacity of the Columbia River System. The Final EIS should state that analysis of the shipping on the Columbia River was for disclosure purposes only. (3070)

### Response to VES-22

Draft EIS Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, described in detail the Proposed Action evaluated in the EIS. Specifically, Chapter 2 described the off-site transport of coal by vessel and rail that is considered to be part of the Proposed Action for the SEPA analysis. As described in Chapter 5, Sections 5.1, *Rail Transportation*, 5.3, *Vehicle Transportation*, and 5.4, *Vessel Transportation*, Proposed Action-related train, vehicle, and vessel traffic was not attributed to the projected future baseline rail traffic numbers. Proposed Action-related rail, vehicle, and vessel traffic was evaluated in addition to baseline rail, vehicle, and vessel traffic under the No-Action Alternative because the respective traffic volumes would not occur without construction and operation of the proposed export terminal. This follows SEPA practices to evaluate reasonable worst case of potential probable impacts.

## Comment VES-23

With regard to vessel traffic, as similar analysis applies, as addressed in the Comment Letter. Vessel traffic ebbs and flows, fluctuating with the market, similar to rail traffic. It is speculative to attribute an overall increase in vessel traffic on the Columbia River directly and solely to the Project. Additional overall vessel traffic may result, though overall vessel traffic in the Columbia River could also decline due to factors outside on the MBT-Longview's control. The data shows that, if historical shipping levels return with the Project, such levels would be similar to historical levels. The only reasonable conclusion is the Draft EIS should have been that the Project would not cause a probable significant impact to the navigability of the Columbia River, the function of the Columbia River as a system of commerce (both interstate and foreign commerce), or to the capacity of the Columbia River System. Mitigation measures should not be proposed in the Final EIS due to the lack of nexus between the adverse impacts attributable to the Project and the capability of the MBT-Longview to control the impacts. (3070)

### Response to VES-23

Refer to Response to VES-22.

The Draft EIS did not identify capacity constraints on the Columbia River as an impact of Proposed Action-related vessel traffic. The Draft EIS did not identify mitigation to address capacity constraints.

## Comment VES-24

Similar to the vessel transportation impact analysis in the Draft EIS, increases in vessel traffic on the Columbia River will continue to occur whether or not the Project is permitted. The following are four initial examples of errors in the Draft EIS regarding vessel traffic. First, the Draft EIS estimates that 840 vessels would be loaded and travel the Columbia River per year. The Draft EIS should recognize that this vessel traffic, in addition to existing levels, would be similar to historical traffic levels of shipping on the Columbia River, and that such levels are not a significant adverse impact. Second, under normal traffic modeling, the projected future growth factor would account for

projects, such as MBT-Longview's Project, occurring (thus contributing to the future growth in volume), but the No-Action Alternative in this Draft EIS appears to take the future growth number and double count by adding all of the traffic generated by the Project. The result is to over-estimate Project impacts. Third, even with the Draft EIS's failure to properly account for additional trips in the background growth, the only difference between the forecasts in the No-Action Alternative and the Project is that the capacity constraints are to be reached at an earlier point in time. Again, temporal or timing difference is not a significant adverse impact. Fourth, capacity and vessel traffic on the Columbia River is managed to avoid capacity constraints by the Columbia River Pilots. Thus, the system is managed to operate within capacity levels by third parties outside of MBT-Longview's control. The Final EIS must correct these errors by acknowledging substantial uncertainty in its vessel study, that even the high volume modeled scenario does not show a probable significant adverse impact because the river system does not exceed historical capacity constraints, and vessel traffic is not controlled by MBT-Longview. Capacity and vessel traffic on the Columbia River is managed to avoid capacity constraints by the Columbia River Pilots. (3070)

### Response to VES-24

Refer to Response to VES-3 and Response to VES-22.

The Draft EIS did not identify capacity constraints on the Columbia River as an impact of Proposed Action-related vessel traffic.

## Comment VES-25

| LOCATION | INFORMATION FROM DEIS | COMMENT |
|---|---|---|
| 5.4-22, Pilotage | Document refers to the Columbia River Harbor Safety Plan. | The correct name of the document is the Lower Columbia Region Harbor Safety Plan. |

(2658)

### Response to VES-25

The Final EIS has been revised to include the correct title of the plan.

## Comment VES-26

| LOCATION | INFORMATION FROM DEIS | COMMENT |
|---|---|---|
| 5.4-32, Marine Oil Spill Survey | | This section provides a narrative description of types and severities of oil spills during the reported time period. It should identify the vessel type that was the source of the spill, as was done in Table 5.4-11 |

(2658)

### Response to VES-26

The incident survey was based solely on U.S. Coast Guard (USCG) Marine Information for Safety and Law Enforcement (MISLE) data, which identify vessel type. The spill survey was based on three data

sources—USCG MISLE database, Ecology's Environmental Report Tracking System (ERTS) database, and Ecology's Spills Program Incident Information (SPIIS) database—making identification of vessel types more difficult. The purpose of the spill survey was to establish overall baseline oil spill frequency for the study area.

# Comment VES-27

| LOCATION | INFORMATION FROM DEIS | COMMENT |
|---|---|---|
| 5.4-32, Marine Oil Spill Survey | *The section presents detail on International and Federal planning and prevention legislation.* | Please include reference to Oregon and Washington's planning and response laws. |

(2658)

## Response to VES-27

Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, Table 5.4-1, summarized relevant international, federal, and state conventions, regulations, statutes, and guidelines. The Final EIS table has been updated to include Oregon contingency planning requirements. Draft EIS Section 5.4.4.5, *Incident Management and Response Systems*, described the elements of the Northwest Area Contingency Plan, which is the regional planning framework for oil and hazardous substance spill response in Washington, Idaho, and Oregon. Reference to the Oregon contingency planning requirements has also been added to this section.

# Comment VES-28

As the MFSA's main role is to provide Incident Management and Response, the bulk of our comments are directed at section 5.4.4.5 Incident Management and Response Systems. For simplicity, we have provided a redlined version of that section below with our recommended changes.

The plan includes but is not limited to the following elements.

- A description of the area covered by the plan, including the areas of special economic or environmental importance that might be damaged by a spill.
- Roles and responsibilities of an owner or operator and of federal, state, and local agencies in spill response and in mitigating or preventing a substantial threat of a discharge.
- A link to an online list of equipment ~~(including firefighting equipment) and personnel~~ available to respond to oil spills.
- Site-specific geographic response plans.

Geographic response plans, part of Northwest Area Contingency Plan, are tailored for specific shorelines and waterways. The main objectives of these plans are to identify sensitive resources at risk from oil spills and to direct initial response actions to sensitive resources.

In addition to the national and regional plans, the Lower Columbia Region Harbor Safety Committee maintains the Harbor Safety Plan, which includes incident management guidelines; emergency communications; notification requirements in case of an oil spill; steps to take in case of a vessel grounding, vessel collision, bridge allision, and mechanical or equipment failures.

All of these plans help coordinate response efforts by the responsible party (vessel owner/operator) and federal and state agencies.

Owners/operators of large commercial vessels are required to prepare and submit oil spill response plans under federal (33 CFR 155.5010-155.5075) ~~and state requirements (WAC 173- 182)~~ to ensure that resources, including equipment, are in place for a spill of the vessel's fuel oil and of any oil carried as secondary cargo. Moreover, vessel owners/operators are required to retain an oil spill removal organization and a spill management team; this is often accomplished by contracting with cooperative organizations that specialize in oil spill response, such as the Marine Spill Response Organization and National Response Corporation.

Additionally, vessels owners/operators calling the Lower Columbia/Willamette Rivers must have an approved vessel response plan that meets both Oregon and Washington state regulations (OAR 340-141) (WAC 173-182) with requirements that go beyond the federal regulations. Vessels can obtain oil spill response and contingency planning coverage that meets these state requirements under the Maritime Fire & Safety Association (MFSA) response plan, an umbrella plan for enrolled vessels entering the Columbia River.

The incident response system in the study area for vessels covered by the MFSA response plan is described below for oil spills, fires, and collisions and groundings.

- Oil spill. If an oil spill occurs in the study area, USCG, Ecology, and ODEQ—the federal and state on-scene coordinators—and the responsible party (RP) represent the Unified Command. MFSA represents the RP for up to the first 24 hours after an event to ensure an immediate response. The Unified Command coordinates responses, mitigation, and cleanup efforts for spills on the Lower Columbia River to protect public health and safety, response personnel, and the environment. (Maritime Fire and Safety Association 2013)
- Shipboard fire. Under the Federal Fire Prevention and Control Act of 1974, fire prevention remains a local and state responsibility (Northwest Area Committee 2015). The local fire jurisdiction is the first responder to a shipboard fire. If the incident is beyond the local jurisdiction's capacity, mutual aid resources are requested. Through the MFSA Fire Protection Agencies Advisory Council (FPAAC) the mutual aid network extends to thirteen (13) fire agencies along the Lower Columbia/Willamette Rivers. If local and mutual aid resources are exhausted, the local fire chief requests assistance from the state emergency management office. With appropriate approvals, the state fire chief (Oregon) or state fire marshal mobilization coordinator (Washington) takes control over response (Office of State Fire Marshal 2015; Office of the State Fire Marshal, Washington State Patrol 2015). The USCG COTP acts as the federal on-scene coordinator, if a shipboard fire occurs outside a fire agency's jurisdiction but within the Sector Columbia River COTP zone, or if a vessel fire is treated as a search-and-rescue case (Northwest Area Committee 2015).
- Collision and grounding incident response. For collision and grounding incidents, the vessel operator immediately secures watertight closures and contacts the USCG COTP, ~~and~~ Ecology, and DEQ. The USCG COTP may establish a communications schedule, request periodic vessel updates, and issue a safety marine information broadcast. In response to a collision, USCG response personnel and state investigators assess and supervise the incident and may form a Unified Command. Unified Command instructs responsible parties on separating joined vessels and moving vessels to anchorage. The USCG COTP works with the vessel operator and Unified Command to initiate pollution response, as necessary. In most cases, a surveyor is required to

inspect damage and verify repairs. In response to a grounding, the objective is to refloat and minimize damage to the vessel and environment. When the vessel floats free, the responsible party ~~will~~ may be required to activate the response plan to minimize any pollution threat, at the discretion of Unified Command. (2658)

## Response to VES-28

Final EIS Chapter 5, Section 5.4, *Vessel Transportation,* has been updated to include the factual information reflected in the commenter's redline edits. The Applicant has not provided information on the specific vessels or their plans; therefore, these changes were not made. As described in Draft EIS Chapter 5, Section 5.4.4.5, *Incident Management and Response Systems*, vessel response and contingency plans would be required before vessels enter Washington State waters.

# Comment VES-29

| LOCATION | INFORMATION FROM DEIS | COMMENT |
|---|---|---|
| Table 5.4-16 | *This table, providing anticipated collision frequencies of certain spill volumes.* | The column indicating volumes is confusing. Should they be listed as:<br>20,900 or less<br>59,300 to 20,899<br>107,400 to 59,299<br>166,500 to 107,399 |

(2658)

## Response to VES-29

The return periods identified in Draft EIS Table 5.4-16 reflected spill sizes up to and including the volume listed. In other words, the return period for the 20,900-gallon-or-less spill volume accounts for spill volumes between 0 and 20,900 gallons, the return period for the 59,300-gallon-or-less spill volume accounts for spill volumes between 0 and 59,300 gallons, and so forth.

# Comment VES-30

The DEIS demonstrates significant impacts from MBT's unprecedented proposal to increase vessel traffic by 44 percent in the Columbia estuary. The DEIS does not include a qualitative or quantitative risk analysis of bunkering (i.e., refueling) associated with 840 vessels per year calling on MBT. The DEIS, however, acknowledges oil spill risks associated with bunkering, stating:

> Increased vessel traffic associated with the Proposed Action also has the potential to result in an increased risk of oil spills during bunkering activities. Causes of oil spills during bunkering transfers include overflow of the tank, parting the hose due to mooring fault, operator error in connecting the hose, failure of the hose or pipework, and failure of bunker tanks (HSE 2012). Experience from insurance claims (Gard 2002) is that most bunker spills result from an overflow of the bunker tank due to carelessness or negligence, either on the part of those supplying the bunkers, or those on board the vessel receiving them.

If an incident occurred that resulted in an impact, a fuel tank could be damaged and fuel spilled.

Bunker fuel is a combustible liquid associated with acute health hazards and chronic health hazards. A Material Data Safety document shows potential health impacts of acute exposure:

- *Inhalation*: May cause irritation to the nose, throat and upper respiratory tract. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Irritating or noxious gases may be released during thermal decomposition.
- *Releases*: Hydrogen sulfide. Severe respiratory irritation (from vapors or mists) is possible. Could also cause convulsions, coma, respiratory arrest and death.
- *Skin*: May cause mild to moderate skin irritation. Prolonged contact, such as when trapped against the skin under clothing or jewelry, may be more irritating. Can be absorbed through skin. Exposure to hot material may cause thermal burns.
- *Eyes*: May cause moderate eye irritation.
- *Ingestion*: May cause irritation of mouth, throat, and stomach. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects.

Potential impacts of long-term (chronic) exposure:

- Prolonged skin contact may cause dermatitis (rash), characterized by red, dry, itching skin.
- Prolonged overexposure may cause liver and kidney effects.

Carcinogenic status: Possible cancer hazard

Fire hazards/conditions of flammability: Combustible liquid and vapor. Will ignite when exposed to heat, flame and other sources of ignition. Vapors are heavier than air and collect in confined and low-lying areas. Vapor can travel to ignition source and flash back. Product may float, and be re-ignited at the water's surface. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. (3327)

### Response to VES-30

Refer to Response to VES-20 regarding the analysis of oil spill risk from bunkering activities.

Potential impacts of a bunker oil spill in the study area from an incident involving a Proposed Action-related vessel would be similar in type and magnitude to impacts that could occur under existing conditions or the No-Action Alternative. These safety concerns are considered during responses as part of the Incident Management and Response System described in Draft EIS Chapter 5, Section 5.4.4.5, *Incident Management and Response Systems*. Therefore, such impacts are not analyzed in the EIS.

## Comment VES-31

We appreciate that MBTL recognizes the potential for oil spills from vessels underway and incorporated those analyses and impacts into the DEIS. However, the analysis of oil spills in the Columbia River is confined to a narrow timeframe: 2004- 2014 (page 5.4-44). Because large oil spills have long incident recurrence intervals, we recommend that the timeframe of analysis be extended. For example, the November 24, 2015, DEIS for the Tesoro Savage Vancouver Energy Project included a historical timeframe of 1990 to 2011; as a result, the DEIS reported the expected interval of a spill over 1,000 billion barrels due to a vessel grounding or collisions to be 34 years. Extending

the baseline period further to 1984 would allow the analysis to include the grounding of the Mobil Oil near Warrior Rock in the Columbia River that spilled 200,000 gallons of heavy oil. (2432)

### Response to VES-31

As described in the *SEPA Vessel Transportation Technical Report*, Appendix A, and summarized in Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, the potential for vessel incidents (i.e., allisions at the project area, collisions, groundings, and fire/explosions caused by project-related vessels during transit) were modeled for existing conditions, the Proposed Action, and No-Action Alternative using the Marine Accident Risk Calculation System (MARCS) model. The number of trips for non-Proposed Action-related vessels were derived from 2014 Automatic Identification System (AIS) data for all vessel types.

To provide context regarding the relative consequences of a collision, grounding, or allision incident, a survey of USCG MISLE database was conducted for years 2001 to 2014. This data-coverage period was chosen because it covers over 99% of all reported collision, grounding, and allision incidents in the dataset. Data surveys were conducted for the national dataset and for the study area separately to test for differences in the distribution of incident severity between the two.

Draft EIS Chapter 5, Section 5.4.4.4, *Marine Oil Spill Survey*, explained that the vessel-related oil spill survey was largely confined to the specified time period of 2004 through 2014, to develop a baseline representative of existing risk. Larger-scale incidents involving the release of oil have occurred in previous years; however, these events predate legislation targeted at and largely successful in reducing the likelihood of oil spills from vessels or diminishing the impact of a spill should it occur, namely, the enforcement in U.S. waters of the International Convention for the Prevention of Pollution from Ships (MARPOL) and the Oil Pollution Act of 1990. The latter brought about more stringent planning and spill-prevention activities than previous U.S. legislation (the Federal Water Pollution Control Act as amended by the Clean Water Act), improved preparedness and response capability (public and private), and established a double-hull requirement for tank vessels.

## Comment VES-32

Lewis and Clark NHP could also be affected by coal dust from vessel transport. While there are two mitigation methods outlined for minimizing coal dust near the terminal and from rail cars (pages S-56 and S-57), no similar mitigation is discussed for vessels. We recommend the MBTL FEIS include coal dust mitigation measures for vessel transport. (2432)

### Response to VES-32

Coal on vessels would be stored in fully enclosed cargo areas, which would prevent coal dust from blowing off of moving vessels.

## Comment VES-33

Vessel Traffic- Section 5- Vessel Transportation and Vessel Transportation Technical Report and Section 6-23 Cumulative Impacts

The summary in the Vessel Transportation Section 5.4-35 states that there will be 1,680 vessel transits per year. To meet this standard, two vessels will need to be loaded per day 365 days a year. The FEIS should assess how malfunctions in and/or maintenance to loading mechanisms might slow

this process and affect vessel traffic congestion. Additional concerns related to vessel congestion are based on the apparent size of the vessels that would call on the proposed facility. The DEIS provides that 80% of the vessels calling at the facility would be Panamax-class vessels, which, as described in the DEIS, have a draft of at least 42 feet (DEIS 2-16 n. 13). (See also Table 5.4-13 identifying the representative draft of Panamax vessels to be 13.3 meters, which is 43.6 feet.) The federal navigation channel in Columbia River is currently maintained at 43 feet except as limited by temporary shoaling. The Columbia River Harbor Safety Plan calls for all vessel movements to be planned to maintain an under keel clearance of at least 2 feet. As a result, the Columbia River Pilots' Vessel Movement Guidelines note that ships with a draft of 43 feet may be subject to substantial delays while transiting the river and at the Columbia River bar awaiting the proper tide and river levels to be present. Given that the proposal calls for 1344 additional Panamax-class vessel trips per year the EIS should examine the effect of scheduling the transits of largest vessels expected to call on the facility and the likely delays in those transits on vessel congestion on the river and associated risk of congestion related allisions (running one ship in another ship that is stationary), collisions, and groundings. The EIS should also describe air quality impacts related to congestion and how the risk of vessel congestion will be mitigated for. (2691)

## Response to VES-33

For purposes of the impact analysis, the Draft EIS assumed 840 vessels or 1,680 transits a year at maximum throughput operations. Actual vessel calls and transits would reflect real-time adjustments for maintenance, operational downtime, and other factors. Any operational delays at the coal export terminal would be communicated with customers, vessel operators, bar and river pilots, and other entities, per vessel traffic management procedures, described in Draft EIS Chapter 5, Section 5.4, *Vessel Transportation.* As described in the section, management of vessel traffic in the study area is primarily a real-time activity involving the pilots, vessel masters, and PDXMEX. Traffic management coordination on the Columbia River involves river stakeholders, including USCG, Corps, Ecology, Oregon Department of Environmental Quality (ODEQ), pilots, shipping agents, terminal operators, tug operators, and other associations and services.

The risk assessment presented in the *SEPA Vessel Transportation Technical Report*, Appendix A, estimates the potential increase in risk of an allision, collision, and grounding related to the Proposed Action assumed 1,680 transits (80% Panamax-class and 20% Handymax-class vessels). The *SEPA Vessel Transportation Technical Report*, Appendix A, Chapters 3 and 5, described the vessel and vessel traffic data and assumptions and inputs, assumptions, and methods, respectively, used in the analysis.

Draft EIS Chapter 5, Section 5.6, *Air Quality*, described the potential impacts on air quality from vessel operations. The analysis was based on conservative assumptions for vessel operations: three tugs to maneuver the ship, 3 hours to assist with docking and departing operations, 13 hours to load each vessel during which auxiliary engines would be in use. Further, the short-term air quality analysis conservatively assumed peak activity at the coal export terminal: coal train unloading, vessel loading, and a second vessel docking.

# Comment VES-34

Section 5.4.4.3, Ship Casualty Survey (page 5.4-30) does not discuss commercial traffic incidents with recreational or commercial fishing vessels or projected increases with increased traffic and ship size. Same for the ability of Incident Management and Response Systems (page 5.4-32) to deal

with increased traffic and larger ships (2,258 by 2028 and, from 3,862 current to 6,120 in 2028 table 5.4-14). The DEIS states: "Although vessel traffic volumes have been considerably lower over the past 11 years compared to the earlier peak years, vessel sizes and total cargo tonnages have increased in recent years" (page 5 .4-19). "In general, the risks of spills would increase under the Proposed Action due to an increase in the number of vessels calling at the project area and the resultant increase to overall vessel traffic in the study area" (page 5.4.- 43). "Although the likelihood of a serious incident is very low, there are no mitigation measures that can completely eliminate the possibility of an incident or the resulting impacts" (page 5.4- 4 7). The FEIS should assess these potential impacts. As stated above, impacts related to vessel congestion should also be analyzed assuming the largest vessels expected to call on the facility and necessary delays associated with scheduling the transits of those vessels on the river. (2691)

## Response to VES-34

Draft EIS Chapter 5, Section 5.4.4.3, *Ship Casualty Survey*, presented vessel incidents in the study area including both large commercial vessels and others including recreational and fishing vessels over a recent 11-year period. The section did not discuss projected increases in vessel traffic because it represented existing conditions.

Based on the risk assessment completed for the Draft EIS (*SEPA Vessel Transportation Technical Report*, Appendix A), the likelihood of a serious incident is very low. Draft EIS Chapter 4, Section 5.4.4.5, *Incident Management and Response Systems*, described incident management and response systems, including required vessel specific plans. Proposed Action-related vessels would be either Panamax or Handymax sized; vessels of this size currently operate in the Columbia River.

Draft EIS Chapter 5, Section 5.4.5, *Impacts*, described potential impacts related to increased vessel activity under the Proposed Action, based on incident modeling described in the *SEPA Vessel Transportation Technical Report*, Appendix A. Incident modeling considered the interaction between Proposed Action-related vessels and other large commercial vessels using the channel, as well as smaller vessels (e.g., recreational boats or commercial fishing vessels) not limited to the channel. Refer to Response to VES-33 regarding potential for vessel delay and congestion related to the Proposed Action.

# Comment VES-35

Regardless of where vessels refuel the risk of spills while bunkering is significant and the increased risk posed by increased bunkering required as a result of this proposal should be identified and quantified. Furthermore, potential mitigation measures should be identified and list what the proponent will do to mitigate reduce risk of bunkering spill. (2691)

## Response to VES-35

Refer to Response to VES-20 regarding the analysis of oil spill risk from bunkering activities.

Refer to the Master Response for Mitigation Framework for a description of the limits of the SEPA regulatory framework within which the Draft EIS was developed.

# Comment VES-36

The Draft EIS does not address the capacity of the existing vessel traffic management system to manage the risks associated with the projected cumulative increases in deep-draft vessel transits. The 1,680 deep draft vessel transits associated with the proposal represent a 44% increase over 2014 conditions, with projected cumulative 2028 and 2038 levels representing a 58% and 118% increase respectively. The risk associated with a significant increase in large commercial vessels transits is magnified by the potential for a parallel increase in oil transportation in the Columbia River system. Although the "return period" for large scale accidents and/or spills is modeled to be relatively low, a large scale oil spill would have significant and long-term adverse impacts to state-owned aquatic lands and the larger lower Columbia River estuary ecosystem. The recent Tesoro Savage Vancouver Energy Project Draft EIS indicated that the current lower Columbia navigation system had capacity to handle approximately 3,644 annual deep draft vessel transits.2 Both the cumulative 2028 and 2038 projections associated with the Millennium Draft EIS significantly exceed this figure. The Final EIS should address existing vessel traffic management system capacity and identify necessary improvements to expand capabilities (e.g., available pilots and tug escorts) to ensure appropriate safeguards are in place. The Final EIS should also acknowledge the pending Department of Ecology evaluation of the vessel traffic management and safety within and near the mouth of the Columbia River (Section 11, Chapter 274, Laws of 2015). See Ecology's website (http://www.ecy.wa.gov/news/2016/025.html) for further details. It is speculative to imply that existing systems and capabilities are adequate until this study is completed. Although many recommendations from this study may pertain specifically to oil transportation, the Final EIS should adopt all relevant recommendations of this evaluation. Analyses should statistically compare potential increased vessel traffic from proposed oil transportation facilities along the Columbia (Tesoro-Savage EIS and others-see Table 6.2) with levels of traffic proposed and quantify increased level of spill risks posed, as well as any mitigation measures that should be recommended. Provide statistically significant results and potential volumes that could be released as a result of an incident whether it be a collision, allision, grounding, bunkering issue or otherwise. Although the summary states that risks were quantified, very little statistics are referenced throughout this report instead using broad terms such as 'low risk' and 'low probability' of a spill. In the summary and wherever risk of a spill is mentioned, risk should be described in terms of how often (every however many years) and number of potential gallons that could be spilled. Simplifying by only saying "low risk" trivializes the catastrophic impact a spill from these large vessels could have on the Columbia River's diverse and sensitive habitats adjacent to and downriver from this facility. The DEIS needs to provide in more definite terms the risk this proposal poses. (2691)

## Response to VES-36

Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, described the potential impacts related to Proposed Action-related vessel activity, including the potential for increased vessel incidents. Draft EIS Chapter 6, *Cumulative Impacts,* described cumulative impacts. These potential impacts are based on the risk assessment presented in the *SEPA Vessel Transportation Technical Report*, Appendix A. The technical report described the inputs, assumptions, and methods used in the analysis, including existing and assumed risk-reduction measures applied to vessels transiting the study area.

The risk assessment quantified the incremental risk in 2028 and 2038 posed by Proposed Action vessels to other vessel traffic on the river in terms of the increased likelihood of any incident. It provided additional information about the potential consequences of these incidents, more

specifically, qualification of the magnitude or severity of potential outcomes using comparisons to historical data and modeling likelihood for different bunker oil release volumes.

Draft EIS Section 5.4, Table 5.4-15 presented the predicted frequency of an incident during transit under existing conditions, No-Action Alternative, and Proposed Action. As shown in Tables 5.4-16 and 5.4-17, the likelihood of bunker oil spills from a vessel incident would be low with the most-likely scenarios occurring once every 224 years for collisions (2038 traffic levels) and once every 140 years for groundings (2028 or 2038 traffic levels).

Draft EIS Chapter 5, Section 5.4.4, *Existing Conditions*, acknowledged the vessel traffic study being led by Ecology for the Columbia River. Draft findings from this study were considered for the Final EIS.

Draft EIS Chapter 6, *Cumulative Impacts,* Section 6.3.3.4, *Vessel Transportation*, presented the analysis of risk related to the cumulative projects, which included the Tesoro Savage Vancouver Energy Project.

# Comment VES-37

The same reasoning holds for the DEIS analysis of vessel traffic on the Columbia River. A dynamic system will respond to increasing transits to safely accommodate new levels of activity. In any case, management of the system or allocation of capacity lies outside Washington's authority to regulate. As a matter of practice, impacts that lie outside of the state's power to regulate have historically been forestalled from consideration in Washington. (3168)

## Response to VES-37

Draft EIS Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, described in detail the Proposed Action evaluated in the EIS. Specifically, Chapter 2 described the off-site transport of coal by vessel and rail that is considered as part of the Proposed Action. SEPA Rules state that an EIS should evaluate potential impacts of a proposed action on transport systems (WAC 197-11-444). An EIS is an information resource, and is not a regulation.

# Comment VES-38

Vessel Accidents -According to the DEIS, at full build-out in 2038, the Panamax and Hanamax vessels serving the proposed Millennium terminal will be 27% of the estimated traffic on the Columbia River, and at that point the vessels serving the project will have 20.90 collisions per year (p. 6-57). It is notable that this accident rate is based on those accidents which cause lost cargo-there is no estimate of the danger to humans and wildlife from the effects of any magnitude of accident from fire, explosion, and so on, which do not affect cargo. While the DEIS notes this high level of increase in accidents, it does not propose any mitigation, a serious lack which should be corrected in the Final EIS. (3465)

## Response to VES-38

As described in Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, vessel incidents are predicted to increase by 2.2 incidents per year under the Proposed Action compared to the No-Action Alternative. As noted, the consequences of a modeled incident can vary greatly from no damage to

total loss. Because the increase in likelihood alone is not representative of the magnitude of the potential consequences, not all of the predicted incidents are expected to result in notable damages.

# Comment VES-39

The DEIS does not address the 1,680 Panamax bulk vessels along the Columbia River. (TRANS-PASCO-M1-00039)

## Response to VES-39

Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, described the potential impacts related to Proposed Action vessel activity (840 bulk carriers or 1,680 vessel transits along the Columbia River), including the potential for increased vessel incidents. The expected fleet mix is 80% Panamax-class and 20% Handymax-class vessels.

# Comment VES-40

The DEIS does not address the impact of 1,680 Panamax bulk vessels along the Columbia River. (TRANS-LV-M2-00084)

## Response to VES-40

Refer to Response to VES-39.

# Comment VES-41

We feel that the EIS does not adequately address protections for the restoration work that we're doing on the river. We've been involved with millions of dollars trying to build a salmon recovery. A critical point is the area of potential effect is the length of the journey of the vessel on the river. It's wider than the port. That vessel is at risk any time. If it fails, if it's -- if there's a spill of oil, coal, or just traffic accident on a vessel, then the area of potential effect is where the ship is. (TRANS-LV-M1-00017)

## Response to VES-41

The Draft EIS Chapters 3, 4, and 5 described existing conditions within the study areas identified for each resource area analyzed in the EIS. A new appendix has been added to the *SEPA Fish Technical Report* that provides information on all the restoration projects that are known to have occurred in the lower Columbia River subbasin (i.e., watershed below Bonneville Dam). The list of projects was provided by the Lower Columbia Estuary Partnership. To the extent that past environmental restoration activities have improved conditions in the study areas, those conditions are reflected in the existing conditions described in the Draft EIS.

As described in Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, the study area for indirect impacts includes the waterways that would be used by, or could be affected by, vessels calling at the project area. It includes the waters out to 3 nautical miles seaward of the mouth of the Columbia River, the Columbia River Bar, the Columbia River upstream to Vancouver, Washington, and the Willamette River upstream to the Port of Portland.

# Comment VES-42

The EIS does not address the impact to the increase in river shipping or the Columbia River. The state of WA is concerned about aquatic invasive species (AIS) in the waters. The coal ship will be crossing [?] thousands of gallons of [indecipherable] water into the Columbia River. This greatly impacts AIS to the Columbia. (3787)

## Response to VES-42

Draft EIS Chapter 4, Section 4.5, *Water Quality*, describes potential indirect impacts of vessel transport related to the Proposed Action on water quality, including the potential to introduce contaminants from ballast water. As described in the operations impacts discussion of this section, although ballast water could contain invasive species that could result in harm or displace native aquatic species, the vessels calling at the docks would be required to comply with existing federal and state regulations to control the discharge of ballast and regulate water quality of ballast water. Complying with existing ballast water laws would reduce the likelihood of discharge of invasive species.

# Comment VES-43

There is inadequate study of the risk of massive vessels traversing the Columbia River. (3721)

## Response to VES-43

Refer to Response to VES-17 regarding the risk assessment conducted for the Draft EIS.

# Comment VES-44

There was nowhere near enough export testimony outlining the risks of shipping the coal down the Columbia River, which simply may not be deep enough in places to accommodate the huge heavy ships intended to transport it. With reduced river flows such as we experienced in our area last year, problems with drafting are likely to increase as erratic tributary flows can be expected more as the norm, thanks to global warming, than they historically were. Finally, these ships will encounter the treacherous bar at the mouth of the Columbia at Astoria, where they present a near-certainty of accidents before they make it out to the open sea. (3491)

## Response to VES-44

Refer to Response to VES-1.

Refer to Response to VES-17 regarding the risk assessment conducted for the Draft EIS. The categories of vessels considered in characterizing vessel traffic included passenger, fishing, pleasure, and service vessels. The assessment applied an increase of 1% per year to the 2014 baseline traffic data for all categories of non-Proposed Action vessels. Draft EIS Chapter 5, Section 5.4.4.2, *Vessel Traffic, Other Vessels*, described commercial fishing, recreational, smaller commercial passenger, and service vessels operating in the study area. Section 5.4.5.1, *Proposed Action, Operations—Indirect Impacts*, described potential impacts related to increase vessel activity under the Proposed Action.

# Comment VES-45

Section 3.1.5.1's failure to apply the risk assessment to small craft due to the projected 46% increase in shipping traffic from this Proposal demands a No Action at this time! The DEIS completely failed to describe the current state of small vessel traffic, how it has increased with the area river access at Willow Grove, Rainier, Castle Rock, Kalama, and how it is expected to grow. Similarly, the DEIS has failed to characterize the exploding popularity of windsurfing, kite boarding, and jet skis on the Lower Columbia. Moreover, small vessel traffic carries the highest risk weighting, and their omission is a major error. (3416)

## Response to VES-45

Refer to Response to VES-17 regarding the risk assessment conducted for the Draft EIS. The assessment considered large commercial vessels, as well as other vessels such as fishing and recreational vessels.

# Comment VES-46

Then there is the matter of increased traffic on the river which would have a negative effect on tribal, sports and commercial fishers. The DEIS dismisses the impact as low (accidents). Well, what about the wellbeing of these industries? (3388)

## Response to VES-46

As stated in Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, increased vessel traffic associated with the Proposed Action could result in impacts from increased activity, including vessel wake, propeller wash, underwater noise and vibration, and vessel emissions. The potential impacts from the increased activity on cultural resources, water quality, fish, and wildlife are addressed in Draft EIS Chapter 3, Section 3.4, *Cultural Resources*, and Chapter 4, Sections 4.2, *Surface Water and Floodplains*, 4.5, *Water Quality*, 4.6, *Vegetation*, 4.7, *Fish*, and 4.8, *Wildlife*, respectively.

# Comment VES-47

The EIS estimates up to 70 vessels per month will visit the site at full build-out. This means 140 new ship transits per month from the Columbia River Bar up to Longview – not counting the two or three tugs assigned to ship assist work every time a cargo carrier arrives or departs. Chapter 5.4 p 34 runs these numbers out to yearly, 1,680 ship transits. Most of these ships will be Panamax class, 100,000 deadweight tons and up, drawing 49.' This is a huge negative qualitative and quantitative impact on current river traffic that cannot be mitigated. The EIS p. 5.4-38 identifies known difficulties berthing cargo ships at Dock 1, but says there is no way to evaluate the difficulty without building the terminal and finding out by trial and error. This is not an acceptable or satisfactory planning approach. Cargo ship movements will dominate river traffic to the virtual exclusion of other traffic. The EIS needs to put this impact into some comprehensible terms for the lay reader rather than burying it in statistics or masking it as indirect impact. (3386)

## Response to VES-47

Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, described potential impacts on vessel transportation in the study area from increased vessel traffic related to the Proposed Action.

As explained in the Chapter 3, Section 3.1.1.3, Operations: Direct Impacts, of the SEPA Vessel Transportation Technical Report, the potential operational impacts of the Proposed Action factored in the existing conditions of the project area, including potential maneuvering challenges at the docks.

# Comment VES-48

Risk of bunkering fuel spills is highly contingent on human error. This risk cannot be reduced to zero, best practices notwithstanding. 5.4-44. The status of bunkering at Dock 1 is not clear, or at least I could not find it. (3386)

## Response to VES-48

Refer to Response to VES-20 regarding the analysis of oil spill risk from bunkering activities.

# Comment VES-49

As vital as rail infrastructure is our reliance on navigation infrastructure on the Columbia River. Currently, large bulk vessels calling on the river utilize stern buoys to ensure safe anchorage while awaiting berth or sailing. The lower Columbia River ports have worked aggressively to increase, and fund, the existing stern buoys available on the river to accommodate current customers and levels of vessel traffic. With Millennium's proposed increase in vessel traffic, costs of stern buoys and river infrastructure projects should be proportionally funded by private projects like this instead of relying solely on public financing. (3326)

## Response to VES-49

Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, which evaluated potential impacts on vessel transportation in the study area from increased vessel traffic related to the Proposed Action, identified no impacts on current infrastructure. Consideration of funding mechanisms for navigational infrastructure is outside the scope of a SEPA EIS. Refer to the Master Response to Purpose and Focus of the EIS. Refer to the Master Response for Mitigation Framework for a description of the framework within which applicant mitigation is identified for a SEPA EIS.

# Comment VES-50

Further, the majority of important marsh land at the mouth of the Columbia is on islands in Oregon. So Oregon will feel the brunt of this increased ship traffic in its tourism, recreation, and fishing industries. It will certainly feel the impact on the health of its estuarine areas and possibly jobs. I feel that these impacts were not sufficiently addressed in the DEIS. More studies need to be done with realistic, updated accident incidence models. (2520)

## Response to VES-50

The potential impacts of Proposed Action-related vessel traffic in the lower Columbia River on water quality, vegetation, fish, and marine mammals are addressed in Chapter 4, Sections 4.2, *Surface Water and Floodplains*, 4.5, *Water Quality,* 4.6, *Vegetation,* 4.7, *Fish,* and 4.8, *Wildlife*, respectively.

As discussed in the Master Response for Purpose and Focus of the EIS, SEPA Rules (WAC 197-11-444) do not require that an EIS analyze the economic impacts of an action.

Refer to Response to VES-17 regarding the risk assessment conducted for the Draft EIS. The risk assessment (*SEPA Vessel Transportation Technical Report*, Appendix A) modeled the potential for vessel incidents (i.e., allisions at the project area, collisions, groundings, and fire/explosions by Proposed Action-related vessels during transit) under existing conditions, the Proposed Action, and No-Action Alternative. The technical report described the inputs, assumptions, and methods used in the analysis.

# Comment VES-51

Ocean transport will cause increased emissions, collision risks, and near-shore effects from Longview, through the Columbia River estuary, and across the sea. Please study the effects of all of these on our planet. (0120)

## Response to VES-51

Draft EIS Chapter 5, Section 5.6, *Air Quality*, described the potential impacts on air quality from Proposed Action-related vessel activity on the Columbia River. Draft EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, estimated greenhouse gas emissions from Proposed Action-related vessel transport from the project area to Asian markets.

Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, described the potential increase in risk of an allision, collision, and grounding in the Columbia River related to the Proposed Action. The potential impacts of Proposed Action-related vessel traffic in the Columbia River on water quality, vegetation, fish, and marine mammals were addressed in Draft EIS Chapter 4, Sections 4.2, *Surface Water and Floodplains*, 4.5, *Water Quality*, 4.6, *Vegetation*, 4.7, *Fish*, and 4.8, *Wildlife*, respectively.

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment VES-52

Although the DEIS provides a discussion of accident risk in the Columbia River, we are puzzled by the DEIS's decision to limit the scope of that analysis to three miles offshore. Obviously, the marine transport vessels will continue to exist past that three-mile mark. Indeed, the DEIS does not appear to be consistent on this point, as it includes GHG impacts from vessel transport for the entire cross-ocean voyage. (3277)

## Response to VES-52

In accordance with SEPA Rules, the SEPA co-lead agencies defined the geographic study areas for the Draft EIS analyses to encompass the areas where the Proposed Action could result in significant adverse environmental impacts. These areas differ based on the resource being analyzed. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment VES-53

Overall, limiting the study area to the three nautical miles in front of the mouth of the Columbia obscures the risks and impacts of MBT's project. (3277)

## Response to VES-53

Refer to Response to VES-52 regarding the geographic scope of the EIS study areas.

# Comment VES-54

Without any explanation the DEIS artificially constricts the vessel study area for indirect impacts upon operation of the facility. As a result, the DEIS avoids disclosure and analysis of significant adverse impacts from vessel accidents along a complete vessel transportation route that would include the Pacific Ocean, Gulf of Alaska, Bering Sea, and Washington and Alaska's coastal oceans and coastlines. Impacts all along the vessel transportation route are reasonably foreseeable, yet the study area for vessel transportation accidents is limited to "waterways that would be used by or could be affected by vessels calling at the project area" but only includes an area "out to 3 nautical miles seaward of the mouth of the Columbia River, the Columbia River Bar, the Columbia River upstream to Vancouver, Washington, and the Willamette River upstream to the Port of Portland." (2589)

## Response to VES-54

The study area for indirect impacts on vessel transportation includes the waters out to 3 nautical miles seaward of the mouth of the Columbia River, the Columbia River Bar, the Columbia River upstream to Vancouver, Washington,[1] and the Willamette River upstream to the Port of Portland. Refer to Response to VES-52 regarding the geographic scope of the EIS study areas.

# Comment VES-55

The absence in the DEIS of analysis of vessel transportation impacts along the entire vessel route, however, leaves the public and decision makers uninformed about additional significant risks and consequences of the project. A revised DEIS and the Final EIS must expand the vessel accident study area and include studies, analysis, and full disclosure of vessel accident risks and consequences along the entire vessel route. Impacts of accidents must include impacts along Washington and Alaska's coastal waters and coastlines and to the states' National Wildlife Refuges and fish and wildlife species. (2589)

## Response to VES-55

Refer to Response to VES-52 regarding the geographic scope of the EIS study areas.

# Comment VES-56

A revised DEIS and Final EIS must include studies, analysis, and full disclosure of all vessel accident impacts including spillage of bunker fuel and spillage of coal cargo on fish and wildlife at the coal

[1] The Port of Vancouver is the furthest upstream port receiving large commercial vessels.

terminal and along the entire vessel transportation route including in the lower Columbia River, along Washington's and Alaska's coasts and in the states' coastal oceans including areas where fish and wildlife species are protected by National Wildlife Refuges. (2589)

### Response to VES-56

Refer to Response to VES-20 regarding the analysis of oil spill risk from bunkering activities.

Refer to Response to VES-52 regarding the geographic scope of the EIS study areas.

## Comment VES-57

without any explanation the DEIS artificially constricts the vessel study area for indirect impacts upon operation of the facility. As a result, the DEIS avoids disclosure and analysis of significant adverse impacts from vessel accidents along a complete vessel transportation route that would include the Pacific Ocean, Gulf of Alaska, Bering Sea, and Washington and Alaska's coastal oceans and coastlines. Impacts all along the vessel transportation route are reasonably foreseeable, yet the study area for vessel transportation accidents is limited to "waterways that would be used by or could be affected by vessels calling at the project area" but only includes an area "out to 3 nautical miles seaward of the mouth of the Columbia River, the Columbia River Bar, the Columbia River upstream to Vancouver, Washington, and the Willamette River upstream to the Port of Portland." DEIS, 5.4.2. SEPA's implementing regulations do not allow this limitation on the vessel transportation study area. WAC 197-11-060(4)(b). Based on the narrowly defined study area, the rest of the chapter leaves unanalyzed impacts all along the vessel transportation route outside the limited study area. Unless the project's vessels plan to stop abruptly at 3 nautical miles seaward of the Columbia River's mouth, or for some reason unexplained by the DEIS no vessel transportation accident could ever occur outside this area, there is no basis for the truncation of this important study area (2712)

### Response to VES-57

Refer to Response to VES-52 regarding the geographic scope of the EIS study areas.

## Comment VES-58

The absence in the DEIS of analysis of vessel transportation impacts along the entire vessel route, however, leaves the public and decision makers uninformed about additional significant risks and consequences of the project. A revised DEIS and the Final EIS must expand the vessel accident study area and include studies, analysis, and full disclosure of vessel accident risks and consequences along the entire vessel route. Impacts of accidents must include impacts along Washington and Alaska's coastal waters and coastlines and to the states' National Wildlife Refuges and fish and wildlife species. (2712)

### Response to VES-58

Refer to Response to VES-52 regarding the geographic scope of the EIS study areas.

# Comment VES-59

A revised DEIS and Final EIS must include studies, analysis, and full disclosure of all vessel accident impacts including spillage of bunker fuel and spillage of coal cargo on fish and wildlife at the coal terminal and along the entire vessel transportation route including in the lower Columbia River, along Washington's and Alaska's coasts and in the states' coastal oceans including areas where fish and wildlife species are protected by National Wildlife Refuges. (2712)

## Response to VES-59

Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, evaluated potential impacts on vessel transportation and safety in the indirect impact study area from Proposed Action-related vessel traffic. The indirect impacts study area included the waters out to 3 nautical miles seaward of the mouth of the Columbia River, the Columbia River Bar, the Columbia River upstream to Vancouver, Washington, and the Willamette River upstream to the Port of Portland.

Refer to Response to VES-17 regarding the risk assessment conducted for the Draft EIS.

Refer to Response to VES-52 regarding the geographic scope of the EIS study areas.

# Comment VES-60

The DEIS acknowledges that the increase in deep draft vessels traffic can result in adverse impacts from large vessel underwater noise (DEIS, 5.4- 45). It also acknowledges that there is a greater incidence of vessel strikes with whales than other marine mammals. DEIS 4.8.-24. But the study area (the same for direct and indirect impacts for large vessel noise impacts and vessel strikes on marine mammals, Wildlife Report, 1.3) is artificially limited to "the main channel of the Columbia River and extends approximately 5.1 miles upstream and 2.1 miles downstream in the Columbia River, measured respectively, from the upstream and downstream extents of the proposed docks (Docks 2 and 3) at the project area." SEPA Wildlife Technical Report (Wildlife Report) 1.3.1.2.and Figure 4. As a result, the only order of marine mammal for which vessel noise impacts and vessel were considered is pinnipeds including three species found in the lower Columbia River that swim through the study site. DEIS 4.8.3.3; 4.8.4; Wildlife Report, 3.1.1.4 (2712)

## Response to VES-60

Final EIS Chapter 4, Section 4.8, *Wildlife*, has been revised to clarify that the study area for indirect impacts on aquatic species from transiting Proposed Action-related vessels includes the Columbia River, downstream from the project area to the mouth of the river, to account for potential impacts on marine mammals.

Refer to Response to VES-52 regarding the geographic scope of the EIS study areas.

# Comment VES-61

Under SEPA, just as you have determined it is necessary to study the proposal's impacts on greenhouse gas emissions "from cradle to grave," it is equally necessary to study the proposals' impacts on vessel traffic and oil spill risks from the beginning point of the shipping (the terminals) to any points along the transshipment line, including anchorages and bunkering locations within the Salish Sea. [Footnote 1: The same principle will apply during preparation of the DEIS under the

National Environmental Policy Act, 42 U.S.C. ch. 55. See, e.g., High Country Conserv. Advocates v. U.S. Forest Service, 52 F. Supp.3d 1174, 1194 (D.Colo. 2014).] The DEIS fails to do this. This is not a minor error. The DEIS acknowledges that the project will generate port calls for 840 vessels per year, which equates to 1,680 transits per year, to and from the facility. DEIS at 5.4-35.

If even a percentage of these ships enter the Salish Sea for bunkering or repairs, the likelihood of a significant shipping accident adversely affecting fishing areas is substantially increased by these increased transits. The number of ships entering the Salish Sea is likely to amount to a significant increase in large vessel traffic. Because bunkering facilities are scarce along the Columbia River, because the proposal states that bunkering will not occur onsite, and because not all bunkering will occur overseas, it is reasonable to study the project's effects on bunkering and anchoring at established sites outside the Columbia River. The closest locations are at Port Angeles and Vendovi Island, near March Point in the vicinity of Anacortes. It is illogical for the DEIS to cut off the geographic scope of its review of impacts to the three-mile coastal zone seaward of the mouth of the Columbia River when it is reasonably foreseeable that bunkering will not occur on the Columbia River. See DEIS at 5.4-3. Ecology's SEPA review must be expanded to include all coastal areas likely to experience vessel traffic increases from the project, including in the Salish Sea, because Ecology has a duty to certify compliance with the federal Coastal Zone Management Act. 16 U.S.C. Ch. 33.

The entry of large bulk coal carriers into the Salish Sea for bunkering increases the potential for collisions with tankers, ATB's and other vessels carrying substantial quantities of oil and fuel, thus directly interfering with fishing areas. Recent analyses of bunkering statistics found that a single coal terminal's bunkering could increase bunkering within the northern Salish Sea by as much as 230% and that 92% of bunkering incidents result in a discharge of oil to the sea. See Glosten & Associates, Gateway Pacific Terminal Vessel Traffic and Risk Assessment Study (Nov. 4, 2014). The SEPA DEIS failed to study consequences of increased shipping generated by the project in the Salish Sea and the adverse cumulative effects of bunkering there, and thus failed to analyze the full range of reasonably foreseeable impacts as required by Ecology's SEPA Rules at WAC 197-11-060(4) (b)-(e); -792; -794.

Ecology as well as Cowlitz County must take into account the water quality and coastal zone impacts of this increased vessel traffic and bunkering in the Salish Sea, even if it is occurring outside of Cowlitz County or the three-mile limit off the mouth of the Columbia River. Cathcart-Maltby-Clearview Comm. Council v. Snohomish Cty., 96 Wn.2d 201, 209 (1981); S.A.V.E. v. City of Bothell, 89 Wn.2d 862, 872, 576 P.2d 401 (1978) (Under SEPA, City may not disregard the adverse traffic congestion directly generated by a rezone even though it occurs outside of the City's boundaries). These impacts include large oil and fuel spills and their deprivation of access to fishing and fish in areas most affected by the spills; cumulative effects of smaller, regular spills on water quality, migrating species, plankton, and seafloor species such as valued Dungeness crab fisheries at Saddlebags, Bellingham Bay and Cherry Point; impacts of waves on fry (wake stranding) and gravel substrate spawning habitat; interference with salmon migration patterns; disturbance of the seafloor from anchor chains; deprivation of tribal and commercial fisher access to fishing areas within anchorage zones and surrounding areas; increased vessel conflicts with tugs, ATBs and other supporting vessels; and adverse effects of repeated ship noise on salmon, whales and other species of economic or cultural importance. The Millennium DEIS fails to analyze any of these impacts within the Salish Sea, either as direct, indirect or cumulative impacts, despite acknowledging that bunkering will not occur at the Longview site. Instead, the document attempts to justify this glaring omission in analysis of impacts (". . . it is not possible to predict the number of vessels that may bunker or where they would bunker. . ."). DEIS, Vessel Transportation Technical Report at 3-14. It

was possible to do just this type of analysis for the now-denied Cherry Point coal terminal (Gateway Pacific Terminal), and it is therefore possible and necessary to do it for this project. Any conclusion in the DEIS that bunkering or vessel impacts in the Salish Sea are either not significant or avoidable (See, e.g., DEIS 4.6-27) is flawed because the Salish Sea impacts were never analyzed. (3433)

## Response to VES-61

Refer to Response to VES-52 regarding the geographic scope of the EIS study areas.

Refer to Response to VES-20 regarding the analysis of oil spill risk from bunkering activities.

# Comment VES-62

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| A | **Summary**<br>Page S-54, Section 5.4, Vessel Transportation | *"If an incident such as a collision or allusion occurred, the Proposed Action could result in unavoidable and significant adverse impact on vessel transportation."* | The suggestion that coal ships are causational is misleading, ... If the statement about shipping being compromised is true, then it is about vessels using the river, not coal vessels. |
| B | **5.4 Vessel Transportation**<br>Page 5.4-5, fourth primary bullet | *"Increased risks of bunker oil spills were addressed."* | Why mention bunkering risk when it is not part of our proposed action? |
| C | **5.4 Vessel Transportation**<br>Page 5.4-35, Operation – Direct Impacts, second paragraph | *"Vessel loading would be performed using an electric-powered, single-traveling shiploader installed on Docks 2 and 3."* Should state: " Vessel loading would be performed using an electric-powered shiploader. Each dock will have one shiploader." | Each dock will have one shiploader. Text as written could be misinterpreted as having one traveling shiploader total. |
| D | **5.4 Vessel Transportation**<br>Page 5.4-36, footnote 33 at bottom of page | "[33] *Currents in the river at the project area are typically directed downriver or ebbing due to the river flow overriding the tidal currents. It is more efficient and safer to dock the ship heading into the current using the forward power of the engines which is stronger than the vessel's backing power. When the loaded vessel leaves the dock with the bow pointing upstream, the currents assist the vessel turning in the channel by pushing the bow around and downstream."* | This matter is under discussion with the Pilots and the Pilots have expressed a preference for the bow to be upstream. This is an unresolved matter and should not be presented here as definitive. |

(3070)

## Response to VES-62

The following describes the changes made to the Final EIS *Summary* and Chapter 5, Section 5.4, *Vessel Transportation*, in response to these comments. Refer to the left-most column of the above table for lettering used to identify each comment.

- **Comment A:** The description of potential unavoidable and significant impacts from vessel activity related to the Proposed Action has been clarified in the Final EIS *Summary*.
- **Comment B:** Bunkering of Proposed Action-related vessels represents a potential indirect impact and was addressed as such in the Draft EIS.
- **Comment C:** Text in Section 5.4.5.1, *Proposed Action, Operations-Direct Impacts,* has been updated to clarify the vessel-loading facilities description,
- **Comment D:** The footnote referenced (number 36 in Final EIS Section 5.4) has been revised to clarify that these are the anticipated actions based on the referenced communication with the River Pilots from 2014, but that pilots determine the appropriate actions for vessel arrivals and departures.

# 5.5 Noise and Vibration

This section presents responses to substantive comments related to noise and vibration.

## Comment NV-1

The DEIS states that Millennium will monitor two residences nearest the project for noise exceeding acceptable levels and will modify operations or building insulation if necessary. These measures are vague and should be specified in the final EIS. (3465)

### Response to NV-1

Specific noise-reduction measures would be developed based on noise monitoring during construction and operation of the Proposed Action. Given the preliminary nature of the coal export terminal design, it is not known if terminal operations would exceed applicable noise standards at noise-sensitive receptors, and if mitigation would be necessary, it is not known which measures would be most appropriate.

Potential mitigation measures presented in the Draft EIS were developed within the limits of the SEPA regulatory framework described in the Master Response for Mitigation Framework. Mitigation measures included as permit conditions would become legal requirements of the Applicant. The Final EIS has been updated to include mitigation monitoring and reporting requirements for the Applicant as proof of compliance with the mitigation requirements. Mitigation monitoring reports would be part of the public record. For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

## Comment NV-2

Noise from trains and traffic has been shown to contribute to adverse health effects, including cardiovascular disease (Mead 2007). The DEIS finds no significant and adverse effect for noise levels for residents living near the project site. On the other hand, the DEIS states that noise levels at rail crossings in three Longview neighborhoods will be elevated due to increased horn noise coming from an additional 16 train units transiting per day-at 100 feet, trains have a decibel level of 92 - 110 and can be highly aggravating to community members up to 600 - 1,000 feet (Horn Noise). The DEIS states that Millennium will help create and fund a "Quiet Zone" or other measures along the Reynolds Lead. However, Millennium has not applied for a noise permit, so this commitment is not enforceable. The DEIS should require a noise permit from the BSNF for the increase in aggravating train horn noise from 16 additional trains blowing their horns each day. (3465)

### Response to NV-2

Final EIS Chapter 5, Section 5.5, *Noise and Vibration*, identifies three proposed noise mitigation measures the Applicant would implement and three voluntary mitigation measures. Refer to Response to NV-1.

# Comment NV-3

The conclusions of the direct and indirect noise impacts on adjacent uses should be revised to reflect the applicable zoning (rather than non-conforming uses). The Final EIS should recognize that the noise emanating from the Project site would be in compliance with applicable noise regulations. For uses that would be allowed under the applicable zoning, Project-related noise would not cause a significant adverse impact. (3070)

## Response to NV-3

There are no proposals to redevelop or displace the nonconforming residential uses referenced by the commenter. Absent reasonably foreseeable actions to redevelop or displace these residential uses, the Draft EIS did not speculate on future conditions to evaluate potential impacts. Draft EIS Chapter 5, Section 5.5.3.3, *Impact Analysis*, described in detail the methods used to evaluate potential noise impacts from the operations of Proposed Action-related trains on the Reynolds Lead and BNSF Spur. This subsection described the use of the applicable Federal Railroad Administration (FRA)/Federal Transit Administration (FTA) assessment guidelines (FRA/FTA guidance) used to identify potential noise impacts with Proposed Action-related trains on the Reynolds Lead and BNSF Spur. Because these guidelines were prepared by two federal agencies with jurisdiction over rail traffic, these methods are commonly used in evaluating the potential noise impacts of proposed actions involving rail traffic. The noise impact criteria are based on the land use category receiving the noise, which is defined in the FRA/FTA guidance. The land use category is based on the existing land use, not the zoning of the property.

# Comment NV-4

On page 5.5-31 of the Draft EIS, the Co-lead agencies have added mitigation measure NV-2 as follows:

MM NV-2. Support Implementation of a Quiet Zone along the Reynolds Lead. To address moderate and severe noise impacts along the Reynolds Lead due to rail traffic, before beginning full operations, the Applicant will coordinate with the City of Longview, Cowlitz County, LVSW, and the affected community to inform interested parties on the FRA process to implement a Quiet Zone that will include the 3rd Avenue and California Avenue crossings. Public outreach on the Quiet Zone process will include low-income and minority populations. The Applicant will assist interested parties in the preparation and submission of the Quiet Zone application to FRA. If the Quiet Zone is approved, the Applicant will fund all improvements.

We question the expense of installing quiet crossings in these two locations (3rd Avenue and California Way) for a short-term impact.

As with the voluntary mitigation proposed for Oregon Way and Industrial Way, were MBT-Longview to agree to this mitigation measure, as addressed above, MBT-Longview would fund additional electronics, barricades and crossing gates, not “all necessary improvements”. The Final EIS should accurately reflect the various entities’ roles in funding these improvements. (3070)

## Response to NV-4

There are no proposals to redevelop or displace the nonconforming residential uses near 3rd Avenue and California Way. Absent reasonably foreseeable actions to redevelop or displace these

residential uses, the Draft EIS did not speculate on future conditions when evaluating potential impacts; therefore, the noise impacts are not considered short-term impacts. As discussed in the Master Response for Mitigation Framework, mitigation measures are identified when applicable regulations, permit conditions, and required plans would not adequately reduce potentially significant impacts. Mitigation Measure MM NV-2 has been revised in Final EIS Chapter 5, Section 5.5, *Noise and Vibration*, to clarify the type of actions that could be funded as part of mitigation for a Quiet Zone. As described in Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*, the Applicant will work with the City of Longview, Cowlitz County, Longview Switching Company, the affected community, and other applicable parties to apply for, fund, and implement a Quiet Zone. However, if a Quiet Zone is not implemented, and Proposed Action-related train horns are sounded for public safety, then the potential for exposure to moderate and severe noise impacts would remain and would be an unavoidable and significant adverse environmental impact. Refer to Response to NV-1.

# Comment NV-5

For the Proposed Action, the State DEIS states that Project-related train horns would lead to the exposure of 60 residences to severe noise impact and 229 residences to moderate noise impacts, and concludes that the impacts would be disproportionately high and adverse on minority and low income populations. We recommend that the Final EIS discuss how that conclusion should be considered in light of the State's policies and approach to advancing environmental justice. (3306)

## Response to NV-5

Agency decision-makers will consider the potential impacts identified in the EIS (including disproportionate impacts on minority and low-income populations) when making permit decisions noted in the Master Response for Purpose and Focus of the EIS, an EIS is not required to document all of the possible considerations of a decision. An EIS is also not required to contain the balancing judgments that must be made by decision-makers (WAC 197-11-448).

# Comment NV-6

For the statewide analysis of noise, the State DEIS calculates the potential noise impact from Proposed Action related train traffic in terms of average noise levels along six long statewide segments. This averaging approach makes it difficult to determine if train horns at public crossings would lead to moderate or severe impacts - such as those identified along the Reynolds lead. To improve the statewide analysis of train noise, we recommend that the State FEIS include more site-specific analysis of potential noise impacts near at-grade crossings, and evaluate if any such impacts disproportionately affect low income and minority populations. (3306)

## Response to NV-6

As identified in Draft EIS Chapter 3, Section 3.2, *Social and Community Resources*, the study area for minority and low-income populations is the project area and the area within 1 mile of the project area for direct impacts, and an area within 0.5 mile of the affected rail line in Cowlitz County for indirect impacts. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment NV-7

The process for ensuring the crossings are being properly evaluated for necessary safety measures is important. In addition, in response to increased train horn noise created by the 16 additional train trips along the Reynolds Lead line, the Applicant is willing to fund upgrades to crossings where train horn noise has been identified as severe, particularly in several residential areas. See Voluntary Mitigation at 5.5.71 "To reduce rail noise along the Reynolds Lead, the Applicant will work with LVSW and other stakeholders to convert the Oregon Way and Industrial Way crossings to "quiet crossings". The Applicant will fund additional electronics, barricades, and crossing gates to convert the crossings to "quiet crossings." The commission highlights that there are specific threshold requirements outlined in the Code of Federal Regulations, Title 49, Part 222 to qualify for quiet zones. The Applicant should be responsible for these costs and special consideration should be given by the crossing assessment team when evaluating these crossings for upgrades. (3311)

## Response to NV-7

The referenced mitigation measure states the Applicant would voluntarily fund additional electronics, barricades, and crossing gates at the Oregon Way and Industrial Way crossings. The mitigation presented in the Draft EIS was developed within the limits of the SEPA regulatory framework described in the Master Response for Mitigation Framework. Mitigation measures, including voluntary mitigation, included as permit conditions would become legal requirements of the Applicant. Additional information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework. As described in Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*, the Applicant will work with the City of Longview, Cowlitz County, Longview Switching Company, the affected community, and other applicable parties to apply for, fund, and implement a Quiet Zone. However, if a Quiet Zone is not implemented, and Proposed Action-related train horns are sounded for public safety, then the potential for exposure to moderate and severe noise impacts would remain and would be an unavoidable and significant adverse environmental impact.

# Comment NV-8

In the EIS summary it's stated that if the "mitigating actions – quiet zone" is not implemented the blowing of the rail locomotives would have a detrimental effect on the surrounding community. It's my concern that the statement should say "a serious detrimental" effect on the surrounding community. Because of this the Millennium Bulk Terminal should NOT be allowed to operate prior to the implementation of the quiet zone mitigating action. (1134)

## Response to NV-8

As described in Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*, the Proposed Action would add 16 trains per day on the Reynolds Lead and BNSF Spur and increase average daily noise levels. Noise levels would meet applicable criteria for moderate or severe noise impacts at noise-sensitive receptors. The noise impacts would occur near at-grade crossings on the Reynolds Lead from train horn noise intended for public safety. Railroad noise is exempt from Washington State and local noise standards; however, it is possible for communities to work with FRA to apply for and implement a Quiet Zone to limit train horn sounding. The Applicant will work with the City of Longview, Cowlitz County, LVSW, the affected community, and other applicable parties to apply for

and implement a Quiet Zone. However, if a Quiet Zone is not implemented, and Proposed Action-related train horns are sounded for public safety, then the potential for exposure to moderate and severe noise impacts would remain and would be an unavoidable and significant adverse environmental impact. Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

# Comment NV-9

I believe the EIS did not look into consistent and ongoing "Switch Yard Noise" which is considerable. Noise from intermittently reviving the large locomotive engines along with the noise of humping full and empty cars Smacking them together (starting and stopping movement), track imperfection noise, flat car wheel noise, bad wheel bearing noise, improperly adjusted and broken car brakes noise and leaking of pressurized air. Along with any and all other noises generating in the movement of rail cars. (1134)

## Response to NV-9

Existing noise from switching activities was accounted for in existing noise levels collected in the field and used to establish baseline noise levels in the study area, as described Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*.

# Comment NV-10

The noise from train passage, stopping and starting, and whistles will as the DEIS demonstrates exceed regulations for inhabitants of hundreds of homes and probably many workplaces. The effects of loud noise on public health have been acknowledged for decades; yet the DEIS does not consider these effects seriously enough. (0175)

## Response to NV-10

Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*, assessed the potential noise impacts of the Proposed Action, including noise from Proposed Action-related trains. Railroad noise is exempt from Washington State and local noise standards. Potential public health impacts from noise are outside the scope of the EIS. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for this scope and focus. A Health Impact Assessment (HIA) for the Proposed Action is being prepared separately from the SEPA environmental review and the study addresses public health impacts from noise. Refer to the Master Response for the Health Impact Assessment for information on the HIA process, including the study area for the assessment, the selection of topics analyzed, and opportunities for public review and comment.

The FRA/FTA guidelines define a moderate impact as a change in noise level that would be noticeable to most people, but may not be enough to cause a strong adverse reaction. A severe impact is defined as a change in noise levels that would result in a significant percentage of people becoming highly annoyed by the noise. As such, the analysis of noise impacts in the Draft EIS did not limit the identification of noise impacts to those that result in annoyance. The Draft EIS used the day-night sound level (Ldn), which is essentially a 24-hour average noise level (in dBA) with a 10-decibel upward adjustment of noise levels occurring at night. This adjustment is made to account

for most individuals' increased sensitivity to noise at night. Ldn is not based on community surveys or reported annoyance.

# Comment NV-11

There are also problems presented by noise. 1. What of level of noise exposure? Does it represent an increased risk of hearing loss for plant employees or town residents? 2. What is the duration of exposure? 3. Are there sudden bursts of noise or excess noise at night? Noise is associated not only the deafness, but also sleep disturbance and diseases related to increased dress, such as heart disease. (0811)

## Response to NV-11

Refer to Response to NV-10.

# Comment NV-12

The draft EIS does not address the effects of the noise pollution along the tracks. Communities all along the railroad tracks along that route will be affected. Scientific research in peer reviewed journals has shown a greater risk of cardiovascular effects due to noise pollution. Noise pollution will be greatly increased due to the very long trains and the high number of trains passing through all these communities. The city of Camas has passed a resolution concerning deleterious effects of the coal trains. (1748)

## Response to NV-12

Refer to Response to NV-10. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for this scope and focus.

# Comment NV-13

I live not quite a half mile from the BNSF north/south line which goes through Kelso. Yet even at this distance the train noise is substantial and aggravating at times, particularly at night when it is otherwise quiet. Based on my experience at my home, depending on the lay of the land the expected train noise may be significantly annoying for a half mile or more on either side of the tracks, effectively a mile or more swath along the train route. This would likely affect hundreds of thousands of citizens within Washington alone, plus many more in Idaho and Montana, degrading our quality of life significantly. The wide reaching affects of this are not adequately addressed in the DEIS. (2435)

## Response to NV-13

In accordance with SEPA Rules, the SEPA co-lead agencies defined the geographic study areas for the Draft EIS analyses to encompass the areas where the Proposed Action could result in significant adverse environmental impacts. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment NV-14

The Railroad could perhaps voluntarily look at the impact resulting from the increased traffic and see if they can reduce some of the more negative factors. The massive tree cutting that followed the big wind storms 2 years ago was not only unsightly, but it seems to have allowed much of the noise of the passing trains to travel further than before they cut. Seems to me that it might be reasonable to seek voluntary re-plantings, designed and planted in such a way as to screen the rail lines and disperse or deflect some of the noise. That couldn't be too expensive and makes for better neighbors. (0391)

## Response to NV-14

Voluntary mitigation was submitted by the Applicant. Potential mitigation measures presented in the Draft EIS were developed within the limits of the SEPA regulatory framework described in the Master Response for Mitigation Framework. For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

# Comment NV-15

The human health impacts of noise pollution include sleep loss, which negatively impacts daytime attention and increases accident risk; cardiovascular affects such as increase in blood pressure, heart rate and stress hormones, associated with the risk of cardiovascular disease, stroke and arrhythmias; cognitive impairment in children; and exacerbation of mental health disorders. Noise from trains and whistles would exceed regulatory standards at hundreds of Longview homes, disproportionately impacting people of color and low income communities. (2511)

## Response to NV-15

Refer to Response to NV-10.

For a description of low-income and minority populations in the study area and an analysis of the potential impact of the Proposed Action on low-income and minority populations, refer to Final EIS Chapter 3, Section 3.2, *Social and Community Resources*.

# Comment NV-16

All the technical data on Noise does not reflect what the individual residents hear. I live 2,590 feet from the BNSF Tracks in a residential community of Felida and approximately 2,800 feet from the Columbia Shipping Channel and I hear the Rail noise of the trains and the horns at a nearby at grade crossing. Additionally I hear the Fog Horns on the River. If I can hear and be disturbed by the noise, then any and all residents closer are also impacted and not the numerical modeling data. Page 5.5-27 SEPA DEIS pdf 157/243. (2572)

## Response to NV-16

Draft EIS Chapter 5, Section 5.5.3.3, *Impact Analysis*, detailed the methods used to evaluate potential noise impacts from the Proposed Action. This section described the use of the applicable FRA and FTA assessment guidelines that were used to identify potential noise impacts from operations of

Proposed Action-related trains on the Reynolds Lead and BNSF Spur. These methods are commonly used in evaluating the potential noise impacts of proposed actions with rail traffic. The noise impact criteria are based on the land use category receiving the noise, which is defined in the FRA/FTA guidance. The level of impact is determined by the existing level of noise and the change in noise exposure that would result. The FRA/FTA guidance define a moderate impact as a change in noise level that would be noticeable to most people, but may not be enough to cause a strong adverse reaction. A severe impact is defined as a change in noise levels that would result in a significant percentage of people becoming highly annoyed by the noise. As such, the analysis of noise impacts in the Draft EIS did not limit the identification of noise impacts to those that result in annoyance. The noise assessment also factors in an adjustment to account for most individuals' increased sensitivity to noise at night.

# Comment NV-17

The DEIS understates the health risks and costs to human health from noise pollution. Hundreds of thousands of other people along multiple transportation routes will likely experience severe noise impacts and sleep disruption multiple times through the night as a direct result of MBT. The FEIS should disclose these impacts to other communities, including environmental justice communities away from the project site. (3327)

## Response to NV-17

Refer to Response to NV-10.

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment NV-18

The DEIS fails to adequately disclose impacts of noise on sleep disturbance. (3327)

## Response to NV-18

Refer to Response to NV-10.

# Comment NV-19

The DEIS fails to adequately disclose impacts of noise on cardiovascular disease. (3327)

## Response to NV-19

Refer to Response to NV-10.

# Comment NV-20

The DEIS fails to adequately disclose impacts of noise on cognitive impairment in children. (3327)

## Response to NV-20

Refer to Response to NV-10.

# Comment NV-21

The DEIS fails to adequately disclose impacts of noise on mental health. (3327)

## Response to NV-21

Refer to Response to NV-10.

# Comment NV-22

I don't believe the Quiet Zones would satisfactorily eliminate enough noise. I do hear train noise here at Florida Street near the lake during day and night times. Also, what are the chances of Quiet Zones meeting the required calculations and being established? And would that be permanent, as I know some require an annual review and all a periodic review. I have read several confusing statement in the EIS:

"To reduce rail noise along the Reynolds Lead, the Applicant will work with LVSW and other stakeholders TO CONVERT the Oregon Way and Industrial Way crossings to "quiet crossings".

"To avoid moderate and severe noise impacts along the Reynolds Lead due to rail traffic, before beginning FULL operations-The applicant WILL ASSIST interested parties in the preparation and submission of the Quiet Zone application to the FRA." (What is meant by FULL OPERATIONS and what year would that be?)

"To address noise from rail traffic on the Reynolds Lead, the City of Longview, LVSW, and interested parties should work with the Applicant to EXPLORE a Quiet Zone along the Reynolds Lead." Explore??

"If the Quiet Zone for the Reynolds Lead is not implemented, the Applicant will fund a sound reduction study to identify ways to mitigate the MODERATE and SEVERE impacts from train noise from the Proposed Action along the Reynolds Lead." I would be interested in knowing now what these ideas might include. Many people's health, quality of life, and property values would all be strongly affected by this Proposed Action. (3478)

## Response to NV-22

A quiet crossing or Quiet Zone is a public highway rail grade crossing where supplementary grade crossing safety measures are installed. With these measures, locomotives are no longer required to sound their horns at the crossing. Noise impacts resulting from train horn noise would be eliminated at Quiet Zones or quiet crossings and eliminate the impacts identified as significant. 49 CFR 222.51 describes the annual safety review process conducted by FRA and conditions under which a Quiet Zone designation can be terminated.

# Comment NV-23

The DEIS fails to tell the truth. Loud and ongoing noise damages our health and shuts us down psychologically. Both are awful, much more important than few jobs. None of us wants to live with frequent train noise or the noise of dumping the car loads of coal. (3422)

### Response to NV-23

Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*, assessed the potential noise impacts of the Proposed Action. Refer to Response to NV-10.

## Comment NV-24

5.5-2 noise and trespass light from anchored or docked ships: they run generators 24/7. This source of noise and trespass light should be assessed in the EIS. So should mitigation measures, such as darkening ships after sundown and using full-cutoff lighting on deck (per International Dark Sky Association standards). (3386)

### Response to NV-24

Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*, described noise impacts from vessel operations associated with the Proposed Action. As noted in that section, the noise associated with stationary vessels is estimated to be 29 A-weighted decibels (dBA) at the closest noise-sensitive receptors on Mt. Solo Road, approximately 3,800 feet from the docks in the project area. As shown in Draft EIS Figure 5.5-4, this noise level would not represent a noise impact. Impacts from the introduction of light and glare from dock facilities and during vessel loading were described in Draft EIS Chapter 3, Section 3.3, *Aesthetics, Light, and Glare*, along with proposed coal export terminal design features.

## Comment NV-25

On page 5.5-25, the draft EIS estimates that the noise impacts from trains on some 229 residences would be moderate and on 60 homes would be severe. First, the method by which the noise impacts are estimated is incomplete and biased away from the public health and welfare impact. One should also keep in mind that the number of people impacted would considerably exceed the number of homes. Most importantly, on examining the noise map in Figure 5.5-7c and comparing it to the existing noise con-tours in figure 5.5-5c, it is clear that large portions of the city would be adversely impacted, greatly exceeding the estimates made in the draft EIS. (3304)

### Response to NV-25

Refer to Response to NV-16 and Response to NV-10.

## Comment NV-26

In this draft EIS, averaging noise levels fails to take into account the effect of individual events, with locomotive horns and train passbys being perfect examples. The effects of these events should be assessed by one of the metrics recommended by the FAA or NAE in the paragraph above to better understand the full impact. Although it is convenient to express criteria in terms of averages, people do not experience noise as averages-they experience noise as events. (3304)

### Response to NV-26

Refer to Response to NV-16.

# Comment NV-27

Probably the most important argument against current usage of DNL criteria is that this metric is based on community surveys showing only the percentage of people describing themselves as "highly annoyed" by noise, as in the categories listed on page 5.5-10. This criterion assumes that people who are somewhat annoyed are not to be counted, but adverse reactions, including the psychological and physiological effects of noise may occur considerably before the point at which individuals describe themselves as "highly annoyed." In all probability, the reason why this criterion is often used is because the "highly annoyed" residents are the ones most likely to complain and initiate lawsuits, even though the others are still adversely affected.

In my opinion, the FTA/FRA guidance, shown in Figure 5.5-4 does not adequately describe community response. While it is true that people who are already exposed to high levels of noise in their environment are expected to tolerate smaller increases in noise, in part because of the logarithmic nature of the decibel, it is also true that communities accustomed to a relatively peaceful and quiet environment may be seriously impacted by changes in their environment, which the FTA's report acknowledges (FTA, 2006, Fig. 2-14). (3304)

## Response to NV-27

Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*, estimated the number of noise-sensitive receptors that would experience a moderate or severe noise impact (as defined by the FRA/FTA guidelines) with Proposed Action-related trains, and identified potential measures to mitigate these impacts. The FRA/FTA guidelines define a moderate impact as a change in noise level that would be noticeable to most people, but may not be enough to cause a strong adverse reaction. While a severe impact is defined as a change in noise levels that would result in a significant percentage of people becoming highly annoyed by the noise. As such, the analysis of noise impacts in the Draft EIS did not limit the identification of noise impacts to those that result in annoyance. The Draft EIS used the day-night sound level (Ldn), which is essentially a 24-hour average noise level (in dBA) with a 10-decibel upward adjustment of noise levels occurring at night. This adjustment is made to account for most individuals' increased sensitivity to noise at night. Ldn is not based on community surveys or reported annoyance. Refer to Response to NV-10 for more information regarding health impacts.

# Comment NV-28

It has always been clear that there is a great deal of scatter in the data points comprising the "noise annoyance" criteria, decreasing the predictive power of these kinds of impact statements. But also, the reactions of community members to noise should not be viewed merely as data points but as psychological and physiological effects on individual residents. These are humans, not just houses.

Throughout this draft EIS, the human element is played down. On page 5.5-10, the draft EIS defines no impact as a "change in noise level that would result in an in-significant increase in the number of instances where people are highly annoyed by new noise." Here again this criterion ignores all the people who are disturbed, but not categorized as "highly annoyed." The definition of moderate impact as a change in the noise level that would be noticeable to most people "but may not be enough to cause strong adverse community reactions" provides a window into the motivation of those who commission these kinds of impact statements. In other words, you can cause distress to a community up to a point, but "adverse community reactions" (i.e. lawsuits) should be avoided. Severe impact, causing a significant percentage of the people to be highly annoyed by noise, is

acknowledged to produce adverse community reaction. By admitting that the residents of at least 60 homes would experience a severe impact, the draft EIS is opening the door to concerted community reaction. Too often this reaction is directed toward local officials rather than the original noise source, since the noise source has already been approved.

However, the estimates of 60 severly-impacted or 229 moderately-impacted homes reflect the tip of the iceberg because both of these noise impacts have been grossly underestimated. (3304)

## Response to NV-28

Refer to Response to NV-16.

# Comment NV-29

Despite its reliance on the FTA's projected noise impact guidelines in Fig. 5.5-4, Millennium's consultant has also drawn noise contours reflecting the "before" and "after" scenarios resulting from the increase of 16 coal trains per day. These contours include DNLs from 55 dB to 75 dB in 5-dB increments. Interestingly, Figure 5.5-8, which shows the areas severely and moderately impacted by noise have omitted these contours. However, by comparing Figures 5.5-5c and 5.5-7c, it is obvious that all of these con-tours have shifted significantly in the proposed noise conditions. The importance of this shift cannot be overstated. The 55 DNL contour, which currently includes only a small section in the southern part of the City, is proposed to include a large swath of residential area extending along 32nd Avenue and Alabama St., up to and north of Beech St., nearly as far as Tennant Way. The draft EIS makes no mention of the number of houses included in this contour, but there must be several hundred or more, with residents numbering into the thousands.

A DNL of 55 dB has been identified by the U.S. Environmental Protection Agency as the level requisite to protect the public health and welfare from the harmful effects of noise (EPA, 1974). This is the noise level that should be used to assess the impact of noise on communities. Every resident south of this contour as far as the area of the tracks would be living in a noise level exceeding the EPA's identified safe level.

As the noise contours proceed toward the source from DNLs of 55 to 60 and 65 dB, the effects of noise will be increasingly serious. It appears that the area categorized in the draft EIS as severely impacted will be subject to DNLs of 70 dB or greater, as if they were living under the flight path of an airport.

The FTA/FRA method of analysis clearly ignores the whole concept of public health and welfare, basing its method instead on the likelihood of citizens being angry enough to sue. (3304)

## Response to NV-29

Refer to Response to NV-18.

The EPA resource cited by the commenter identifies the threshold of Ldn of 55 dBA as the level at which noise could have effects due to interference with speech or annoyance in an outdoor setting (U.S. Environmental Protection Agency 1974). Health and safety impacts were not identified by EPA for noise at Ldn of 55 dBA.

Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*, described the use of the applicable FRA/FTA assessment guidelines that were used to identify potential noise impacts with Proposed Action-

related trains on the Reynolds Lead and BNSF Spur. Because these guidelines were prepared by two federal agencies with jurisdiction over rail traffic, these methods are commonly used in evaluating the potential noise impacts of proposed actions involving rail traffic.

# Comment NV-30

It is well known that noise can disturb sleep patterns even without awakening, and sleep quality is important to one's mental and physical health. The World Health Organization has put forward recommendations for nighttime noise levels outside sleeping quarters, in other words before the attenuation of windows is considered (WHO, 2009). Average levels less than 30 dBA should prevent any effects. Between 30-40 dBA some disturbances will occur, between 40-55 dBA adverse effects will occur with many individuals, and above 55 dBA, a sizable proportion of the population will be highly annoyed, their sleep will be disturbed, and the risk of cardiovascular disease increases. The WHO recommended noise levels are considerably below the levels identified as "moderate" or "severe" in the draft EIS, either by its FTA method or simply using the noise contours. (3304)

## Response to NV-30

Refer to Response to NV-10.

# Comment NV-31

There are several areas within the mitigation discussion that are vague or undetermined. First, there is no assurance that rail noise mitigation would occur. It is clear that the burden of application for Quiet Zone approval rests with the community. Although the company has pledged assistance in the preparation of the application, there is no guarantee that the application would be approved. While the draft EIS states that the "Applicant [Millennium] will fund all improvements," the company's website states only that the Industrial Way and Oregon Way crossings will be funded. Who will fund the other 6 at-grade crossings? What will be the noise impact of making these changes and leaving the others unimproved? Such promises of funding should not be considered a guarantee, especially in view of the condition of the coal extraction industry in today's economic environment.

On page 5.5-30, the draft EIS states that "it is not known at this time whether terminal design would prevent noise levels from exceeding the applicable standard at all noise-sensitive receptors." Given the fact that the number of "noise-sensitive receptors" is grossly underestimated, this statement becomes even more vague. (3304)

## Response to NV-31

In Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*, the third voluntary mitigation measure stated that the Applicant will fund the conversion of the Oregon Way and Industrial Way crossings to quiet crossings. Mitigation measure MM NV-2 would require the Applicant to fund improvements necessary to convert the crossings at 3rd Avenue and California Avenue to Quiet Zones.

Draft EIS (page 5.5-30) noted that additional mitigation would address noise impacts if coal export terminal operations exceeded the maximum permissible noise level under state law. Because the final design of the coal export terminal is not known at this stage of the analysis, mitigation was provided to mitigate for potential adverse noise impacts resulting from terminal operations.

Refer to Response to NV-1.

# Comment NV-32

The draft EIS makes no mention of the adverse physiological and psychological effects of noise on the exposed community, even for those residents considered severely or moderately impacted. It is impossible to accurately assess the community impact without the prediction of these effects.

Neither is there any mention of the effects of noise from the construction project on the workers themselves, who will be exposed to various sources, such as compressors, pneumatic tools, and train sources. Will Millennium have a hearing conservation program? Will that program meet the requirements of Washington's state plan for OSHA? Will the railroad workers be provided with sufficient protection from the extensive durations of high-level noise emitted by the horn? (3304)

## Response to NV-32

Refer to Response to NV-10. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus. Working conditions are regulated by agencies such as the Occupational Safety and Health Administration. The Applicant would be required to comply with all worker health and safety requirements.

# Comment NV-33

The DEIS incorrectly states that "all necessary improvements" to convert railroad crossings at Oregon Way and Industrial would be funded by MBT-Longview. The Longview Switching Company (LVSC) is the operational entity for the short line. LVSC intends to upgrade the Reynolds Lead for Class II speeds. Central traffic control (CTC) automation from Ft Worth Operations Center is also required and would be installed by BNSF or others to handle the additional train activity associated with the Project and other development in the industrial area. To eliminate or reduce the need for train engineers to sound their horns at crossings at Oregon Way and Industrial Way, MBT-Longview voluntarily proposed to fund additional improvements to convert these two crossings to quiet crossings. The improvements would include electronics, barricades and crossing gates and would occur as part of the overall upgrade performed by LVSC. MBT-Longview would provide the funding prior to reaching full operation of the Project. This voluntary mitigation measure is intended to reduce noise impacts to the two neighboring residential communities. Thus, it is not accurate to suggest that the costs of "all necessary improvements" would be ascribed to or funded by MBT-Longview, and that statement should be corrected in the text of the EIS. (3070)

## Response to NV-33

The voluntary measure referenced by the commenter did not state that the Applicant would fund all necessary improvements at the Oregon Way and Industrial Way crossings. The measure states, "The Applicant will fund additional electronics, barricades, and crossing gates to convert the crossings to "quiet crossings."

# Comment NV-34

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| A | Summary<br>Page S-34 | *"The greatest noise levels would result from pile-driving,* | The "applicable" criteria is based on FRA guidelines. Consistent with |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| | Noise, Construction, first paragraph | *which could exceed applicable noise-level criteria at one residence near the project area."* | comment regarding 3.1.1.1 of the Noise & Vibration TR, the FRA standard that is used is not applicable to construction noise from the terminal, it has been arbitrarily applied as there is not regulation in Washington. The analysis is interesting but inappropriate.<br>Washington State maximum permissible noise level regulations (WAC 173-60-040) do not apply to construction noise during daytime hours (between 7 a.m. and 10 p.m.). |
| B | 5.5 Noise and Vibration<br>Page 5.5-17, Section 5.5.5.1 | "*Construction of the Proposed Action would result in the following direct impacts. These impacts would occur during the construction period in 2018.*<br>*Exceed Federal Railroad Administration Construction Noise Criteria*<br>*Construction of the Proposed Action would result in noise levels exceeding FRA criteria at one residence (104 Bradford Place). This residence is the noise-sensitive receptor that is closest to the project area. The noise impact is predicted to occur only during pile driving when the maximum noise level is predicted to reach 83 dBA, exceeding the FRA criteria of 80 dBA for construction."* | (below duplicated from comment on Section 3.1.1.1 of the Noise & Vibration TR):<br>The FRA standard that is used is not applicable to construction noise from the terminal, it has been arbitrarily applied as there is not regulation in Washington. The analysis is interesting but inappropriate.<br>Washington State maximum permissible noise level regulations (WAC 173-60-040) do not apply to construction noise during daytime hours (between 7 a.m. and 10 p.m.). |
| C | 5.5 Noise and Vibration<br>Page 5.5-31, MM NV-2, last line | *" the Applicant will fund all improvements."*<br>Change to: "the Applicant will fund additional electronics, barricades and crossing gates" | MBT-Longview has voluntarily proposed to fund additional electronics, barricades and crossing gates to convert the railroad crossings to quiet crossings at Oregon Way and Industrial Way |
| D | 5.5 Noise and Vibration<br>Page 5.5-31, MM NV-3, second line | "severe ~~and~~ impacts" (delete "and") | Typo |
| E | SEPA Noise and Vibration TR<br>Page 2-16 | typo for description of the FRP cladding material: should be 8 *ounces* per square foot, not 8 pounds per square foot. | Despite the typo, the corresponding estimated sound transmission loss values appear to be correct in Table 7. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| F | SEPA Noise and Vibration TR<br>Page 3-1, Section 3.1.1.1 | 3.1.1.1 Construction: Direct Impacts<br>"*Construction of the Proposed Action would result in the following direct impacts. These impacts would occur during the construction period in 2018.*<br>*Exceed Federal Railroad Administration Construction Noise Criteria*<br>*Construction of the Proposed Action would result in noise levels exceeding FRA criteria at one residence (104 Bradford Place). This residence is the noise-sensitive receptor that is closest to the project area. The noise impact is predicted to occur only during pile driving when the maximum noise level is predicted to reach 83 dBA, exceeding the FRA criteria of 80 dBA for construction*." | The analysis in the extract is inappropriate and misleading and should be deleted.<br>The FRA standard that is used is not applicable to construction noise from the terminal, it has been arbitrarily applied as there is not regulation in Washington. The analysis is inappropriate.<br>Washington State maximum permissible noise level regulations (WAC 173-60-040) do not apply to construction noise during daytime hours (between 7 a.m. and 10 p.m.). |
| G | SEPA Noise and Vibration TR<br>Page A-1 | The Figures in this section do not have any meaningful units or labels on the X or Y Axis or colored lines | Please add label or key |
| H | SEPA Noise and Vibration TR<br>Page B-1 | In Table B-1 the FRA standard for construction noise limits is used inappropriately. FRA construction noise standard applies to construction of rail lines, not to construction of a coal export terminal. | |

(3070)

## Response to NV-34

The following describes the changes made to Final EIS *Summary*, Chapter 5, Section 5.5, *Noise and Vibration*, and the *SEPA Noise and Vibration Technical Report*, in response to these comments. Refer to the left-most column of the above table for lettering used to identify each comment.

- **Comments A, B, and F**. The Final EIS has been revised to clarify that the use of the FRA/FTA noise-level criteria is intended to provide context for construction noise levels rather than to be used as a regulatory standard for evaluating noise impacts. This revision has been made in Final EIS Chapter 5, Section 5.5.3.3, *Methods for Impact Analysis*, and Section 5.5.1.1, *Proposed Action*. The Final EIS *Summary* and the *SEPA Noise and Vibration Technical Report* have also been revised.

- **Comment C**. The Draft EIS did not state that the Applicant would fund all necessary improvements at the Oregon Way and Industrial Way crossings. The measure states: "The Applicant will fund additional electronics, barricades, and crossing gates to convert the crossings to quiet crossings."
- **Comment D**. The typo in MM NV-3 has been corrected.
- **Comment E**. The word "pounds" has been changed to "ounces" in the sentence identified by the commenter in the *SEPA Noise and Vibration Technical Report*.
- **Comment G**. The figures in Appendix A of the *SEPA Noise and Vibration Technical Report* have been revised.
- **Comment H**. The table identified by the commenter is a presentation of predicted noise levels at noise-sensitive receptors in the study area to provide context of potential noise levels and has been retained. Refer to the response for Comments A, B, and F above.

# Comment NV-35

Many communities also are impacted by the noise pollution caused by the requirement of trains to sound whistles at crossings. To address this problem, Sandpoint has recently allocated $60,000 from its budget to install whistlefree safety devices at two crossings in the city, but cannot afford to equip all crossings with the devices. Other smaller communities, such as East Hope, ID, and Athol, ID, have similar noise concerns, but cannot afford to install the equipment on even one crossing to reduce the sound pollution. (3492)

## Response to NV-35

As described in Draft EIS Chapter 5, Section 5.5*, Noise and Vibration*, the study area for noise and vibration direct impacts is within 1 mile of the project area and the study area for indirect impacts is the area within 1 mile from the centerline on the Reynolds Lead and BNSF Spur between Longview Junction and the project area. An assessment of potential noise indirect impacts was also included for the rail routes in Washington State for Proposed Action-related trains. The study area for noise and vibration does not extend beyond Washington State. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment NV-36

As is stated above in these comments, the trains that would traverse Washington on their way to and from the proposed terminal would also traverse Montana. Noise pollution impacts and train volume increases along the rail line in Montana are a cumulative and connected impacts of the proposed action and must be considered in the EIS. (2504)

## Response to NV-36

Refer to Response to NV-35.

# Comment NV-37

I live in Pasco. There is a track along Rt 240. They blow their [?] at Ruckland [?] for safety reasons. 16 more trains a day would be a major noise problem. Your EIS does not appear to cover the impact

on our community. If you manage to go forward you must improve our infrastructure to reduce noise. (3783)

## Response to NV-37

Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*, included an evaluation of noise emitted by Proposed Action-related rail traffic in Washington State on BNSF main line routes. An estimated increase in noise exposure along the rail line segments through Pasco was identified in Draft EIS Chapter 5, Section 5.5, *Noise and Vibration,* Table 5.5-6. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# 5.6 Air Quality

This section presents responses to substantive comments related to air quality.

## Comment AQ-1

Applying the same econometric models and "black box" analysis used for GHG emissions to mercury and sulfur dioxide emissions (Appendix l, Sulfur Dioxide and Mercury Emissions, Impact Analysis) the DEIS inappropriately finds that no unavoidable and significant environmental impact would result from the project. This analysis must be reworked in a revised DEIS and in the Final DEIS to inform the public and decision makers of the actual mercury deposition that would occur from the combustion of coal as a result project. (2589)

### Response to AQ-1

Draft EIS Chapter 5, Section 5.6, *Air Quality*, evaluated impacts on air quality that could result from emissions from construction and operation of the Proposed Action, including emissions of sulfur dioxide and mercury from coal combustion in Asia. The model and methods used in the analysis were described in detail in Draft EIS Appendix I, *Sulfur Dioxide and Mercury Emissions*. As described in the analysis, the predicted maximum deposition of mercury would be 9.2 milligrams per year per square kilometer in 2040 from the combustion of Proposed Action-related coal, which would represent less than 0.3% of the total Asian-sourced mercury deposition over Washington State.

## Comment AQ-2

That has an impact! As do exhaust emissions from the trains themselves. (2245)

### Response to AQ-2

Draft EIS Chapter 5, Section 5.6, *Air Quality*, evaluated impacts of Proposed Action emissions, including emissions from Proposed Action-related trains in the study area.

## Comment AQ-3

Applying the same econometric models and "black box" analysis used for GHG emissions to mercury and sulfur dioxide emissions (Appendix l, Sulfur Dioxide and Mercury Emissions, Impact Analysis) the DEIS inappropriately finds that no unavoidable and significant environmental impact would result from the project. This analysis must be reworked in a revised DEIS and in the Final DEIS to inform the public and decision makers of the actual mercury deposition that would occur from the combustion of coal as a result project. (2712)

### Response to AQ-3

Refer to Response to AQ-1.

# Comment AQ-4

All Assessments and Scientific Analysis of Potential Human and Natural Environmental Effects Caused or Generated by Construction of Coal Export Terminals and Specifically the Gateway Pacific Terminal in Whatcom County, Washington, In Order to be Comprehensive, must include, but not limited to: associated increase in diesel fuel exhaust emissions by trains and barge tugs generated by transporting coal for export from the source at mines to the export terminals. (2980)

## Response to AQ-4

Draft EIS Chapter 5, Section 5.6, *Air Quality*, presented modeled estimates of emissions and evaluated impacts on air quality from construction and operation of the Proposed Action, including emissions from Proposed Action-related rail and vessel transport in the study area. Final EIS Chapter 5, Section 5.6, *Air Quality*, includes an evaluation of increased cancer risk associated with the increase in diesel particulate matter emissions in Cowlitz County. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment AQ-5

Looking beyond the impacts in Montana, I am well aware of the air quality impacts for people in the Columbia River Basin. In 2014, I paddled my kayak from Skamokawa, Washington to Astoria, Oregon. There is no doubt in my mind that this area can be windy and will blow coal dust into the air at both the terminal where the coal will be piled and the route along the way. Furthermore, diesel fumes from train engines add to the public health costs as they contain benzene, a known carcinogen. (1203)

## Response to AQ-5

Refer to the Master Response for Particulate Matter and Coal Dust Analyses regarding the analysis of potential air quality impacts from coal dust and diesel locomotive emissions. Final EIS Chapter 5, Section 5.6, *Air Quality*, has been revised to include an evaluation of increased cancer risk associated with the increase in diesel particulate matter emissions.

# Comment AQ-6

The air quality impact summary in 5.7.5 of the DEIS states “Overall the impacts of PM10 and PM2.5 emissions from proposed-action related rail transport of coal would not be significant because emissions would be below applicable federal standards.” This is a misleading statement. While it is true that PM10 and PM2.5 emissions would fall below federal standards, that does not mean that there would be no negative health impacts. In fact, according to the World Health Organization (WHO) “Small particulate pollution have health impacts even at very low concentrations – indeed no threshold has been identified below which no damage to health is observed.”

The human health impacts of particulate matter include cancer, cardiovascular, cerebrovascular and respiratory disease. These health consequences accumulate with increasing exposure. There is a close quantitative correlation between exposure and negative health impacts (morbidity and mortality). Comparing the guidelines used in the DEIS (which are from the U.S. National Ambient Air Quality Standards and Washington State Air Quality standards – from here on out I will simply refer to the DEIS reference standards as NAAQS) against the WHO guidelines we find that the WHO

guidelines are lower and more restrictive -- in some cases (particularly PM10) they are considerably lower.

The following table shows the comparison WHO guidelines with NAAQS:

**WHO Particulate Matter Exposure Guideline values**

**(NAAQS/Washington State Standards show in parentheses for comparison)**

**PM2.5**
Annual mean - 10 µg/m3 -- (NAAQS 12 µg/m3)
24-hour mean - 25 µg/m3 -- (NAAQS 35 µg/m3)

**PM10**
Annual mean - 20 µg/m3 (Not included in the DEIS)
24-hour mean - 50 µg/m3 -- (NAAQS 150 µg/m3)

Below are examples of expected emissions from project operations with comparison to WHO Air Quality Guidelines: Table 5.6-6. Maximum Modeled Concentrations from the Operation of the Coal Export Terminal shows total predicted concentrations of PM10 (24 hour average) of 80mcg/m3. This exceeds the WHO guideline of 50mcg/m3.

Table 5.6-7. Project Area Concentration from Operations (All Sources) shows total predicted concentrations of PM2.5 (24 hour average) of 29.8mcg/m3. While under the NAAQS 35mcg/m3 threshold it is over the WHO standard of 25mcg/m3. Total predicted concentrations of PM10 (24-hour average) would be 108mcg/m3, which is over twice the WHO threshold of 50mcg/m3.

Table 5.7-6. Estimated Maximum PM10 and PM2.5 Concentrations—BNSF Main Line, Cowlitz County shows the total concentration of PM10 at 50ft and 100ft to be 58mcg/m3 and 51mcg/m3 respectively, both of which exceed the WHO guideline of 50mcg/m3. 24-hour average of PM2.5 at 50 feet is 25.5mcg/m3 which is above the WHO guideline of 25mcg/m3, while at 100feet is 24.8, just below the WHO standard.

Table 5.7-9. Estimated Maximum PM10 and PM2.5 Concentrations 100 Feet From Rail Line— BNSF Main Line, Washington State (Outside Cowlitz County) shows the total concentration of PM2.5 (annual average) to be 9.8mcg/m3 which is just under the WHO guideline of 10mcg/m3. The 24-hour average of PM2.5 is 27mcg/m3 which exceeds the WHO guideline of 25mcg/m3. The PM10 (24-hour average) is 125mcg/m3 which is two and a half times the WHO guideline of 50mcg/m3.

Of particular interest in Table 5.7-9 is that baseline PM10(24 hour average) is 101mcg/m3 which is already twice the level established by the WHO. Especially in light of data summarized in the WHO Air Quality Guidelines “reducing annual average particulate matter (PM10) concentrations from levels of 70 µg/m3, common in many developing cities, to the WHO guideline level of 20 µg/m3, could reduce air pollution related deaths by around 15%. However, even in the European Union, where PM concentrations in many cities do comply with Guideline levels, it is estimated that average life expectancy is 8.6 months lower than it would otherwise be, due to PM exposures from human sources.” (Note that the above numbers refer to annual PM10 concentrations which were not measured/modeled/included in this DEIS).

Rather than the reassuring conclusions of the DEIS, a more fitting conclusion would be: Particulate matter and coal dust emissions from the Millenium Bulk Terminal Project are expected to fall under NAAQS and Washington State Standards, however they will have negative health impacts. This study identified places in Washington State, especially near the railroad tracks, where current air quality is already unacceptably poor, exceeding WHO guidelines by two times in at least one case. Improvements in ambient air quality in these places can be expected to have considerable positive health impacts, while the affect of this project would be, in all instances, increases of particulate matter which has negative health impacts even at very low doses. (2114)

### Response to AQ-6

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment AQ-7

Another area warranting comment is the way in which the Jaffe study was interpreted in this document. Using direct air quality monitoring and video surveillance this study found that coal trains emitted 2 times the PM2.5 than freight trains. The most interesting finding from the study was the existence of "super-dusters," which are defined as coal trains which were observed to have a large, visible plume of coal dust coming off of them and correspondingly high PM2.5 emissions. This accounted for the huge range of PM2.5 measurements from coal trains (the average peak delta PM 2.5 was 21mcg/m3 while the highest was 232mcg/m3– which is 10 times greater than the mean). Figure 4 in the study shows the relationship between PM2.5 enhancement and effective wind speed over the top of the train cars. We can see that all the superduster events happened with over the top wind speeds greater than 80km/hr and that among the 4 superdusters higher PM2.5 enhancements were seen with higher speeds. An incomplete understanding of this superduster phenomenon (and grounds for further study) is demonstrated in data which show that there were many trains with effective wind speeds higher than 80km/hr and only 4 ended up being superdusters. Additionally at least 4 trains had higher effective winds speeds than the fastest (and dustiest) superduster, yet they had PM2.5 enhancements that were very close to the mean. Perhaps the most important conclusion to take from this study is that a minority of trains have massively greater coal dust emissions and the reasons certain trains performed so poorly in terms of coal dust emissions has not been definitively studied and addressed.

Which brings up the issue of air quality assessments based on modeling with insufficient actual monitoring. In section 5.6.4.2 the following statement appears: "The only available local (Cowlitz county near project site) air pollutant monitoring is for PM2.5, at a station approximately 1.5 miles east of the project area. The monitoring data show that PM2.5 levels are well within the PM2.5 air quality standards. Although no other monitoring data are available, concentrations of other criteria air pollutants in the study area also are expected to be well within air quality standards."

The city of Portland and Oregon Department of Environmental Quality recently discovered the risk of underestimating air pollution when modeling of air quality is based on a small number of actual monitoring stations. A study by the US Forest service used moss bio-indicators as a novel air quality monitoring strategy finding very high levels of cadmium (49 times higher than Oregon air quality standards) next to several stained glass manufacturers. These very high toxic emissions were not predicted based on prior, inadequate air quality monitoring. The data from only a few stations was available and assumptions in modeling led to significant errors. The assumption that "concentration of other criteria air pollutants in the study area also are expected to be well within air quality

standards" does not rise to the level of rigor demanded in instances of protecting public health. (2114)

## Response to AQ-7

Draft EIS, Chapter 5, Section 5.6, *Air Quality,* used representative background concentrations for the study area (Northwest International Air Quality Environmental Science and Technology Consortium 2015) in air quality analyses since no representative monitoring data were available except for PM2.5. For PM2.5, the analysis used local air pollutant monitoring data from a station approximately 1.5 miles east of the project area. The Northwest International Air Quality Environmental Science and Technology Consortium (NW AIRQUEST) developed background design value estimates based on model-monitor interpolated products that provide background design value estimates where nearby ambient monitoring data are unavailable. For additional information regarding the modeling methods, see the *SEPA Air Quality Technical Report*.

Draft EIS Chapter 5, Section 5.7, *Coal Dust*, identified resources used for the coal dust analysis, including the Jaffe et al. (2015) study. As described in Section 5.7, the Jaffe et al. (2015) study findings referenced by the commenter were generally consistent with the Draft EIS. This study was conducted prior to the opening of the BNSF surfactant facility in Pasco, Washington, in December 2014.

# Comment AQ-8

The impact analysis approach for vessel operations assumed that each vessel receiving coal would need three tugs to maneuver the ship, and would require 3 hours total time to assist with docking and departing operations. Further, it was estimated that an average of 13 hours would be needed to load each vessel with coal, and during this period of time, the vessel would be using auxiliary engines. To comply with International Maritime Organization 2016 Emission Control Areas for North America, all vessels were assumed to use the maximum allowed sulfur content marine distillate fuel of 0.1% (1,000 ppm). It was also assumed that all tugboats would use ultra-low-sulfur diesel (15 ppm sulfur).

The locomotive industry regulations have 5 tiers of NOX emissions and are not required to use ultra low emission diesel. Similar the marine vessels can be using the #6 Bunker Oil or "Bottom of the Barrel" and not adhere to marine distillate guidelines. This section needs to be fact checked. Page 5.6-7 SEPA DEIS pdf 169/243. (2572)

## Response to AQ-8

After 2014, all new nonroad locomotive and marine diesel fueled engines must use ultra-low sulfur diesel (less than 15 parts per million [ppm] sulfur) and meet Tier 4 emission milestones established by EPA with some exceptions for older locomotive and marine engines. This allowance is provided only where "transmix-derived" low sulfur diesel fuel is available and a special waiver is required ahead of time. Transmix-derived fuel is a mixture of finished fuels, such as those that abut each other during pipeline shipment that no longer meet the specifications for a fuel that can be used or sold without further processing. EPA requires the railroad to be on the record as transmix-fuel users, and to make sure that any Tier 4 locomotive engines (or any engine with sulfur-sensitive after-treatment devices) are not exposed to it. Given that Proposed Action-related trains would operate using the most fuel efficient and newest technology (Tier 4) engines and the current

unavailability of transmix fuel in the region, it is reasonable to assume that all locomotive engines would use ultra-low-sulfur diesel fuel.

Beginning June 1, 2014, all Emission Control Area marine fuel is subject to a maximum per-gallon sulfur content of 1,000 ppm. The west coast of the United States is within an Emission Control Area. EPA does allow an exception for fuel greater than 1,000 ppm sulfur in an Emission Control Area. Under 40 CFR 1043, an alternative to using lower sulfur fuel is allowed if technology is in place, such as exhaust gas scrubbers, that can achieve equivalent emissions even when operating on higher sulfur residual fuel oil.

For the Proposed Action, even if this exemption applied, the air emissions would be at least equivalent to the 1,000 ppm sulfur. It is therefore reasonable to assume that all ocean-going vessels operating at the export terminal would comply with using residual fuel oil having no more than 1,000 ppm sulfur or would have the equivalent in terms of exhaust emissions with emissions control technology in place.

# Comment AQ-9

Air Quality – After reading and hearing about the dangers of Diesel Exhaust I'm very concerned about the amount of diesel exhaust that will be dumped into the I-5 air shed and the Kelso and Longview town air sheds. Longview should be singled out because of the rail car switching that will occur at the loading facility itself. The EIS should specify the potential health effects at the level of exposure levels citizens will be exposed to. All this has been studied and researched so let's get transparent and real on this. (1134)

## Response to AQ-9

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment AQ-10

Coal dust and diesel emissions are a concern as this product is shipped by rail through hundreds of communities and to the neighboring communities to the facility. There are thousands of people who live next to railroad right a ways and these emissions are not beneficial to public health. (0311)

## Response to AQ-10

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment AQ-11

Please study the effects of diesel emissions and coal dust from mile-and-a half long rail cars would reduce air quality and deposit toxic elements such as mercury into waterways. (0238)

## Response to AQ-11

Refer to the Master Response for Particulate Matter and Coal Dust Analyses regarding the evaluation of potential impacts from coal dust and diesel emissions from Proposed Action-related trains. Refer to Response to AQ-1 regarding the evaluation of mercury deposition related to coal combustion.

Draft EIS Chapter 4, Section 4.5, *Water Quality*, evaluated potential impacts on water quality that could result from the Proposed Action.

# Comment AQ-12

An article in the journal Atmospheric Pollution Research in May of 2014 presented the results of their study to evaluate the air quality implications of rail traffic. The results show that living close to the rail lines significantly increases PM2.5 exposure (see Figure 3). As rail traffic increases, residents close to the rail lines will see their air quality decline. Why don't the results in the DEIS reach similar conclusions for their PM2.5 analysis as the research presented in the journal article? (0478)

## Response to AQ-12

The study the commenter is referencing reached this conclusion for a different location with different conditions—a Puget Sound shoreline 25 meters from the track location at the base of a 50- to 100-meter-high bluff based on an average of 16 diesel trains per day from all types of rail operations (freight, coal, passenger) during July and August 2013. The study did not account for variability in annual meteorology and was conducted at a location with different ambient PM2.5 levels than those present in the project area and study area considered in the Draft EIS. Accounting for the variability in the annual meteorology and the lower ambient background PM2.5 levels results in different conclusions for the increase in PM2.5 concentrations between the Draft EIS and the study identified by the commenter.

# Comment AQ-13

The trains pollution (diesel) needs to be considered. (1931)

## Response to AQ-13

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment AQ-14

The burning of the coal in Asia blows back to the US and OR and my lungs. This must be given consideration. (1931)

## Response to AQ-14

Refer to Response to AQ-1.

# Comment AQ-15

Coal dust has negative impacts on health. It is not just a nuisance. Add to coal dust toxic emissions from diesel fumes from trains and a deterioration in air quality will result. Air pollution results in respiratory diseases. I don't feel that this issue has been adequately addressed. (1929)

## Response to AQ-15

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment AQ-16

I am concerned that this EIS does not adequately evaluate and provide mitigation for the great increase in coal dust and diesel fumes which will surely become airborne in the area. This must be evaluated and mitigated with the best known science which has not been done up to now. (2043)

## Response to AQ-16

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment AQ-17

The Draft EIS clearly states there are severe health hazards to those living in the surrounding area of the site and along the rail corridor. It has failed to mention all the health hazards that come with the increased traffic of the diesel particulates which will be inhaled by all along the corridor. I am asking for Additional studies to be made in this area as well. (2506)

## Response to AQ-17

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment AQ-18

The increase in pollution and atmospheric carbon dioxide caused by burning this coal is a negative environmental impact that is not acceptable and is not addressed in the EIS. (2054)

## Response to AQ-18

Refer to Response to AQ-1 regarding evaluation of mercury deposition related to coal combustion. Draft EIS, Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, described the estimated greenhouse gas emissions that would result from the Proposed Action and assessed the potential climate change impacts on the Proposed Action.

# Comment AQ-19

I am concerned about the significant amounts of airborne pollutants and related disease from diesel engines and coal dust that will affect the health of citizens, especially children, along the rail communities and in Longview should this terminal be built. (1165)

## Response to AQ-19

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment AQ-20

The Millennium coal terminal would increase the current weekly average of coal trains from 18 to 55, a nearly 400% increase in coal train traffic. This would result in significant air quality impacts and direct health concerns for tribal people living along the railroads. (3287)

## Response to AQ-20

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment AQ-21

As deep draft vessel are berthed to be loaded with product, their diesel auxiliary engines "idle", contributing particulates to the air and requiring cooling water to maintain cool engine temperatures. This thus becomes a major source of air quality concern as well as water quality, since the "warmed" cooling water is then discharged into the waterbody. The lower Columbia River is listed under the Clean Water Act section 303(d) as limited for temperature under both Oregon and Washington's programs (and particularly in summer), therefore point sources, such as these ships, introducing further thermal loading should be prohibited.

In order to remove the impact to air and water quality, best practices now necessitate that deep draft vessels to use "shore power" and tap landside electricity for their power needs at berth. According to estimates, shore power can reduce pollution by 95%. At a minimum, Washington Ecology and Cowlitz County should require the exclusive use of shore power for berthed ships at this project. (3287)

## Response to AQ-21

Draft EIS Chapter 5, Section 5.6, *Air Quality*, evaluated impacts of Proposed Action emissions, including emissions for vessel hoteling at the proposed docks. Although the Proposed Action would result in emissions of air pollutants, these emissions would not exceed regulatory standards. No air quality mitigation is proposed. Draft EIS Chapter 4, Section 4.5, *Water Quality*, evaluated impacts on water quality related to the Proposed Action.

For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

# Comment AQ-22

The DEIS fails to address comments raised in the Washington Department of Natural Resources' ("WDNR") scoping comments. WDNR's comments state:

The greatly increased ship activity has the potential to impact sediment quality. Diesel burning by the ships can create greenhouse gases, PAHs and dioxins, which can contribute to localized ocean acidification as well as contaminate the sediments in the area through atmospheric deposition, especially if diesel fuel is burned while the container ships are idling while at the terminal.

WDNR requested that the Co-leads "analyze the cumulative impacts of engine exhaust from the cargo vessels and tugs and upland machinery operations, and the potential for pollutants to [enter] the Columbia River from atmospheric deposition, or from vessel machinery, or loading operations." An analysis of the Morrow Pacific coal export terminal showed nitrogen deposition into the Columbia River many times above the ecological screening level of 5 kg/ha/yr. These impacts crossed state boundaries. The Morrow Pacific analysis supports incorporating WDNR's request to analyze atmospheric deposition from multiple sources in the FEIS. (3277)

## Response to AQ-22

Draft EIS Chapter 5, Section 5.6, *Air Quality*, estimated Proposed Action emissions, including emissions from the coal export terminal operations and from Proposed Action-related trains and vessels. Draft EIS Chapter 4, Section 4.5, *Water Quality*, evaluated potential impacts on water quality from pollutants introduced by terminal maintenance and operations, shipping vessels, and rail transport. Regarding atmospheric deposition, velocity and transport of nitrogen varies considerably, depending on the chemical form of the nitrogen. Emissions of nitrogen oxides (NOx) (nitrogen monoxide [NO] and nitrogen dioxide [$NO_2$]) are transported at distances from ten to thousands of miles before being removed from the atmosphere, and thus only a small fraction of direct NO or $NO_2$ would be directly deposited into the Columbia River. Emissions of NO can be oxidized to $NO_2$, and subsequently to gas phase nitric acid ($HNO_3$), which can react with ammonia ($NH_3$) to form aerosol ammonium nitrate. Both $HNO_3$ and $NH_3$ have short transport ranges. Thus an important driver to near field deposition of nitrogen is available $NH_3$. None of the operations from the Proposed Action or Proposed Action-related vessels would have substantial ammonia emissions; therefore, near-field nitrogen deposition would expected to be well below a screening level for nitrogen deposition. Therefore, potential impacts from atmospheric deposition of nitrogen are not assessed in the EIS.

# Comment AQ-23

The computer modeling used in support of the DEIS reveals that people at and near the Terminal will be exposed to air pollution levels which can cause a variety of health problems, including asthma attacks and premature mortality. However, the DEIS fails to warn people of this potentially deadly impact, including the more than 600,000 people in Washington with asthma. The DEIS inappropriately relies on national ambient air quality standards ("NAAQS") to judge whether there is significant impact. Use of the NAAQS in this context is arbitrary and unlawful because NAAQS reflects policy judgments aimed towards effective implementation of the Clean Air Act which are wholly irrelevant to determining if there will be significant environmental impacts from construction and operation of the Terminal. In other words, air quality impacts can still be "significant" even if a violation of NAAQS does not occur.

Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing SEPA. Scientific analysis is by definition, something different than policy judgments designed to lead to effective implementation of the Clean Air Act, a regulatory program not at issue in the DEIS. SEPA itself makes clear what should be obvious, that policy judgments to ensure effective implementation of the Clean Air Act are not relevant to an EIS. Rather, SEPA explains that significance means a "reasonable likelihood of more than a moderate adverse impact on environmental quality." It should be beyond dispute that premature death or asthma attacks are a "more than a moderate adverse impact".

The DEIS says: Computer modeling determined the maximum annual construction emission estimates for the peak construction year would not exceed federal air quality standards. This means that although emissions of criteria air pollutants would occur, they would not be expected to cause a significant change in air quality and are unlikely to significantly affect sensitive receptors surrounding the project area.

The DEIS at 5.7-10 also claims: PM10 and PM2.5 have been determined to cause increased health hazard if the regulatory limits are exceeded (U.S. Environmental Protection Agency 2014c). If any pollutant level exceeds regulatory limits, health impacts would depend on the concentration in the

air, the duration of the exposure, and the number of times exposure occurs.) 5.7-25 (Overall, the impacts of PM10 and PM2.5 emissions from Proposed Action-related rail transport of coal would not be significant because emissions would be below applicable federal standards.)

It is simply a false statement to claim that there are no health hazards for PM10 and PM2.5 below the regulatory limits, that is the NAAQS. The DEIS cannot actively mislead the public about the Terminal's impacts.

Comparing the modeled impacts to the national ambient air quality standards (NAAQS) is not appropriate in the context of NEPA/SEPA. This is because the NAAQS is not a concentration of pollution below which people are not harmed. Rather, NAAQS represent policy judgments made in the context of the effective implementation of the Clean Air Act. However, in the context of NEPA/SEPA, the relevant question is environmental and public health impacts.

NAAQS consists of four elements: indicator, averaging time, form and level. For example, the 2010 SO2 NAAQS has a level of 75 parts per billion (ppb) and an averaging time of one-hour. EPA selected this level and averaging time of 75 ppb based on a one-hour averaging time based on the overwhelming scientific conclusion that certain people, like asthmatics, will be hurt if they are exposed to SO2 at 75 ppb, even for periods as short as five minutes.

However, the 2010 SO2 NAAQS also has a form. The form is the 3-year average of the 99% of the one-hour daily maximum SO2 value. But there is not scientific evidence that people do not experience adverse impacts until they are in their third year of exposure to SO2, for example.

Similarly, the use of the one-hour daily maximum value is relevant to the NAAQS but hides significant adverse environmental impacts in the context of an EIS. For example, say there was a 1-hour average of 85 ppb at 8 am and a 1-hour average of 84 ppb at 6 pm on the same day at the Terminal. The 2010 SO2 NAAQS wholly ignores the 84 ppb level at 6 pm because the 2010 SO2 NAAQS only considers the highest 1-hour concentration in a day. However, in terms of scientific analysis, the 84 ppb level at 6 pm is highly relevant and must be disclosed. This is because the 84 ppb is at a level that the science upon which EPA relied to set the level of the NAAQS shows there to be adverse impacts such as asthma attacks. And the individual people at or near the Terminal at 6 pm are likely to be different than the individual people at or near the Terminal at 8 am. Exposing more people to dangerous levels of air pollution makes the impact more significant. Ignoring this increased impact is contrary to SEPA but by relying on the 2010 SO2 NAAQS including all four of its elements, rather than just the purely science based ones like level and averaging time, that is exactly what the DEIS does.

The form of the 2010 SO2 NAAQS represents policy judgments about how to effectively implement the Clean Air Act. A three-year average of the 99th percentile of the one-hour daily maximum SO2 concentration is used because using a standard based on only one year of data and based on the highest concentrations would result in areas "bouncing" back and forth between nonattainment and attainment designations under the Clean Air Act's implementation provisions. EPA refers to this as the "stability" of the standard. EPA chose the form of the NAAQS because it would be "appreciably more stable" than other forms. This is also true for the form of the PM10, PM2.5, NO2 and ozone NAAQS.

The level of 75 ppb, however, was set based primarily on the controlled human exposure and epidemiological evidence. That said, it is important to note that the level is also a public health policy judgment. That is, EPA did not say that exposures below the level of 75 ppb will not cause adverse

impacts. In fact, EPA said there were epidemiological studies which showed associations between SO2 concentrations and emergency department visits and hospital admissions down to the 50 ppb level. EPA was willing to accept those possible adverse impacts below 75 ppb as a policy judgment. The DEIS fails to disclose this information. Rather, it misleads people into thinking exposures below the NAAQS will not have adverse impacts when the scientific evidence, as acknowledged by EPA, says otherwise.

It was the EPA Administrator's policy judgment at the time of creating this NAAQS that the form of the NAAQS would result in effective implementation of the Clean Air Act. We are not questioning this policy judgment or suggesting that the EIS somehow question the EPA's Clean Air Act policy judgment. However, the science of environmental impacts, which is distinct from the policy of Clean Air Act implementation, should be the basis for an EIS. The science says that short term exposures of 75 ppb or above can cause injury to people. Policy judgments about proper implementation of the Clean Air Act should not skew the scientific analysis of an EIS. Thus, the DEIS should evaluate whether there will be short-term impacts, that is 5 minutes or greater, of 75 ppb or above SO2.

Using the appropriate standard for an EIS, that is the level and averaging time from a NAAQS, and accepting the DEIS' modeling as accurate despite all the flaws in the DEIS' modeling described below, we see that the Terminal will cause air pollution levels which would constitute significant environmental and public health impacts. For example, for SO2, the 75 ppb level is equivalent of 196 ug/m3. The DEIS' modeling found that three year average of the highest 1-hour SO2 concentration was 292.2 ug/m3. This is significantly above the NAAQS level of 196 ug/m3. And there are multiple exceedances of the NAAQS level at multiple locations. We only see ten concentrations above the NAAQS level in the modeling files but the lowest one is 237.6 ug/m3 so we assume there are many others. The DEIS fails to disclosure that the public will be exposed to SO2 levels that can trigger asthma attacks and cause other adverse health impacts including premature mortality.

As to PM2.5, Longview has a maximum PM2.5 24 hour level of 38.9 ug/m3 in 2015 even without the Terminal. Thus, Longview already has PM2.5 levels that are dangerous so the additional PM2.5 pollution, even if we assume the DEIS' modeling is correct, will result in PM2.5 levels of at least 50.9 which is well above the 2006 PM2.5 NAAQS level. Again, the DEIS fails to disclose these significant environmental impacts. Similarly the DEIS evaluates Spokane for coal dust from trains. Spokane already has PM2.5 levels above the NAAQS level of 35 ug/m3. The addition of the fugitive coal from the coal trains will result in Spokane experiencing PM2.5 above the 24 hour NAAQS levels but the DEIS fails to disclose this adverse impact caused by the fact that there are modeled concentrations above the NAAQS level even if there are not modeled concentrations above the NAAQS form. (3277)

## Response to AQ-23

Refer to the Master Response for Particulate Matter and Coal Dust Analyses regarding the use of NAAQS to determine significance of potential impacts related to criteria pollutants, addition of a cancer risk assessment in the Final EIS related to diesel particulate matter emissions, and the scope of the EIS analysis related to potential human health impacts.

The background PM2.5 concentration from the Longview monitoring station was updated in Final EIS Chapter 5, Section 5.6, *Air Quality*, to reflect the most current monitoring data available (January 1, 2013, through October 13, 2016). The maximum background concentration, 19.3 ug/$m^3$, was determined based on the form of the 24-hour NAAQS, which is the 98th percentile of daily maximum concentrations averaged over 3 years.

Final EIS Section 5.6 also reflects updated AERMOD model inputs for the emission rates from unloading coal cars and the emission rates of sulfur dioxide from vessels. This includes additional information on switch engine hours of operation, the amount of idle time for trains waiting for departure from the terminal, emissions from rail car unloading, and emissions from vessel activity. These revisions have resulted in lower $SO_2$ concentrations with a maximum 1-hour $SO_2$ concentration of 10.4 micrograms per cubic meter (ug/$m^3$), which is below the 1-hour $SO_2$ NAAQS of 196 ug/$m^3$ even with the addition of the 1-hour maximum $SO_2$ background concentration of 14.7 ug/$m^3$.

# Comment AQ-24

Even if one accepts the NAAQS as an appropriate standard to judge significant impacts for an EIS, which we do not, the Terminal will still cause violations of the NAAQS. However, the DEIS failed to reveal this critical impact.

The DEIS' modeling analysis simply omits any modeling of air pollution levels on the site of the facility as well as on nearby parts of the Columbia River. The DEIS did not place receptors in its model on the site of the Terminal as well as on parts of the Columbia River. With no receptors in the model at these locations, the only possible result is that air pollution concentrations in these locations are zero. This means the DEIS ignores air pollution impacts to workers at the Terminal, including people like the locomotive engineers who will not be employees of MBT.

We had a modeler with extensive expertise in AERMOD fill in this important blank. Lindsey Sears re-ran the modeling that ICF did for the DEIS exactly the same except filling in the receptor grid included the facility and the Columbia River. The results as reported in Table 1 below show that the Terminal will violate the PM10 24-hour, the PM2.5 24-hour and the SO2 1-hour NAAQS. The PM10 level is over twice the NAAQS. The PM2.5 level is nearly twice the NAAQS and the SO2 level are over 25% above the NAAQS. These are significant environmental and worker safety impacts which the EIS must disclose.

| Pollutant | Averaging Period | Modeled Impact (µg/$m^3$) | Background (µg/$m^3$) | Total Predicted Concentration (µg/$m^3$) | NAAQS (µg/$m^3$) |
|---|---|---|---|---|---|
| $NO_2$ | 1-hour | 117 | 57 | 174 | 188 |
| $PM_{10}$ | 24-hour | 309 | 23 | 332 | 150 |
| $PM_{2.5}$ | 24-hour | 45 | 18 | 63 | 35 |
| $SO_2$ | 1-hour | 232 | 15 | 246 | 196 |

(3277)

## Response to AQ-24

Draft EIS Chapter 5, Section 5.6, *Air Quality*, evaluated potential impacts of the Proposed Action for locations where the general public may have access. The selection of these locations is consistent with the intent of federal and state requirements to protect the health of the general public,

including sensitive sub-populations. Working populations are protected under Occupational Safety and Health Administration laws and Washington State Labor and Industries regulations, which include air quality requirements.

# Comment AQ-25

The SEPA Air Quality Technical Report reveals that the ICF modeling analysis failed to consider fugitive PM10 and PM2.5 emissions from roads when the trucks run over them. The DEIS states that during peak construction, 56,000 loaded truck trips will occur at the Terminal but does not discuss the huge air pollution impact of fugitive PM from these trucks. Again, we filled in this important aspect of the problem.

First, engineer Dr. Ranajit Sahu calculated the PM10 and PM2.5 emissions from the haul roads. Then modeler Lindsey Sears modeled these emissions using ICF's own modeling and a complete receptor grid. Ms. Sears conservatively assumes that MBT reduces fugitive emissions from the roads by 75% through various controls measures even though there is absolutely no reason to believe this will actually happen. Even with this very conservative assumption, the modeling showed violations of both the PM10 and PM2.5 24-hour NAAQS. This is a very significant environmental impact which must be disclosed in the EIS. (3277)

## Response to AQ-25

Draft EIS, Chapter 5, Section 5.6, *Air Quality,* and the *SEPA Air Quality Technical Report* disclosed construction-related air quality impacts from all fugitive emissions including haul truck activity for trips needed to make deliveries of construction material to the project area. The fugitive dust emissions from all sources were included in the Draft EIS, but were reported as a total and not broken out by source. The estimated emissions shown assume that best management practices would be followed, including measures to reduce idling and dust generated by soil disturbance, and the application of water along access roads to minimize the track-out of soil.

# Comment AQ-26

There is no known level of PM2.5 below which death and disease do not occur. See North Carolina v. TVA, 593 F.Supp.2d 812, 822 (W.D.N.C. 2009) rev'd on other grounds, 615 F.3d 291 (4th Cir. 2010) ("there is an increased risk of incidences of premature mortality in the general public associated with PM2.5 exposure, even for levels at or below the NAAQS standard of 15 [u]g/m 3."); Sierra Club v. TVA, 592 F.Supp.2d 1357, 1371 (N.D. Al. 2009) ("there is no level of primary particulate matter concentration at which it can be determined that no adverse health effects occur."); Catawba County v. EPA, 571 F.3d 20, 26 (D.C. Cir. 2009) ("A 'significant association' links elevated levels of PM2.5 with adverse human health consequences such as premature death, lung and cardiovascular disease, and asthma….PM2.5 can travel reductions resulting in reduced concentrations below the level of the standards may continue to provide additional health benefits to the local population."); 71 Fed. Reg. 2620, 2635 (Jan. 17, 2006) (US EPA unable to find evidence supporting the selection of a threshold level of PM2.5 under which the death and disease associated with PM2.5 would not occur at the population level). Gina McCarthy, the head of EPA, in a letter to Hon. Fred Upton, U.S. House of Representatives (Feb. 3, 2012) stated as follows:

Studies demonstrate an association between premature mortality and fine particle pollution at the lowest levels measured in the relevant studies, levels that are significantly below the NAAQS for fine

particles. These studies have not observed a level at which premature mortality effects do not occur. The best scientific evidence, confirmed by independent, Congressionally-mandated expert panels, is that there is no threshold level of fine particle pollution below which health risk reductions are not achieved by reduced exposure. Thus, based on specific advice from scientific peer-review, we project benefits from reducing fine particle pollution below the level of the NAAQS and below the lowest levels measured in the studies.

The Air Quality Technical Report states that "the state's goal [is] to keep PM2.5 concentrations below 20 ug/m3."168 However, the DEIS itself hides this goal of keeping PM2.5 below 20 ug/m3 and instead only relies on the 2006 PM2.5 NAAQS of 35 ug/m3. Failure to mention the state's goal of keeping PM2.5 below 20 ug/m3 is a critical omission. This is because the DEIS states that background at the Terminal of PM2.5 is 17.8 ug/m3.169 However, the operations of the coal export terminal will add 4.8 ug/m3, according to the DEIS's modeling exercise, which puts PM2.5 over this important threshold. Moreover, that modeling omits key sources of emissions discussed elsewhere in these comments. Even with its underestimation of impacts, the total predicted concentration will be 22.6 ug/m3.170 Thus, the operations of the coal export terminal will push the PM2.5 levels above the state's goal. This is a significant impact that the Final EIS must reveal. Mandatory mitigation in terms of hourly throughput limits and limits on simultaneous operation of different processes must be imposed to bring the total PM2.5 levels back to below the state's goal of 20 ug/m3. (3277)

## Response to AQ-26

Refer to the Master Response for Particulate Matter and Coal Dust Analyses regarding the use of NAAQS to determine the significance of potential impacts related to criteria pollutants, addition of a cancer risk assessment in the Final EIS related to diesel particulate matter emissions, and the scope of the EIS analysis related to potential human health impacts.

As identified in Draft EIS Chapter 5, Section 5.6, *Air Quality*, the State of Washington's ambient air quality standard for PM2.5 is a concentration of 35 ug/$m^3$, which is identical to the federal NAAQS. Washington's goal to keep PM2.5 below 20 ug/$m^3$ is associated with the Washington Air Quality Advisory Tool and is not a regulatory requirement or significance threshold to identify air quality impacts under SEPA.

# Comment AQ-27

The project may force the Seattle region into an ozone nonattainment designation with all the consequences that flow from that, such as increased vehicle testing and the potential loss of highway funds. The Air Quality Technical Report acknowledges that the ozone monitor near Enumclaw, which is in the same county at Seattle, by which the coal trains will pass, has shown exceedances of the 8-hour ozone standard during the past 3 years. However, the Technical Report does not reveal the disturbing trend in ozone levels. As Table 2 shows, between 2013 and 2015, the ozone levels at this site have increased almost 30% and the most recent year, 2015, has a 4th high value that is above the 2015 ozone NAAQS level of 70 parts per billion. Adding all the additional ozone precursor pollution from all the coal trains will very likely push this monitor over the edge into nonattainment status.

**TABLE 2**

| | **2013** | **2014** | **2015** |
|---|---|---|---|
| 4th High 8-hour daily max | 57 | 67 | 74 |

Washington does not currently have any ozone nonattainment areas. In fact, it has been over a quarter century since Washington has had an ozone nonattainment area. The EIS must reveal the potential impact of Washington having an ozone nonattainment area. (3277)

### Response to AQ-27

This recent and increasing trend at the ozone monitor in Enumclaw is likely caused by Canadian wildfires (Washington State Department of Ecology 2016). The relatively small ozone precursor emissions from 8 trains per day would have a minimal contribution to this monitor.

## Comment AQ-28

In determining impacts of nitrogen dioxide (NO2), the DEIS uses a three tier approach. For Tier 3, the DEIS uses the ozone limiting method (OLM). However, the DEIS did not properly apply the OLM.

The DEIS uses an ozone background of 42 ppb for every hour in its OLM. However, ozone levels fluctuate hourly. Thus, the OLM calls for actually hourly ozone levels to be used. OLM "require[s] …a background ozone monitor for use in the NO titration schemes."

A single representative background ozone concentration can be used, according to EPA guidance, but the user must demonstrate that the single representative background ozone concentration is conservative for each hour of modeling. In other words, the user would have to show that in no hour out of the whole modeling exercise, in this case three years of modeling, did the ozone levels exceed 42 ppb. The DEIS does not attempt to do this.

"Furthermore, hourly monitored ozone concentrations used with the OLM and PVMRM options must be concurrent with the meteorological data period used in the modeling analysis[.]" Here, the meteorological data period is 2001-2003 but the ozone concentrations are not from 2001-2003. Thus, the Tier 3 OLM must be redone using hourly ozone values from 2001-2003. (3277)

### Response to AQ-28

The air quality analysis presented in Draft EIS Chapter 5, Section 5.6, *Air Quality*, used an ozone design value developed using NW AIRQUEST as the representative background concentration. The design value is a conservatively high background ozone concentration that was identified as the appropriate background concentration to use in the EIS analysis. Refer to Response to AQ-7 regarding the use of NW AIRQUEST for the development of representative background concentrations for the study area.

## Comment AQ-29

The DEIS is based on an assumption that locomotives and tug boats will use diesel fuel that contains 15 parts per million (ppm) sulfur. However, EPA's regulations allow the use of 500 ppm sulfur fuel in a certain type of diesel which is referred to as diesel transmix. While diesel transmix is not a "common" fuel, nothing prevents it from being used. The SO2 NAAQS is based on a one-hour averaging time. The form on the 99% percentile of the 1-hour daily maximum concentration. That means that just four hours per year, or 0.04% of the time, high SO2 concentration need to be present to cause a SO2 NAAQS violation. Thus, the diesel burning pollution sources at the Terminal could use 15 ppm sulfur diesel the vast majority of the time, use 500 ppm sulfur diesel relatively rarely and still create a significant impact when it comes to SO2.

Moreover the science behind the SO2 NAAQS is based on impacts from as little as a five minute exposure. Thus, even if diesel transmix is used around four one-hundredths of a percent of the time, it could results in SO2 concentrations that are significant enough to cause asthma attacks. That is, it could result in concentrations which could trigger asthma attacks in workers, visitors and recreationalists. The EIS needs to reveal this impact to the public. (3277)

### Response to AQ-29

Refer to Response to AQ-8.

## Comment AQ-30

Nitrogen and sulfur deposition into river and wetlands can have significant impacts on fish and water quality. Climate change can make this worse by decreasing the amount of water in the river thus increasing the impacts of the nitrogen and sulfur deposition. The DEIS failed to consider acid deposition in the tribal resources section as well as the air quality section. The DEIS also failed to consider acid deposition in the surface water and wetlands section and the water quality and fish sections.

The final EIS analysis must consider acid deposition into waterways from the trains' and ships' diesel engines, emergency diesel engines and diesel fire water pumps. These local impacts should be considered in the context of global acidification of the oceans. We raised this issue in our scoping comments. We do not know why this important aspect of the problem continues to be ignored. (3277)

### Response to AQ-30

Refer to Response to AQ-22. Final EIS Chapter 5, Section 5.8.2, *Climate Change*, discusses how ocean acidification could affect fish and wildlife.

## Comment AQ-31

The DEIS reveals that some of the coal shipped through the Terminal could be mined in the Uinta Basin. The Uinta Basin is a geologic basin that includes much of the northeastern corner of Utah, extending into northwestern Colorado. As we have previously discussed, mining-related impacts have been erroneously omitted from consideration in this DEIS.

The Uinta Basin has some of the worst ozone in the country. While ozone was long thought to be primarily an urban problem, recently EPA has acknowledged severe wintertime ozone violations in rural areas with significant extractive industries, such as the Uinta Basin and the Upper Green River Basin in Wyoming. In the Uinta Basin, NOx and VOC emissions are trapped near the ground by stagnant air and converted to ozone by intense sunlight reflecting off snow. When these conditions occur, these areas experience ozone levels exceeding those of the most heavily populated American cities. For example, in 2010 and 2011, Uintah County's ozone levels exceeded Los Angeles County's worst ozone days.

In 2007, EPA brought a Clean Air Act enforcement action against Kerr-McGee. EPA and Kerr-McGee settled through a consent decree, which required Kerr-McGee to fund, install, and operate ambient air quality monitors in the Uinta Basin to monitor ozone and other pollutants. The two monitors are known as the Redwash and Ouray monitors. Private monitoring is not subject to EPA's regulations

governing state monitoring networks found at 40 C.F.R. Part 58. But the consent decrees mandate that the two monitors "shall meet the siting, methodology and operation requirements of 40 C.F.R. Part 58." Accordingly, the private companies were required to use EPA-approved measurement technologies and locate the monitors at certain elevations, in the path of the predominant wind direction, and away from obstructions like buildings. See 40 C.F.R. § 58, Apps. C, E. The monitors were installed in two widely-separated areas within the heart of the Uinta Basin, at locations approved by EPA.

Since 2009, the Redwash and Ouray monitors have measured numerous, significant exceedances of the 2008 ozone standard of 0.075 ppm and the 2015 ozone standard of 0.070 ppm. In 2010, the Redwash and Ouray monitors each measured more than 30 exceedances (that is, individual instances when the eight-hour ozone levels exceeded the 2008 standard). In 2011, the monitors each measured more than 20 exceedances, and the Ouray monitor recorded an eight-hour concentration of 0.139 ppm—nearly twice the federal standard. The design value for the Redwash monitor between 2009 and 2011 was 0.088 ppm and for the Ouray monitor was 0.100 ppm, both of which violate the 0.075 ppm standard by wide margins. According to EPA, "it is clear that the measured values are a concern for public health."

The Terminal is intended to increase the market for coal being mined from the Uinta Basin. Yet, the DEIS wholly ignores the impacts that increased coal mining in the Uinta Basin will have on the Basin's already significant ozone problem. (3277)

## Response to AQ-31

The Proposed Action is not dependent on new sources of coal. An evaluation of impacts related to existing sources of coal, such as those in the Uinta Basin, was conducted under NEPA as part of the permitting for those projects and is therefore not part of the EIS for the Proposed Action. Refer to the Master Response for Connected or Similar Actions.

# Comment AQ-32

The DEIS claims that: The air quality modeling method followed general EPA protocols used in air quality permitting. Representative background concentrations for the study area (Northwest International Air Quality Environmental Science and Technology Consortium 2015) were used to determine background concentrations in air quality analyses since no representative monitoring data are available.

To assess impacts associated with the Proposed Action, the model was used to predict the increase in criteria air pollutant concentrations. The model's maximum incremental increases for each pollutant and averaging time were added to applicable background concentrations. The resulting total pollutant concentrations were then compared with the appropriate NAAQS.

Yet a fundamental of air quality modeling for air permitting is that the proposed source's impacts are added to impacts from nearby sources as well as background values. "EPA requires that, at a minimum, all nearby sources be explicitly modeled as part of the NAAQS analysis." It is only when it is demonstrated that the nearby source was contributing to the background value at the time it was recorded that a nearby source can be excluded.

Yet, the DEIS' analysis wholly ignores nearby sources in its NAAQS analysis. Examples of nearby sources which would need to be included in the EIS' NAAQS analysis include coal hauling trucks

from the existing Dock 1 at the Terminal to Weyerhaeuser, the emergency generator at Weyerhaeuser and Weyerhaeuser's coal fired power plant. These are just examples. All existing emission sources within 50 kilometers must be considered for inclusion in the emission inventory for the NAAQS analysis. (3277)

### Response to AQ-32

Draft EIS, Chapter 5, Section 5.6, Air *Quality*, accounted for nearby sources of emissions in the analysis. For PM2.5, the analysis used local air pollutant monitoring data from a station approximately 1.5 miles east of the project area. For the Final EIS, the background level of PM2.5 was updated using new data from this monitor. Aside from PM2.5, representative background concentrations for the study based on NW AIRQUEST data were used to determine background concentrations in air quality analyses. NW AIRQUEST is a model-monitor interpolated product that also accounts for nearby emissions sources. Refer to Response to AQ-7 regarding the use of NW AIRQUEST for the development of representative background concentrations for the study area.

## Comment AQ-33

The DEIS' emission inventory for operations is missing two types of pieces of equipment: diesel emergency generators and diesel fire water pumps. We had an expert engineer, Dr. Ranajit Sahu, give his opinion on the lack of diesel emergency generators and fire water pumps in the DEIS modeling analysis emission inventory. Dr. Sahu concluded that it was an omission to not include diesel emergency generators and fire water pumps. Dr. Sahu explained that diesel-fired emergency generators are ubiquitous at industrial facility in order to provide power to critical loads during power outages. Dr. Sahu explained that these are typically tested weekly, monthly and annually and that the emissions during these tests are usually included in emission inventories used for air permitting and environmental impact assessments. Dr. Sahu explains that similarly, he would expect fire suppression equipment at the Terminal which may actually be required by insurance requirements and the National Fire Protection Code. These sources, with their low stack heights and relatively low exit temperatures and velocities, often play a critical role in ambient pollution levels in modeling analysis. Thus, this is a critical omission. (3277)

### Response to AQ-33

Additional information on the potential operation of emergency generators and fire water pumps was requested from the Applicant. The Applicant identified that two 30-Hp emergency generators would be installed at the coal export terminal along with one 200-Hp emergency fire water pump. Routine emissions from this equipment were included in the *SEPA Air Quality Technical Report* and Final EIS Chapter 5, Section 5.6, *Air Quality*. The planned routine operation of this equipment would be limited to one half-hour per week for readiness testing, and one 8-hour test per year, as specified by the *NFPA 25: Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems* (National Fire Protection Association 2017).

## Comment AQ-34

The DEIS uses the ozone de minimis level for conformity purposes to judge whether all pollutants, including PM2.5 and PM10 which have nothing to do with ozone, will have significant impacts with regard to construction of the Terminal. There are several problems with this standard. To begin with there is no rational reason to use an ozone standard to judge the significance of NOx, SOx, PM2.5 and

PM10. Each pollutant has separate impacts at separate levels. In addition, conformity is applicable to nonattainment areas but the DEIS states that the Longview area is an attainment area for all pollutants. A rational standard for this purpose would be the PSD "significance" thresholds. These are applicable to attainment areas and are pollutant specific. The PSD significance thresholds are 40 tpy for NOx, 40 tpy for SO2, 15 tpy for PM10, 10 tpy for PM2.5 and 100 tpy for CO.

The DEIS admits that NOx emissions from barges alone would be 59 tpy of NOx which is above the PSD significance level. Barges plus equipment would be 83.6 tpy of NOx or over twice the significance threshold. Even without barges, the NOx emissions are 38.1 but this does not include an emergency generator and diesel fire water pump which must be routinely operated to ensure readiness for an emergency.

Furthermore, the daily maximum NOx emissions from equipment is 229.6 lb/day.195 229.6 lb/day * 5 days per week * 52 weeks per year / 2000 lbs per ton equals 29.85 tons per year. But Table 4 only reports the equipment NOx emissions as 24.60 tpy. This difference of 5.25 tpy would bring the NOx emissions in the study area to 43.35 tons per year which is above the PSD significance threshold. And all of the annual tpy values are incorrect except the barges. They underreport the tons per year compared to the daily values. The DEIS offers no rationale for the incorrect annual values and no rationale for why the barges would operate 5 days a week/52 weeks per year while the other sources would not.

| **Combustion Source** | **TPY based on lb/day in Table 5** |
|---|---|
| Equipment | 29.85 |
| Haul Trucks (project area) | 7.11 |
| Haul Trucks (study area) | 14.36 |
| Barges | 59.11 |
| Passenger Commute and Crossing Delay | 0.19 |
| Total for Haul Truck Scenario | 51.51 |

Thus, the DEIS should reveal, even accepting the DEIS daily emission estimates, which we do not, that construction will have significant impacts. (3277)

## Response to AQ-34

Final EIS, Chapter 5, Section 5.6, *Air Quality*, has been revised to use prevention of significant deterioration (PSD) significance thresholds for levels to provide a threshold against which to evaluate potential impacts from construction. Regarding maximum construction emissions, not all types of construction equipment would operate every day or at the same time in the project area. The maximum annual construction-related emissions would be below the PSD thresholds established by EPA, as shown in Table 5.6-3 of the Final EIS. Further details on the operation for each piece of construction equipment can be found in the *SEPA Air Quality Technical Report*, Appendix A.

Refer to Response to AQ-33 regarding the potential operation of emergency generators and fire water pumps.

# Comment AQ-35

Increased coal train traffic would cause an increase in air pollution in the Gorge, this includes fugitive emissions of coal dust and diesel emissions from trains. The DEIS does not appear to consider the impacts of the locomotive-related diesel emission that would be generated as a result of the proposed project. This major omission must be rectified in the final EIS. The DEIS does acknowledge air quality impacts from fugitive emissions of coal dust, but ultimately fails to provide adequate disclosure of the actual impacts. DEIS at 5.7-1. The EIS must be revised to disclose indirect and cumulative impacts of the proposal on Gorge air quality. All impacts on air quality in the Gorge must be disclosed, analyzed and mitigated in the final EIS. This analysis must be informed by the substantial amount of existing information about Gorge air quality.

The Columbia River Gorge National Scenic Area is already severely impaired by air pollution, especially nitrogen oxides (NOx) and particulate pollution. The Gorge now stands among the most polluted places in the country, including Pittsburgh and Los Angeles. A 2005 joint study by the U.S. Forest Service and National Park Service studied twelve federally managed areas around the West and found that the Columbia River Gorge National Scenic Area and Sequoia National Park had by far the worst "annual standard visual range[s]" of the twelve areas.13 Similarly, a 2000 Forest Service study of air quality monitoring data from 39 federally managed "visibility protected" areas in the West found that the Scenic Area has "the highest levels of haze" and "the sixth worst visibility pollution of these areas." Gorge air quality has been monitored for the last twenty years. The Forest Service has documented that visibility impairment occurs on at least 95% of the days that have been monitored.

Deposition of pollutants also has profound negative impacts on ecosystems. Studies demonstrate that in the Western United States, some aquatic and terrestrial plant and microbial communities are significantly altered by nitrogen deposition. Metals, sulfur, and nitrogen concentrations in lichen tissue found in the Gorge are comparable to that found in lichen tissue sampled in urban areas. Nitrogen deposition rates in the Gorge are comparable to the most polluted areas in the United States.

Particulate matter pollution also threatens human health and welfare. In fact, when reviewing the National Ambient Air Quality Standards for PM2.5, the EPA found that there is no level of particulate matter pollution at which there are no human health effects. According to the EPA, fine particulate matter pollution causes a variety of adverse health effects, including premature death, heart attacks, strokes, birth defects, and asthma attacks. Even low levels of PM can cause low birth weights, damage lung function, and increase risks of heart attack and premature death. Studies reviewed by EPA revealed a linear or almost linear relationship between diseases like cancer and the amount of fine particulate matter in the ambient air. Consequently, particulate matter contamination has adverse health effects at any concentration.

The Management Plan for the National Scenic Area requires that "air quality shall be protected and enhanced, consistent with the purposes of the Scenic Area Act." NSA Management Plan at I-3-32–33. Pursuant to this requirement, the Gorge Commission approved the Columbia River Gorge Air Study and Strategy (Sept. 2011). It summarizes the existing science on air quality impacts, adopts thresholds for significant impacts to visibility, and adopts an overall goal of "continued improvement" in visibility in the National Scenic Area. In addition, guidance documents prepared by Federal Land Managers provide methodologies and thresholds for evaluating air pollution impacts to sensitive federal lands in both Class I and Class II areas. The Forest Service has been monitoring

lichen and air quality monitoring throughout the National Scenic Area. The EIS should be revised to incorporate this information on existing air quality and the potential impacts from additional contributors to nitrogen deposition. These resources provide a scientific and policy foundation for Ecology to evaluate air pollution impacts to the Columbia River Gorge.

Since thresholds for significant adverse impacts have already been exceeded for particulate matter and nitrogen deposition, any significant additional source of pollutants will likely contribute to cumulative significant adverse impacts to Gorge resources. (2508)

### Response to AQ-35

Draft EIS, Chapter 5, Section 5.6, *Air Quality*, presented annual locomotive emissions from Proposed Action-related trains on main line routes in Washington State, including the route through the Columbia River Gorge. Estimated emissions for Proposed Action-related trains were compared to 2011 annual statewide rail emissions. Final EIS Chapter 5, Section 5.7, *Coal Dust*, has been revised to include additional detail on coal dust emissions and deposition impacts in the Columbia River Gorge. Refer to the Master Response for Particulate Matter Coal Dust Analyses regarding evaluation of coal dust emissions from Proposed Action-related trains, including updates in the Final EIS specific to the Columbia River Gorge. Draft EIS Chapter 6, *Cumulative Impacts*, included a discussion of potential cumulative impacts on air quality in a study area inclusive of the anticipated rail routes for Proposed Action-related trains in Washington State. Final EIS Chapter 6, *Cumulative Impacts*, has been updated to include better characterization of the emissions under the windy conditions in the Gorge.

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

Refer to the Master Response for Particulate Matter and Coal Dust Analyses regarding the scope of the EIS analysis related to potential human health impacts.

## Comment AQ-36

The final EIS should disclose the actual worst-case risks and provide adequate disclosure of the consequences on the people and the protected resources in the NSA. The EIS must be revised to identify indirect, direct and cumulative impacts of the proposal on air quality. All impacts on air quality in the Gorge must be disclosed, analyzed and mitigated in the final EIS. This analysis must be informed by the substantial amount of existing information about air quality within the NSA. (3107)

### Response to AQ-36

Refer to Response to AQ-35.

## Comment AQ-37

The Management Plan for the NSA requires that "air quality shall be protected and enhanced, consistent with the purposes of the Scenic Area Act." NSA Management Plan at I-3-32-33. Pursuant to this requirement, the Gorge Commission approved the Columbia River Gorge Air Study and Strategy (Sept. 2011). It summarizes the existing science on air quality impacts, adopts thresholds for significant impacts to visibility, and adopts an overall goal of "continued improvement" in visibility in the National Scenic Area. The Forest Service NSA office has been monitoring lichen and air quality monitoring throughout the NSA. The EIS should be revised to incorporate this

information on existing air quality and the potential impacts from additional fugitive coal dust emissions. (3107)

### Response to AQ-37

Refer to Response to AQ-35.

## Comment AQ-38

The split of Direct and Indirect impacts is not correctly applied to a Study Area. Statements such as "Emissions are aggregated and regulated at a larger scale than a localized study, and therefore direct and indirect emissions are combined" do not follow standard process for evaluation of air quality. Rail and marine vessel emissions were evaluated beyond the immediate Project area, but the split is not consistently presented. (3070)

### Response to AQ-38

Final EIS Chapter 5, Section 5.6.2, *Study Area*, has been revised per the text referenced by the commenter.

## Comment AQ-39

Several regulatory evaluations were unclear, misleading, or inapplicable. The discussion of toxic air pollutants (TAPs) in Section 5.6.1.2 is over-reaching, implying that all sources will need a full TAPs review. (3070)

### Response to AQ-39

Final EIS Chapter 5, Section 5.6.1.2, *Federal and State Air Toxics*, has been revised to further address toxic air pollutants.

## Comment AQ-40

Both the Project and the No-Action Alternative discussed in the Draft EIS use federal conformity de minimis as a reference for acceptable emission levels. Federal conformity is not applicable to this Project. The General Conformity Rule applies to all Federal actions that are taken in designated nonattainment or maintenance areas. This Project is not in nonattainment/maintenance area. (3070)

### Response to AQ-40

Final EIS, Chapter 5, Section 5.6, *Air Quality*, has been revised to use PSD significance thresholds for levels to provide a threshold against which to evaluate potential impacts from construction.

## Comment AQ-41

MBT-Longview has proposed that the control efficiency for onsite coal handling be 99%. The current facility permit was modified in 2014 to include a retrofit of coal handling areas with fogging systems. A control efficiency of 99% for enclosure plus fogging was based on vendor information, and was approved by the Southwest Clean Air Agency (SWCAA) during permitting. The Draft EIS,

incorrectly employs a 95% efficiency on the basis of a draft permit from Oregon Department of Environmental Quality (DEQ). There is no basis for applying the lower control efficiency due to one draft permit from Oregon DEQ. The Final EIS should use the 99% efficiency rate, which is, expected to be approved by SWCAA. (3070)

## Response to AQ-41

The Applicant's Environmental Report (ER) on air quality was reviewed along with the description of the Proposed Action to understand how the onsite coal transfers would be operated at the proposed coal export terminal. This document identifies the coal transfers that would occur in enclosed areas (rotary coal car dump, approximately one-third of the conveyors, etc.) with some of the transfer activities at the unenclosed coal piles. However, the conveyors and stockpiles would have systems for dust control (watering or dry fogging). The watering at the piles would also help reduce wind erosion. The proposed system design was discussed with the Southwest Clean Air Agency Air Quality Engineer familiar with the Applicant's current and proposed operation. It was concluded that unless the Applicant commits to having every transfer and conveyor operation totally enclosed (all four sides, plus top and bottom) it was recommended that the 95% control efficiency be retained in the Final EIS. This 95% control efficiency for a dry-fogging, dust-suppression system only is consistent with what the Applicant has committed to in its ER documentation and is a reasonably conservative control efficiency.

# Comment AQ-42

To address these concerns, we recommend that the State's Final EIS air quality analysis at and near the terminal include additional information on modeled maximum impact by source sector. Source sector information would help reviewers better understand the relative contribution of trains and vessels both near the terminal and across the state. We also recommend that the State EIS include additional information on potential air pollution impacts to communities that, for example: have potential for new violations of NAAQS; are in an existing maintenance area; have known diesel particulate matter or air toxics problems; or, are home to sensitive receptors such as low income and minority populations. While the State's DEIS did not include impacts outside of the geographical state boundaries, there is potential that analysis of impacts along the entire rail line may identify similar concerns in other states. (3306)

## Response to AQ-42

The discussion of the relative contribution of vessels, locomotives, and facility operations has been revised in Final EIS Chapter 5, Section 5.6, *Air Quality*, and focuses on those pollutants that, when combined with background levels, indicate the potential for concentrations to approach the NAAQS limits.

The study area (Cowlitz County) is currently in attainment for all NAAQS. Refer to the Master Response for Particulate Matter and Coal Dust Analyses regarding the evaluation of impacts on air quality from emissions of criteria pollutants and the new cancer risk assessment related to diesel particulate matter presented in the Final EIS.

Final EIS Chapter 3, Section 3.2, *Social and Community Resources,* describes potential impacts on low-income and minority populations from emissions of diesel particulate matter from Proposed Action-related locomotives.

Refer to Response to The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment AQ-43

Recommendations:

- Accommodate worse than the state average respiratory health in the Kelso-Longview area, and to mitigate the prospect of being the greatest contributor of criteria air pollutants in the county, the applicant should develop mitigations to reduce the total N02, S02, and PM2.5 emissions.
- Install air quality monitors for criteria pollutants other than PM2.5 near the project site before construction and operation to collect real ambient air quality data. Base final EIS air quality projections on measured instead of modeled data. (2823)

## Response to AQ-43

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment AQ-44

S6 of the DEIS says "The analysis determined the estimated maximum concentrations for each criteria air pollutant would be below the National Ambient Air Quality Standards established by the U.S. Environmental Protection Agency."

The DEIS has ignored the testimony of expert medical professionals and said perhaps a health report will come later. This is a fatal mistake. National Ambient Air Quality Standards established by the U.S. Environmental Protection Agency are completely irrelevant. The question is Millennium's effect on health. (1910)

## Response to AQ-44

Refer to the Master Response for Particulate Matter and Coal Dust Analyses regarding use of NAAQS to determine significance of potential impacts related to criteria pollutants, addition of a cancer risk assessment in the Final EIS related to diesel particulate matter emissions, and the scope of the EIS analysis related to potential human health impacts.

# Comment AQ-45

The University of Washington reported coal trains emit nearly double the amount of pollution compared to freight trains. Consideration needs to be given to the extra diesel exhaust which causes deleterious effects to health. (1910)

## Response to AQ-45

Modeled emissions presented in Draft and Final EIS Chapter 5, Section 5.6, Air Quality, for rail transport were based on train parameter assumptions for Proposed Action-related trains. Refer to the Master Response for Particulate Matter and Coal Dust Analyses regarding use of NAAQS to determine significance of potential impacts related to criteria pollutants, addition of a cancer risk assessment in the Final EIS related to diesel particulate matter emissions, and consideration of other potential human health impacts.

# Comment AQ-46

The DEIS is silent on the air quality problems created in the Spokane Valley by an additional 16 coal trains per day. As stated above, Union Pacific and BNSF rail lines travel through the heart of our downtown corridor in Spokane as they do in the towns of Millwood and Spokane Valley. These trains deliver large amounts of diesel exhaust. In the winter months our valley suffers severe air quality problems due to its temperature inversions. These inversions trap air pollution and particulates and leave our community exposed for weeks. According to the Spokane Regional Clean Air Authority (SRCAA), Diesel particulate pollution is responsible for numerous public health issues in our community. (SRCAA Fact Sheet: https://goo.gl/OApXP3). According to the SRCAA, diesel exhaust is currently responsible for 12% of the particulate pollution in the Spokane Valley. If oil train traffic increases by 9 loaded and unloaded trains per week, our city is going to feel the impacts of this traffic with increasing public health problems and increasing problems with air quality. This is clearly an impact to our community that should be addressed in the DEIS. (3280)

## Response to AQ-46

Draft EIS, Chapter 5, Section 5.6, *Air Quality*, presented estimated locomotive emissions from Proposed Action-related trains on main line routes in Washington State and compared them to 2011 annual statewide emissions. Draft EIS Chapter 6, *Cumulative Impacts*, included a discussion of potential cumulative impacts on air quality.

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment AQ-47

Rail traffic already causes traffic to idle for hundreds of hours a month. There are over 75 road and rail intersections in the Spokane Valley. Long waits due to rail obstruction is a regular occurrence for those who live and work in the Spokane Valley. The City of Spokane Valley has studied the Barker Road crossing and calculated there are 23,100 hours of vehicle delay annually on that one intersection alone. This translates to 232 tons of air pollution a year from idling cars. The proposed Millennium Bulk Coal Terminal Projects would increase rail traffic by another 16 trains per week and therefore pose direct and negative impacts on the people of our community. The Draft Environmental Impact Statement does not address these impacts. (3280)

## Response to AQ-47

Draft EIS, Chapter 5, Section 5.3, *Vehicle Transportation,* presented estimated baseline and Proposed Action-related trains per day in 2028, at the statewide study crossings in Spokane, Adams, and Franklin Counties and described potential impacts on vehicle delay. As noted in that section, vehicle delay at crossings would generally depend on the speed of the train, length of the train, the traffic volume at the crossing, and number of lanes at the crossing. The traffic volume at the crossing would also vary depending on the time of day.

Draft EIS, Chapter 5, Section 5.6, *Air Quality*, presented annual locomotive emissions from Proposed Action-related trains on main line routes in Washington State beyond Cowlitz County; it did not include emissions from idling vehicles delayed by Proposed Action-related trains in this area. The

Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment AQ-48

The FEIS should consider whether or not specific geographic areas are in nonattainment for criteria pollutants, or would become so with the addition of the MBT proposal. In particular, this analysis should investigate the impacts of increased rail traffic on PM 2.5 on proximate communities, with special attention given to environmental justice communities, or areas where rates of poverty and linguistic isolation are high and where a higher portion of the population are people of color. (3353)

## Response to AQ-48

Draft EIS Chapter 5, Section 5.6, *Air Quality*, identified the current conditions of air quality including attainment status for all regions in the study area. Potential impacts on minority and low-income communities in the study areas were addressed in Draft EIS Chapter 3, Section 3.2, *Social and Community Resources*. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment AQ-49

The impacts to threshold levels for PM 2.5 and other particulates associated with the transportation of oil by rail in these communities should be investigated in the FEIS. If the increase in rail traffic is shown to increase PM 2.5 enough to exceed existing thresholds, the affected communities must be notified and consulted. For communities along rail routes that could also include coal transport, the combined effects of coal and oil trains should be considered in calculation of this number and notification of these communities. EJ analysis should compare EJ communities to national standard to determine disparate impacts. (3353)

## Response to AQ-49

The Draft and Final EIS analyze the potential impacts of the Proposed Action. Current and proposed crude oil by rail projects are not part of the Proposed Action. Refer to the Master Response for Purpose and Focus of the EIS. Draft EIS Chapter 6, *Cumulative Impacts*, identified reasonably foreseeable future actions—including crude by rail projects—and described cumulative impacts that could result from construction and operation of the Proposed Action in combination with the reasonably foreseeable future actions.

Potential impacts on minority and low-income communities in the study areas for the minority and low-income population analysis were discussed in Draft EIS Chapter 3, Section 3.2, *Social and Community Resources*.

# Comment AQ-50

Locomotive emissions, including diesel particulate matter, and coal dust could have serious human health implications for affected communities along the rail transport corridor. The Applicant and SEPA co-leads have failed to identify mitigation measures that would adequately avoid these significant adverse impacts. The Applicant and SEPA co-leads have offered no explanation as to why

covered rail cars have not been considered and adopted as a reasonable measure to avoid and minimize significant adverse impacts to human and ecosystem health. (3458)

### Response to AQ-50

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment AQ-51

According to the model used to predict the levels of particulate matter in the DEIS, the Millennium project will not produce particulate matter above the minimum level of U.S. standards. However, Table 8 of the SEPA Air Quality Technical Report shows that the pollution level of PM10 (particulate matter less than 10 micrometers in diameter), will increase from background levels of 23 µ/m3 for a 24-hour mean to 108 µg/m3 due to emissions from handling coal, coal storage piles, and mobile source exhaust emissions from the operation and maintenance of the facility. While this model predicts levels of the most damaging size of particulates below the National Ambient Air Quality Standard (NAAQS) of 150 (p. 3-7), it still predicts more than a tripling of the amount of dangerous particulates at the site. In addition, despite being below the NAAQS, there is every reason to believe that residents exposed to this level of particulate matter will still suffer from health effects such as cardiovascular and respiratory diseases. The World Health Organization (WHO) suggested standard for particulate matter is 50 µg/m3 24-hour mean (Ambient 2014), and the 108 µg/m3 created by operations in the terminal is more than double the WHO standard. (3465)

### Response to AQ-51

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment AQ-52

Many other air pollutants modelled for the DEIS show similar sharp increases as a result of all sources from the terminal, increases that make them closer to the NAAQS (150 µg/m3), and over the WHO standard (50 µg/m3). These other sources of pollution are nitrogen dioxide (N02), sulfur dioxide (S02}, and PM2.5 (particulate matter less than 2.5 micrometers in diameter). Exposure to these pollutants contributes to a host of health problems. (3465)

### Response to AQ-52

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment AQ-53

Improved Monitoring and Mitigation of Coal Dust, Particulates, and Other Pollutants in Longview -

The DEIS's conclusions are based on its modelling. The only way to confidently know if mitigation is needed for these pollutants is to monitor the levels of particulate matter once the project begins operations. Cowlitz County has only one particulate matter sensor, 1.5 miles to the east of the Millennium site, so new monitors will be needed.

According to the DEIS, as part of mitigation Millennium would install one fence-line particulate matter monitor and report pollution levels to the Department of Ecology for five years. This is

inadequate for a 23-year project which will not reach full capacity until 2028. Monitoring should take place for the entire period of the project and beyond, after cleanup of the project site. It should also include installing more than one monitor at the fence line, and it should be for all pollutants regulated by federal and state laws, not just particulate matter. (3465)

### Response to AQ-53

Refer to the Master Response for Particulate Matter and Coal Dust Analyses regarding the evaluation of potential impacts from particulate emissions, and how design measures, best management practices, permit requirements, and mitigation would reduce impacts on air quality in the project area from operation of the Proposed Action.

The proposed mitigation measure mentioned by the commenter would require monthly reviews of the emissions data and maintenance of a data record for at least 5 years after full operations begin in 2028. This mitigation measure would provide data to monitor and address coal dust emissions during full operations of the proposed export terminal. The mitigation measure also states the Applicant would gather 1 year of fenceline data on PM2.5 and PM10 prior to beginning operations and maintain the data as a reference. These data would be reported to the Southwest Clean Air Agency, Cowlitz County, and Ecology.

## Comment AQ-54

In addition, the mitigation measures in the DEIS, if pollution levels do exceed the U.S. minimum standards for particulate matter, are left up to Millennium and the Department of Ecology to decide in the future. The Final EIS must specify what those mitigation measures will be. For example, will residents' homes be bought and payment made for their relocation, or will Millennium pay for their current and future health effects? Perhaps the Millennium project, like other recent coal terminal proposals near populated areas, such as the ones proposed for Coyote Island in Oregon (Flatt 2013) and Oakland, California (La Ganga 2016), should enclose the coal storage pile in a high-roofed or domed building and have completely enclosed transfer systems. The purpose of an EIS is to predict and find solutions to environmental problems before they materialize-the final EIS should include concrete plans for mitigation if actual recorded levels of pollutants are recorded in the future. (3465)

### Response to AQ-54

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment AQ-55

The DEIS discloses significant information about air pollution and diesel particulate matter (DPM):

- Diesel particulate matter was identified as the most likely contributor to cancer risk in Washington State.
- In Longview, all rail traffic in the study area is projected to increase emissions for all air pollutants by about 11%,
- Locomotive emissions in Cowlitz County are estimated to increase by about 6% overall with the proposed action. The largest emissions increase for a single pollutant would be for PM10, which would increase by approximately 15%.

- Vessel emissions in Cowlitz County with the proposed action are estimated to increase by about 12%.
- Cumulative vessel traffic in 2038 is projected to increase air emissions by about 24%.
- Table 5.6-10. Estimated Maximum Annual Emissions in Washington State for Locomotive and Commercial Marine Vessels for the Proposed Action in Comparison with the 2011 Statewide Emissions Inventory:

  Locomotives will emit 47 tons/year DPM
  (46 tons/year PM2.5 and 47 tons/year 10 DPM)

  Marine vessels will emit 10 tons/year DPM
  (11tons/year PM 2.5 and 13 tons/year of PM 10)

- Table 6-25. Estimated Maximum PM10 and PM2.5 Concentrations—BNSF

  Main Line in Eastern Washington

  Will exceed the 24-hour PM10 and annual PM2.5 ambient air quality standard at 100 feet from the rail line.

- With respect to hazardous air pollutants, the 2005 EPA National-Scale Air Toxics Assessment was used by Ecology to estimate cancer risk (Washington State Department of Ecology 2011). Inhalation cancer risks were highest in the major population centers along the rail route (Vancouver and Spokane), with a cancer risk of up to 500 cancers per million. For the smaller communities (Kelso-Longview, Spokane, Yakima, and Pasco), cancer risks were up to 300 cancers per million.

However, the air quality impact summary in 5.7.5 of the DEIS states "Overall the impacts of PM10 and PM2.5 emissions from proposed-action related rail transport of coal would not be significant because emissions would be below applicable federal standards." This is a misleading statement. While it is true that PM10 and PM2.5 emissions would fall below federal standards, this does not mean that there would be no negative health impacts. In fact, according to the World Health Organization (WHO) "Small particulate pollution have health impacts even at very low concentrations – indeed no threshold has been identified below which no damage to health is observed.

Again, human health impacts of particulate matter include cancer, cardiovascular, cerebrovascular and respiratory disease. These health consequences accumulate with increasing exposure. There is a close quantitative correlation between exposure and negative health impacts (morbidity and mortality). Comparing the guidelines used in the DEIS (which are from the U.S. National Ambient Air Quality Standards and Washington State Air Quality standards) against the WHO guidelines, we find that the WHO guidelines are lower and more restrictive. In some cases (particularly PM10), they are considerably lower. The following table compares WHO guidelines with NAAQS:

**WHO Particulate Matter Exposure Guideline values with NAAQS/Washington State Standards** (shown in parentheses for comparison)

**PM2.5**
Annual mean - 10 µg/m3 -- (NAAQS 12 µg/m3)
24-hour mean - 25 µg/m3 -- (NAAQS 35 µg/m3)

**PM10**
Annual mean - 20 µg/m3 (Not included in the DEIS)
24-hour mean - 50 µg/m3 -- (NAAQS 150 µg/m3)

Below are examples of expected emissions from project operations with comparison to WHO Air Quality Guidelines:

Table 5.6-6. Maximum Modeled Concentrations from the Operation of the Coal Export Terminal shows total predicted concentrations of PM10 (24 hour average) of 80mcg/ m3. This exceeds the WHO guideline of 50mcg/m3.

Table 5.6-7. Project Area Concentration from Operations (All Sources) shows total predicted concentrations of PM2.5 (24 hour average) of 29.8mcg/m3. While under the NAAQS 35mcg/m3 threshold is over the WHO standard of 25mcg/m3. Total predicted concentrations of PM10 (24-hour average) would be 108mcg/m3, which is over twice the WHO threshold of 50mcg/m3.

Table 5.7-6. Estimated Maximum PM10 and PM2.5 Concentrations—BNSF Main Line, Cowlitz County shows the total concentration of PM10 at 50ft and 100ft to be 58mcg/m3 and 51mcg/m3 respectively, both of which exceed the WHO guideline of 50mcg/m3.

The 24-hour average of PM2.5 at 50 feet is 25.5mcg/m3 which is above the WHO guideline of 25mcg/m3, while at 100 feet it is 24.8, just below the WHO standard.

Table 5.7-9. Estimated Maximum PM10 and PM2.5 Concentrations 100 Feet From Rail Line— BNSF Main Line, Washington State (Outside Cowlitz County) shows the total concentration of PM2.5 (annual average) to be 9.8mcg/m3, which is just under the WHO guideline of 10mcg/m3.

The 24-hour average of PM2.5 is 27mcg/m3, which exceeds the WHO guideline of 25mcg/m3.

The PM10 (24-hour average) is 125mcg/m3, which is two and a half times the WHO guideline of 50mcg/m3.

Of particular interest is Table 5.7-9, which demonstrates that the current baseline PM10 (24-hour average) is 101mcg/ m3 is already twice the level established by the WHO. This is important in light of data summarized in the WHO Air Quality Guidelines and statements that "reducing annual average particulate matter (PM10) concentrations from levels of 70 µg/m3, common in many developing cities, to the WHO guideline level of 20 µg/m3, could reduce air pollution-related deaths by around 15%. However, even in the European Union, where PM concentrations in many cities do comply with Guideline levels, it is estimated that average life expectancy is 8.6 months lower than it would otherwise be, due to PM exposures from human sources." (Note that the above numbers refer to annual PM10 concentrations which were not measured/modeled/included in this DEIS.)

Though particulate matter and coal dust emissions from the Millennium Bulk Terminal Project are expected to fall under NAAQS and Washington State Standards, they will have negative health impacts. The DEIS identified places in Washington State, especially near the railroad tracks, where current air quality is already unacceptably poor, exceeding WHO guidelines by two times in at least one case.

Improvements in ambient air quality in these locations can be expected to have considerable positive health impacts, while the effect of MBT would be, in all instances, to increase exposure to particulate matter, which has negative health impacts even at very low doses. (3327)

## Response to AQ-55

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment AQ-56

We object to DEIS air quality assessments based on modeling with insufficient actual monitoring. In Section 5.6.4.2, the following statement appears:

> The only available local (Cowlitz county near project site) air pollutant monitoring is for PM2.5, at a station approximately 1.5 miles east of the project area. The monitoring data show that PM2.5 levels are well within the PM2.5 air quality standards. Although no other monitoring data are available, concentrations of other criteria air pollutants in the study area also are expected to be well within air quality standards.

The City of Portland and Oregon Department of Environmental Quality recently discovered the risk of underestimating air pollution when air quality modeling is based on a small number of actual monitoring stations. The U.S. Forest Service used moss bio-indicators as a novel air quality monitoring strategy and found very high levels of cadmium (49 times higher than Oregon air quality standards) near several stained glass manufacturers. These very high toxic emissions were not predicted based on prior, inadequate air quality monitoring. The data from only a few stations was available and assumptions in modeling led to significant errors. The DEIS assumption that "concentration of other criteria air pollutants in the study area also are expected to be well within air quality standards" does not rise to the level of rigor one must have when working to protect public health and the health of workers at the terminal. (3327)

## Response to AQ-56

Refer to the Master Response for Particulate Matter and Coal Dust Analyses regarding design measures, best management practices, permit requirements, and mitigation that would reduce impacts on air quality in the project area from operation of the Proposed Action. Refer to Response to AQ-7 regarding the use of NW AIRQUEST for the development of representative background concentrations for the study area.

# Comment AQ-57

The DEIS Understates the Health Impacts and Risks of DPM on Cancer.

Studies show an association between exposure to diesel exhaust and lung cancer (Bhatia, 1998), as well as cancers of the bladder and soft tissues (Guo et al., 2004). Several extensive and detailed reviews have been conducted on the body of literature relating long-term exposure to diesel exhaust particles and lung cancer (California EPA, 1998; USEPA, 2002; Cohen and Nikula, 1999). In addition, over 40 studies conducted among those populations exposed to diesel exhaust have found increased rates of lung cancer associated with diesel exhaust particles exposure (as cited in Cohen and Nikula, 1999). Occupational studies conducted in railroad workers and truck drivers have consistently found increased lung cancer risk, even after adjusting for comorbidities such as smoking (Bofetta, 2001). The impact of DPM on cancer risk must be considered in the decision making process for the MBTL. (3327)

### Response to AQ-57

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment AQ-58

The DEIS Understates the Health Impacts and Risks of DPM on Cardiac and Pulmonary Disease.

Although cancer risk is understandably of great concern to the public, cardiac and respiratory effects of diesel exposure have an even larger public health impact because they cause death and illness for a greater number of people. DPM can exacerbate asthma and emphysema, induce heart attacks and strokes, and has been associated with congenital heart abnormalities. (3327)

### Response to AQ-58

Refer to the Master Response for Particulate Matter and Coal Dust Analyses regarding the analysis of diesel particulate matter emissions.

The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for this scope and focus. SEPA Rules (WAC 197-11-444) do not require that an Environmental Impact Statement (EIS) analyze all impacts of an action.

An HIA for the Proposed Action is being prepared separately from the SEPA environmental review. An HIA Steering Committee was formed and determined the topics to be addressed in the HIA, with input from focus groups. One of these topics is air quality. Refer to the Master Response for the Health Impact Assessment for information on the HIA process, including the study area for the assessment, selection of topics analyzed, and opportunities for public review and comment.

## Comment AQ-59

The DEIS Fails to Disclose the Impacts of DPM on Reproductive and Neurodevelopmental Disorders.

A review of peer-reviewed journal articles makes evident concerns about impacts of DPM on reproductive and neurodevelopmental disorders:

- Reduced sperm quality in men exposed to air pollution, particularly diesel exhaust (De Rosa et al., 2003)
- Disruption of normal sexual differentiation during fetal development, including 2.42% higher odds of male cryptorchidism (undescended testes) amongst babies of fathers exposed to diesel exhaust before conception (Kurahashi et al., 2005)
- Increased congenital heart, lung, and immune system anomalies in children (Gauderman et al., 2004; Vrijheid et al., 2011)
- A 10 microgram increase in DPM (2.5) is associated with a 3.4% increase risk in daily mortality (Laden et al., 2000)
- In 2005 the World Health Organization published a summary of the health risks of air pollution on childhood health and concluded that “sound evidence already exists for a causal link between air pollution and children’s health” (WHO, 2005, p.7)

- In the same document the WHO recommended that policy makers take measures to reduce childhood exposure to air pollution (WHO, 2005)

We have witnessed a profound increase in the number and severity of children (per capita) with neurodevelopmental disorders such as autism, ADHD, and learning impairments. The Centers for Disease Control and Prevention corroborates this increase in their recent counts of pediatric disorders. This is likely due in part to increased exposures to neurotoxic chemicals in the environment. Recent studies have correlated prenatal and early life exposure to diesel particulate exhaust with autism, ADHD, lowered IQ and cognitive function, and increased behavioral symptoms of anxiety, depression, and aggressive behavior.

Diesel components, and heavy metals found in coal dust, can cause permanent damage to the developing nervous systems of embryonic and young children, even at low levels. The proposed terminal, which would increase the number of mile-and-a-third- long trains (8 trains full and 8 returning mostly empty) passing through the region daily, each carrying 125 uncovered coal hopper cars, pulled by three to four diesel engines, would add cumulative impacts of further diesel emissions, as well as coal dust.

Exposure to toxins in airborne particulate matter from diesel engines and coal dust will predictably increase neurodevelopmental impairments in our children and other adverse health effects in adults and children, such as asthma, cancer, heart attacks and strokes. Over time, this is likely to have a major health impact and cost to our population. Unlike other potential disaster scenarios, added air toxins from increased trains transporting coal would be a certainty, with well-studied human health effects. (3327)

### Response to AQ-59

Refer to Response to AQ-58.

## Comment AQ-60

The DEIS Understates the Health Impacts and Risks of DPM and Associated Toxins.

While hundreds of different airborne toxins may be present in the gas phase of diesel exhaust, some of the most commonly identified are acrolein, acetaldehyde, formaldehyde, benzene, 1,3-butadiene, and polycyclic aromatic hydrocarbons (PAHs). The human health impact of all of these associated toxins should be studied in detail. (3327)

### Response to AQ-60

Refer to Response to AQ-58.

## Comment AQ-61

The DEIS fails to fully disclose health impacts of exposure to arsenic.

The DEIS states that arsenic is one of the pollutants that would continue to be introduced as a result of the proposed action in Longview and along the tracks. While the DEIS states that maximum concentrations of arsenic will be lower than acceptable source impact levels, recent studies published in journals such as Environmental Health Perspectives suggest that arsenic is harmful to

human health at lower levels than previously thought (Carlin et al., 2016; Naujokas et al., 2013), including increased risk for skin and lung cancer. (Bailey et al. 2016) (3327)

### Response to AQ-61

Refer to Response to AQ-58.

## Comment AQ-62

The DEIS fails to adequately disclose health impacts of exposure to cadmium. (3327)

### Response to AQ-62

Refer to Response to AQ-58.

## Comment AQ-63

The DEIS fails to adequately disclose health impacts of exposure to lead.

Stanford University produced a fact sheet on lead that demonstrates that the inhalation or ingestion of lead-containing particles can result in "lead poisoning" which has been associated with a number of short term (acute) and long term (chronic) adverse health effects. Depending on the amount of exposure (dose) immediate symptoms may not always be apparent or may resemble other illnesses and result in misdiagnoses.

Acute, short term health effects may include: cramps (lead colic), irritability and moodiness, headaches, insomnia, tiredness, nausea, loss of libido, birth defects, miscarriage, stillbirth, constipation, and, in children, hyperactivity, lower IQ, slowed growth, and hearing loss. Chronic, long term health effects may include: muscle and joint soreness, fine tremors, numbness, hypertension, anemia, infertility, and kidney damage.

Lead can stay in the body for years and is stored in bone or soft tissue including the liver and kidneys. During periods of high calcium demand such as pregnancy, menopause and aging, lead stored in bone tissue can be released back into the bloodstream. Lead is also able to cross the placenta and blood/brain barrier.

Exposure to lead can occur almost anywhere. Studies have shown that lead dust can be carried on coveralls or other work clothing resulting in contamination of worker's cars, homes and family. There is lead in coal dust. There is no safe level of lead. Lead dust is 100% absorbed when inhaled by infants. Lead causes neurodevelopmental disorders. It can cause severe toxic effects in children in multiple organs and widespread disruption of cellular functioning. It damages the bone marrow and nervous system with direct nerve cell damage harming brain development, which in turn causes seizures, schizophrenia, cognitive loss, and many serious sequelae, including academic failure.

There is no good treatment for lead poisoning. Chelation therapy is difficult and does not reverse cognitive impairment. As in Flint, Michigan, lead poisoning is usually identified after the fact, when the harm has already been done.

What will be the cumulative levels of lead deposited in air and in soil in Longview and along coal train tracks? We must answer questions like this now, before 44 million tons of coal, and its

associated burden of lead, is brought in uncovered rail cars through Washington and the region each year and is stored, in uncovered piles, in Longview. (3327)

### Response to AQ-63

The Proposed Action would not have the potential to result in lead pollution because the Proposed Action would not introduce sources of lead.

Refer to Response to AQ-58.

## Comment AQ-64

The DEIS fails to adequately disclose health impacts of exposure to mercury.

According to the City of Portland's June 9, 2016 MBT DEIS comments: "…In the Columbia River Basin more than 80 percent of the mercury pollution is from overseas sources." A peer-reviewed 2008 study 11 found that coal-fired power plants in Asia contribute 18% of springtime mercury concentrations at Mount Bachelor.

Snowpack melts into our rivers and lakes where mercury contaminates the fish we eat. Pregnant women and children are particularly vulnerable to the toxic effects of mercury. Mercury is a potent neurotoxin that can damage developing brains in fetuses and children.

Dr. Martha Neuringer, a renowned biomedical researcher at Oregon Health Sciences University, stated in testimony she presented to the Portland City Council in September 2012,

> The effects of coal-derived mercury on infant brain development are well known. Coal-derived mercury has significant negative impacts on the visual system, on motor development, and on cognitive development. It insidiously limits human potential. A massive increase in coal traffic through our region would greatly increase the mercury burden in our environment and therefore the damage to our children. This is a moral issue, but can also be reduced to its economic impacts.
>
> The effects of mercury from coal on reduced intellectual development - on this one health effect - are estimated to cost $3 billion per year in the U.S.11 This is just one part of the overall health costs of $10-30 billion, which in turn is just part of the estimated total externalities – environmental, economic and health effects of coal -- which total half a trillion dollars per year.
>
> Coal export projects would have a reverberating impact in our region, as coal dust increases mercury and many other toxins in our air and our water; and then, when it is burned in China, as the prevailing winds bring air-borne toxins back to us…
>
> To preserve the health and human potential of our children, I urge you to oppose Northwest coal export projects in any way possible.

What does the DEIS disclose about mercury?

- Mercury is one of four primary contaminants found in the broader Columbia River basin.
- Trace elements of environmental concern (TEEC) in Powder River and Uinta Basin coal include mercury.
- All scenarios show an increase in mercury deposition by 2040.

In Appendix I, the DEIS estimates mercury deposition resulting from coal burning in Asia. It estimates the maximum contribution from the coal exported from the MBT terminal would be less than 0.3%. We believe that this estimate is too low, because Asian mercury emissions were

estimated to contribute between 5-36% of total mercury deposition on the US (p. I-6). Mt. Bachelor mercury levels from Asian emissions were 18% and 14% (p. I-7) and the Asian HgII is largest at low latitudes (where most people in Washington live). We must not overlook or minimize the fact that mercury would keep blowing back to Washington residents and others as long as the coal is burned, replenishing the supply of dangerous forms of mercury.

The DEIS should disclose by what percentage Asian Hg emissions will increase under the proposal. These numbers are not provided in Appendix I, which instead gives estimates of Hg deposition here. Again, we believe these estimates are low.

A direct result of the MBT will be a substantial increase in airborne pollutant emissions from train and marine traffic from the Powder River Basin and the Uinta Basin, all through the rail transportation corridor, at the terminal site, and on and near the Columbia River. If MBT is not built, these significant increases in negative impacts will not occur. (3327)

### Response to AQ-64

Refer to Response to AQ-1 regarding evaluation of mercury deposition related to coal combustion. For a discussion of the mercury emissions totals from Asian countries that would consume the coal from the coal export terminal, refer to Final EIS Appendix I, *Sulfur Dioxide and Mercury Emissions*.

## Comment AQ-65

I want to cover air toxic emissions that have not been adequately addressed in the DEIS, especially diesel exhaust. The draft relies on a 2007 Longview Air Toxic Study and the 2005 or 2011 National Air Toxic Assessment. No new modeling has been done to quantify the additional cancer risk and the other health effects that will result from diesel and other air toxic emissions around the terminal and en route from coal trains and from ship traffic and operations at the port. These need to be estimated so that people will understand the cancer risks they face. Increased air toxic emissions will come from the addition of 16 train trips a day. Each train can have up to 150 cars and require three to five locomotive engines. New cleaner fuel standards don't apply to older locomotives and train engines can last 50 years. There will be more diesel emissions from the addition of 1,680 ship trips a year and port operations involving heavy equipment such as forklifts. Diesel exhaust contains 40 toxic chemicals such as benzine, formaldehyde, and diesel particulate matter. It has been classified by the International Agency for Research on Cancer as a cancer-causing agent in people. The State Department of Ecology ranks it as their highest priority air toxic pollutant because of its link to cancer. The Draft EIS glosses over air toxic pollutants. (TRANS-LV-Q1-00021)

### Response to AQ-65

Refer to Response to AQ-58.

## Comment AQ-66

Vehicle queueing -1.75 to 7.75 minutes delays at crossings. The emissions from idling car engines is not just exhaust but

- a source of greenhouse gases, as we know, and a factor in climate change

- a contaminant that affects the air quality for Longview residents They're our neighbors & we care about them. (3652)

### Response to AQ-66

Refer to Response to AQ-47.

## Comment AQ-67

In addition to the modeled impact for cumulative air quality from the proposed action, please include a total predicted concentration of criteria pollutants that also accounts for additional air pollutants from the projected increase in vessel traffic for 2028. Table 5.4-14 predicts an increase of large commercial vessels moving on the Columbia River in 2028 in the scenario of the No-Action-Alternative that amounts to roughly one-third of the increase from the proposed action. The predicted concentration of criteria pollutants resulting from the increased emissions of the project falls below the maximum allowed NAAQS. However, the EIS only includes the total of the estimated increase added onto the background level. The Final EIS should determine a Total Predicted Concentration that applies the same estimation for Vessel Traffic increases used in Chapter 5 to assess cumulative air quality impact compounded with background levels and a modeled impact for on-site and off-site operations. (3418)

### Response to AQ-67

Draft EIS Chapter 6, *Cumulative Impacts*, evaluated cumulative impacts that could result from construction and operation of the Proposed Action in combination with the reasonably foreseeable future actions. As described in Chapter 6, cumulative vessel trips (including background vessel trips and those associated with the Proposed Action) in the study area are projected to increase by 24% by 2038, compared to existing conditions, and air emissions would increase similarly with the exception of NOx. A total predicted concentration of criteria pollutants resulting from Proposed Action-related vessels and other foreseeable projects is outside the scope of the analysis for the EIS.

## Comment AQ-68

The AERMOD Modeling results (shown in Tables 7, 8, and 9 of Volume IIIc: Operations Technical Reports) indicate significant increases of air pollutants that approach the limits of the NAAQS. The Southwest Clean Air Agency should be able to consider if this project could result in on-site concentrations of criteria pollutants that could be reasonably foreseen to exceed the NAAQS by 2028. (3418)

### Response to AQ-68

Refer to Response to AQ-24.

## Comment AQ-69

Health impacts of coal dust were evaluated for Washington State only (DEIS Section 5.7). Of special concern were particles 10 microns and smaller, referred to as PM10 sized particles, and those 2.5 microns and smaller, PM2.5 sized particles. PM10 and PM2.5 particles are small enough to penetrate deep into the lungs and may even enter the bloodstream (EPA,

https://www3.epa.gov/pm/health.html). Air monitoring equipment operated by Washington State along BNSF main lines detected no exceedances of federal standards.

However, an important shortcoming of the DEIS is the failure to address the long-term health risk over the lifetime of the proposed action (expected to be a minimum 30 year period, DEIS Page 2-11). Clearly, there would be long-term health consequences to residents in the vicinity of rail lines from the liberation of PM10 and PM2.5 particles from 2,920 loaded coal trains traveling each year for 30 years. Evidence that significant particulates are emitted from coal trains is bolstered by the existing need to re-apply surfactant topper agents one additional time during transport from the Powder River origin to the Longview, Washington destination. The extremely small size of PM10 and PM2.5 particles (the human red blood corpuscle is 7 microns in diameter) makes them invisible, broadly dispersible into the human environment, and present as an undefinable and adverse long term impact upon human health. (2233)

### Response to AQ-69

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment AQ-70

Specifically, I did not find emissions attributed to diesel-fired emergency generators or diesel-fired emergency fire pumps in the air emission calculations contained in the Draft EIS. While it is possible that I may have simply missed such emissions estimates, to the extent that such emissions are not present or provided in the Draft EIS that would constitute an omission in my opinion. (3277)

### Response to AQ-70

Refer to Response to AQ-33.

## Comment AQ-71

The original modeling performed by ICF estimates concentrations for a receptor grid that does not include onsite locations. There is no reason to exclude receptors within the facility. (3277)

### Response to AQ-71

Refer to Response to AQ-24.

## Comment AQ-72

I also corrected the original modeling methodology for PM10 calculations to comply with the form of the NAAQS. The 24-hour PM10 NAAQS is not to be exceeded more than once per year on average over a 3-year period. Therefore the reported modeled impact should be the 3-year average of the second highest concentration for each receptor. ICF modeled three years together and reported the second highest concentration over the 3-year period. I corrected this by modeling the years 2001-2003 separately and calculating the second highest concentration at each receptor, then averaging these values over the three years to be consistent with the form of the NAAQS. My approach is more conservative, meaning it will tend to produce lower results, than ICF's approach on this issue. (3277)

### Response to AQ-72

Final EIS Chapter 5, Section 5.6, *Air Quality*, has been modified to describe the more conservative methods used to estimate the maximum 24-hour PM10 NAAQS.

## Comment AQ-73

The modeled concentrations that ICF calculated do not take into account emissions of PM10 and PM2.5 from unpaved roads caused by haul trucks. However, fugitive PM emissions from roads is a standard emission source in most air quality impact analysis of industrial facilities. (3277)

### Response to AQ-73

Refer to Response to AQ-25.

## Comment AQ-74

In summary, the modeling results for receptors within the facility property indicate NAAQS violations for SO2, PM10, and PM2.5 when modeled with assumptions made by ICF in their original modeling analysis. There is no reason to have excluded these receptors from their analysis. The results for PM10 and PM2.5 are even higher when considering the emissions from unpaved roads. It should be noted that these results exceed the NAAQS even before background levels are added to the modeled impacts. (3277)

### Response to AQ-74

Refer to Response to AQ-25 regarding emissions from unpaved roads and Response to AQ-24 regarding emissions in the project area.

## Comment AQ-75

When investigating potential impacts of increased oil train traffic in environmental justice communities, or wherever sensitive populations are found who may be impacted by the project, it is important to focus on both acute and average impacts. Averaging of impacts over time and space reduces the apparent effects of the detrimental effects on specific populations. For example, acute PM 2.5 exposure over a 1 to 4 hour period has been shown to contribute to cardiac ischemia during later exercise. Averaging the amount of PM 2.5 emitted by diesel engines over the course of a year or even a day means that the effects of the spikes experienced by nearby residents during a single train passage are diminished in importance. Analysis of diesel particulates must include the impacts of engine emissions shortly after the passage of a train on residents and school children in close proximity to railways. Sensitive populations living, working, and studying in proximity to the rail lines, e.g. asthma sufferers and the elderly, should be evaluated for direct impacts. (3353)

### Response to AQ-75

Refer to Master Response for Particulate Matter and Coal Dust Analyses.

# Comment AQ-76

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| A | **Summary**<br>Page S-35, Air Construction | Clarify language to show that computer modeling was not used to determine compliance with air quality standards. Maximum emissions were compared to operational emissions, and those were modeled (and shown to be compliant). | Statement is misleading, because there was no computer modeling performed for construction impacts. |
| B | **Summary**<br>Page S-35, Air Operations, third paragraph | Clarify meaning of *"The largest emissions for a single pollutant would be carbon monoxide (69%) and volatile organic compounds (VOCs)(63%)"*, or remove sentence. | This sentence does not make sense. What are these percentages of? |
| C | **5.6 Air Quality**<br>Overall | Revise language to use more appropriate terminology for air emissions | Several instance of terminology that indicates author not air quality expert ('strength of emissions', 'freshly emitted'). |
| D | **5.6 Air Quality**<br>Overall | Organize and provide more detail in calculations and assumptions. | Unable to thoroughly review findings (emissions/impacts). Authors used original URS spreadsheets (without reference), and made changes. Several references unclear or incorrect. We only received pdf version, so cannot follow links for calculations or review internal notes. |
| E | **5.6 Air Quality**<br>Page 5.6-3, Table 5.6-2 | Remove Annual and 24-hour average SO2 standards for State. | These two standards are not applicable to this area (sunsetted). |
| F | **5.6 Air Quality**<br>Page 5.6-4, Section 5.6.1.2 | Rewrite paragraph to more accurately describe Ecology's TAP program. Correct discussion about coal dust as TAP; include with general statement of TAP quantification for all sources with the speculative statements about coal dust. | This whole paragraph is misleading, and implies that all sources need to go through the entire TAP review process (including BACT). There are other TAP sources not mentioned (distillate combustions has TAP emissions), and the comments about the 'possibility' of TAPs within coal dust is too far-reaching to include in this regulatory section. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| G | **5.6 Air Quality**<br>Page 5.6-4, Section 5.6.2 | Remove references to Direct and Indirect emissions/impacts. The sentence "Emissions are aggregated and regulated at a larger scale than a localized study, and therefore direct and indirect emissions are combined" should be removed altogether. | The split of Direct and Indirect impacts is not correctly applied to a Study Area. There is no scale factor for regulating these sources. Paragraph doesn't make sense and doesn't clearly define actual study areas for this report. |
| H | **5.6 Air Quality**<br>Page 5.6-4, Section 5.6.3.1 | Make this a general list of sources (EPA, URS CET reports, Ecology, etc…) instead of a partial bibliography. | Besides being an incomplete list (eg, citing only Appendix L from the URS Air Quality report, instead of all parts, including all other appendices that are used directly and without reference), there are 2 repeated sources in this list. Make it more general and refer to complete references in Tech Report. |
| I | **5.6 Air Quality**<br>Page 5.6-5, Section 5.6.3.2, second paragraph | Correct PM2.5/10 definitions (… less than *or equal to* 2.5/10 micrometers in diameter…). Remove the 2 sentences about VOCs/HAPs. | Consistent with federal definitions. Make similar corrections throughout report (in several tables).<br>See comments about this in Tech Report; there is no detailed identification of VOCs/HAPs in those appendices (as stated in Report), and this is just adding concern over these HAPs which are extremely minor for this project. DPM is a TAP; that is the TAP to mention here. |
| J | **5.6 Air Quality**<br>Page 5.6-6, Section 5.6.3.2, Construction, last sentence | Remove "and model". | Construction emissions were calculated, but not 'modeled', which implies that they were modeled to assess impacts. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| K | **5.6 Air Quality** Page 5.6-7, Section 5.6.3.2, Coal Storage and Handling, last sentence | Remove last sentence. | Refer to comments regarding this reduced control efficiency in the Technical Report. The only basis for this reduction is a recent permit in Oregon. The current permit at the Millennium facility includes the 99% control efficiency for enclosure plus water fogging system (the 99% dust control measures are used *in place* of a negative pressure system).The information about negative pressure is too detailed here, and belongs in the Tech Report, if at all. |
| L | **5.6 Air Quality** Page 5.6-7, Section 5.6.3.2, Vessel | Change heading to "Vessels", add 'marine' qualifier within text. Remove detail on operation schedule and numbers. | More than one vessel; note type of vessel (marine). Inconsistent with other sections that do not include this level of detail. These schedule details belong in Tech Report where they can be sufficiently explained. |
| M | **5.6 Air Quality** Page 5.6-9, Section 5.6.4.2, Air Quality along Transportation Routes, Rail Traffic, second paragraph | Add qualifier on air quality concerns in Columbia Gorge. | The visibility and regional haze issues in the Gorge are documented as effects of Boardman power plant (reference ODEQ/SWCAA study). Discussions of other area concerns include in this section mention sources. These are not train-related sources. |
| N | **5.6 Air Quality** Page 5.6-10, Section 5.6.5.1, Proposed Action, first paragraph | Clarify study area and impacts. Also clarify that 'impacts' are not addressed quantitatively for Construction; only emissions were evaluated. | Stating that they are aggregating/combining/regulati ng the direct/indirect impacts like this does not make sense. Simplify this to show breakdown of impacts for local and regional scales. (See comment above Page 5.6-4, Section 5.6.2.) This clarification needs to follow throughout this section; there is no mention of direct/indirect breakout in construction or operation. |
| O | **5.6 Air Quality** Page 5.6-10, Section 5.6.5.1, Proposed Action, Construction, second paragraph | Either provide description of or remove Maximum Daily emissions. | Explain purpose of showing maximum daily emissions. How were these determined? |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| P | **5.6 Air Quality**<br>Pages 5.6-10-11, Section 5.6.5.1, Proposed Action, Construction, third paragraph and Table 5.6-3 | Remove references to general conformity and de minimis levels, or make very clear (within text and table) that this is not subject to federal conformity rule. | General Conformity is not applicable to this project. |
| Q | **5.6 Air Quality**<br>Pages 5.6-11-12, Tables 5.6-3 and 5.6-4 | Define Project and Study areas (preferably prior to tables).<br>Clarify sources associated with emissions. | Confusing breakout of sources and areas. These should be presented more clearly. Values in tables not thoroughly checked; hard to follow source/activity inclusion. |
| R | **5.6 Air Quality**<br>Page 5.6-13, Section 5.6.5.1, Proposed Action, Operations and Table 5.6-5 | Same comment(s) as above (Pages 5.6-11-12, Tables 5.6-3 and 5.6-4) | As with construction section, confusing breakout of sources and areas. These should be presented more clearly. Values in tables not thoroughly checked; hard to follow source/activity inclusion. |
| S | **5.6 Air Quality**<br>Page 5.6-14, Section 5.6.5.1, Proposed Action, Operations, Impact Assessment, first paragraph, fifth sentence | Correct description of short-term emissions. | Not clear how short-term emissions were determined. Peak 1-hour and 24-hour rates are not necessarily the same, depending on source. |
| T | **5.6 Air Quality**<br>Page 5.6-14, Section 5.6.5.1, Proposed Action, Operations, Impact Assessment, second paragraph, last sentence | Provide more accurate summary of impacts and concentrations. | Meaningless to compare impact (without background) to NAAQS. Should provide better description of analysis results for all pollutants. |
| U | **5.6 Air Quality**<br>Page 5.6-18, Section 5.6.5.1, Washington State, first sentence | Correct sentence: "…are shown <u>in</u> Table 5.6-10" (add "in" before Table) | Typo |
| V | **5.6 Air Quality**<br>Page 5.6-19, Section 5.6.5.1, Proposed Action, Sulfur Dioxide and Mercury Emissions | Introduce sulfate (deposition) before discussing (2nd paragraph).<br>Add reference point for mercury deposition. | This is first, and only, mention of sulfates. Define sulfates in previous paragraph. Or remove paragraph, and keep this level of detail in the technical report and appendix.<br>Describe potential effects of this mercury deposition; the number alone is not meaningful (high? low? acceptable?) |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| W | **5.6 Air Quality** Page 5.6-20, Section 5.6.5.2, No-Action Alternative, last paragraph, second sentence | Remove reference to de minimis levels. | See comment above (Pages 5.6-10-11); General Conformity de minimis levels do not apply to this project. |
| X | **SEPA Air Quality Technical Report** Technical Report, Page i | Add more description to "Appendix A. Air Quality Data". Should also revise all headers within appendices and reference throughout text correctly. | Old URS appendices A-J were modified and lumped together here. Confusing with references throughout report. |
| Y | **SEPA Air Quality Technical Report** Technical Report, Page 1-1, Section 1.1, 1st paragraph | Remove "blending" as part of proposed processes at terminal. | Blending is not part of the process, and emissions have not been estimated for this process. |
| Z | **SEPA Air Quality Technical Report** Technical Report, Page 1-4, Section 1.1.1, 3rd paragraph | Remove "blending" as part of proposed processes at terminal. | Blending is not part of the process, and emissions have not been estimated for this process. |
| AA | **SEPA Air Quality Technical Report** Technical Report, Page 1-7, Table 2 | Remove Annual and 24-hour average SO2 standards for State. | These two standards are not applicable to this area (sunsetted). |
| BB | **SEPA Air Quality Technical Report** Technical Report, Page 1-8, Section 1.2.2, last paragraph | See comment above under Page 5.6-4, Section 5.6.1.2 | This version in Technical Report includes mention of DPM and should be retained as that is primary TAP of concern from this project. |
| CC | **SEPA Air Quality Technical Report** Technical Report, Page 1-8, Section 1.3 | See comment above under Page 5.6-4, Section 5.6.2 | |
| DD | **SEPA Air Quality Technical Report** Technical Report, Page 2-1, Chapter 2 | Move the introduction and content of Section 2.1 (Methods) after Section 2.2 (the real Existing Conditions section). Section 2.1 content includes description of the project air emission sources and processes and methodologies for assessment; this belongs in a different Chapter (or rename Chapter). | This Chapter is for Existing Conditions. Section 2.2 (also title Existing Conditions) is the only piece that belongs in here. |
| EE | **SEPA Air Quality Technical Report** Technical Report, Page 2-1, Section 2.1, last sentence | Correct reference (add detail). Remove last part of sentence addressing applicable VOCs and HAPs. | Appendix A includes many parts. There is a specific header for construction calculations which includes various spreadsheets. There is no list of VOCs/HAPs. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| FF | **SEPA Air Quality Technical Report** Technical Report, Page 2-3, Section 2.1.2.1, Construction Equipment | Correct reference for NONROAD emission factors. Add detail to Appendix A reference in last sentence. | Multiple references cited, including Appendix L of the URS Air Quality Report, which is the modeling analysis, which has nothing to do with construction emissions.<br>Appendix A has many parts; be more specific about which parts apply to construction emissions. |
| GG | **SEPA Air Quality Technical Report** Technical Report, Page 2-3, Section 2.1.2.1, River Barges | Remove footnote reference for HAP factors. | Unnecessary and inconsistent to include this level of emission calculation detail here. Confusing and incomplete terminology to have footnote mention only 'HAP factors'. |
| HH | **SEPA Air Quality Technical Report** Technical Report, Page 2-4, Section 2.1.2.1, Vehicle Delays at Rail Crossings and Construction Worker Commute Vehicles | Add information/reference from traffic report. | Amount of detail here is inconsistent with other source area emission sections, and there is no detail on calculations shown in Appendices. Provide clearer reference than Appendix A. |
| II | **SEPA Air Quality Technical Report** Technical Report, Page 2-4, Section 2.1.2.2, Coal Storage and Handling | Remove the additional conservative factor (95%) for dust control, returning it back to 99%, consistent with the existing permit at the site. | The current facility permit was modified in 2014 to include a retrofit of coal handling areas with fogging systems. A control efficiency of 99% for enclosure plus fogging was based on vendor information, and was approved by SWCAA during permitting. There is no basis for applying the lower control efficiency due to one draft permit from Oregon DEQ, as stated. |
| JJ | **SEPA Air Quality Technical Report** Technical Report, Page 2-4, Section 2.1.2.2, Locomotives | Provide detail on emissions in appendices. | Unable to check emission calculations, which have changed significantly since URS report/tables. Some references appear to be incomplete or wrong. Unload hours in text doesn't match table value. Appendix 'Tabs' referenced in Table 3 are old URS Appendix headings. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| KK | **SEPA Air Quality Technical Report** Technical Report, Page 2-5, Section 2.1.2.2, Vessel | Provide detail on emissions in appendices. | There are several changes in assumptions (e.g., hours) without explanation/justification. |
| LL | **SEPA Air Quality Technical Report** Technical Report, Page 2-5, Table 3 | Footnote a should be revised to read: *The on-site coal transfers would occur in enclosed areas (i.e., rotary coal car dump and conveyors), as well as areas that are not enclosed (i.e., coal piles ~~and the unloading of rail cars~~).”* | Footnote a to Table 3 is incorrect in its description of unloading of rail cars –rail car unloading would be done within an enclosed building |
| MM | **SEPA Air Quality Technical Report** Technical Report, Page 3-1-3, Section 3.1.1.1, Construction | See comments above:<br>Page 5.6-10, Section 5.6.5.1, Proposed Action, Construction, 2nd paragraph.<br>Pages 5.6-10-11, Section 5.6.5.1, Proposed Action, Construction, 3rd paragraph and Table 5.6-3.<br>Pages 5.6-11-12, Tables 5.6-3 and 5.6-4. | What is the purpose of daily emissions for construction? General Conformity is not applicable to this project. Tables are confusing. |
| NN | **SEPA Air Quality Technical Report** Technical Report, Page 3-4-8, Section 3.1.1.2, Operations | See comments above:<br>Page 5.6-13, Section 5.6.5.1, Proposed Action, Operations and Table 5.6-5.<br>Page 5.6-14, Section 5.6.5.1, Proposed Action, Operations, Impact Assessment, first paragraph, fifth sentence.<br>Page 5.6-14, Section 5.6.5.1, Proposed Action, Operations, Impact Assessment, second paragraph, last sentence | Difficult to assess emissions development in Appendices. Changes in emission factors (as compared to original URS report) caused some much higher impacts, notably for SO2 impacts from cargo vessels and CO from trains. Provide more justification for use of these factors. |
| OO | **SEPA Air Quality Technical Report** Technical Report, Page 3-8-10, Section 3.1.1.2, Proposed Action and Cowlitz County/Washington State Emissions Comparison | Clarify increases in source type vs. emissions. Verify emission factors (see comments above). | There seems to be a discrepancy between source increases and emission increases as compared to similar county/state sources. This indicates emission factors for some pollutants are different for similar sources. Explain these discrepancies, and justify emission factors. Rail emissions within County showing highest increase in PM10, while within state, the maximum increase are for CO and NOx from same sources. Details should be clarified and referenced in appendices. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| PP | **SEPA Air Quality Technical Report** Technical Report, Page 3-9, Section 3.1.2, No-Action Alternative, 2nd to last sentence | Remove reference to de minimis. | General Conformity is not applicable to this project. Also, only construction emissions were compared to de minimis, not operations (which were modeled). Use another reference point. |

(3070)

## Response to AQ-76

The following describes the changes made to Final EIS *Summary*, Chapter 5, Section 5.6, *Air Quality*, and the *SEPA Air Quality Technical Report*, in response to these comments. Refer to the left-most column of the above table for lettering used to identify each comment.

- **Comment A.** The requested clarification has been made in the Final EIS *Summary*.
- **Comment B.** The sentence has been revised to improve clarity.
- **Comment C**. The terminology used in Draft EIS Chapter 5, Section 5.6, *Air Quality*, is appropriate and the examples identified by the commenter were not included in this section. Section 5.6 did not use the terms identified by the commenter.
- **Comment D**. Although the commenter does not cite specific examples where they found references to be unclear or incorrect in their comment, a number of clarifications and revisions have been made throughout Final EIS Chapter 5, Section 5.6, *Air Quality*. The URS spreadsheets were cited on page 5.6-4 of the Draft EIS. References in the Draft EIS were accurate. Data were provided to all reviewers of the Draft EIS equally.
- **Comment E.** Table 5.6-2 has been revised in the Final EIS.
- **Comment F.** The paragraph has been revised in Final EIS Chapter 5, Section 5.6.1.2, *Federal and State Air Toxics*.
- **Comment G.** The text in question has been revised in Final EIS Chapter 5, Section 5.6.2, *Study Area*.
- **Comment H.** All resources identified by the commenter are unique and none are repeated. It is appropriate to provide the full list of resources in the EIS itself in addition to the technical report.
- **Comment I.** Chapter 5, Section 5.6.3.2, *Impact Analysis*, has been revised to correct the definition of PM2.5 and PM10. The sentences about VOCs and HAPs have been deleted.
- **Comment J.** The text has been removed from Chapter 5, Section 5.6.3.2, *Impact Analysis*.
- **Comment K.** Refer to Response to AQ-41. Chapter 5, Section 5.6.3.2, *Impact Analysis*, has been revised accordingly.
- **Comment L.** The heading has been revised in Chapter 5, Section 5.6.3.2, *Vessels*, and "marine" has been added to the text. The operation schedule and numbers inform the methods to complete the analysis and was retained in the Final EIS.

- **Comment M.** Draft EIS Chapter 5, Section 5.6.4.2, *Air Quality Conditions*, described the climate, meteorological, and air quality conditions in the study area and is not intended to identify the causes or contributing factors to those conditions.
- **Comment N.** The first paragraph of Final EIS Chapter 5, Section 5.6.5.1, *Proposed Action*, has been revised and the text regarding impact aggregation has been deleted. Construction emissions were described quantitatively in the Draft EIS.
- **Comment O.** Final EIS Chapter 5, Section 5.6.5.1, *Proposed Action*, has been revised to indicate the relevance of the use of maximum daily emissions.
- **Comment P.** The Final EIS, Chapter 5, Section 5.6.5.1, *Proposed Action*, has been revised to use PSD significance thresholds for levels to provide a threshold against which to evaluate potential impact from construction.
- **Comments Q and R.** The study area for air quality impacts was defined in Draft EIS, Chapter 5, Section 5.6.2, *Study Area*. The project area is the 190-acre site on which the construction and operation of the coal export terminal would take place. This was defined in Draft EIS Chapter 2, *Project Objectives, Proposed Action, and Alternatives*. The combustion source of the emissions is identified in Tables 5.6-3 and 5.6-4.
- **Comment S.** The description of short-term concentrations has been revised for clarity in Final EIS Chapter 5, Section 5.6.5.1, *Proposed Action*.
- **Comment T.** The sentence was retained. Additional detail has been added comparing the emissions to the NAAQS limits in Final EIS Chapter 5, Section 5.6.5.1*, Proposed Action*.
- **Comment U.** The typo identified by the commenter has been corrected.
- **Comment V.** A footnote has been added to Chapter 5, Section 5.6.5.1, *Proposed Action*, to elaborate on the use of sulfates in the analysis. The potential effects of mercury deposition would differ depending on the resource area considered. The analysis of mercury deposition in Chapter 5, Section 5.6, *Air Quality*, of the Draft EIS focused on the quantification of the deposition itself, and not the potential impacts that the deposition may have on other elements of the environment.
- **Comment W.** Refer to Response to Comment P.
- **Comment X.** Page "i" is the Table of Contents in the *SEPA Air Quality Technical Report*, and is intended only to list the names of the chapters, sections, and appendices in the technical report. Appendix A of the technical report includes a number of air quality data supporting documents.
- **Comments Y and Z.** Based on the project description provided by the Applicant to Cowlitz County dated August 5, 2013, the Proposed Action would be capable of receiving, stockpiling, and loading coal, which was reflected in the project description in the *SEPA Air Quality Technical Repor*t. Based on the Applicant's comment letter for the NEPA Draft EIS prepared by the Corps, blending has been removed.
- **Comment AA.** Table 2 has been revised in the *SEPA Air Quality Technical Report*.
- **Comment BB.** The paragraph in question has been revised in the *SEPA Air Quality Technical Report*.
- **Comment CC.** The text in question has been removed from the *SEPA Air Quality Technical Report*.

- **Comment DD.** The *SEPA Air Quality Technical Report* appropriately identifies the methods used to evaluate the potential impacts on air quality associated with construction and operation of the Proposed Action and No-Action Alternative before describing the existing environmental conditions in the study area related to air quality. This format is used in all Final EIS technical reports.
- **Comment EE.** The list of VOCs and HAPs was at the end of Appendix A for the Draft EIS. Appendix A of the technical report is intended to include a number of air quality data supporting documents and was reproduced in a format that was consistent with the original source. The sentence in the *SEPA Air Quality Technical Report* has been revised to clarify that a list of VOCs and HAPs is not included in Appendix A as it was deleted per the response to Comment I.
- **Comment FF.** The paragraph in Section 2.1.2.1 of the *SEPA Air Quality Technical Report*, has been revised to delete the reference to Appendix L of the *Environmental Report Air Quality Analysis*. Appendix A of the *SEPA Air Quality Technical Report* includes a number of air quality data supporting documents. Information relevant to construction is labeled accordingly in the appendix.
- **Comment GG.** The footnote identified by the commenter was removed from the *SEPA Air Quality Technical Report*.
- **Comment HH.** A reference to information from the *SEPA Vehicle Transportation Technical Report* has been added to Section 2.1.1.1 of the *SEPA Air Quality Technical Report*.
- **Comment II.** Refer to Response to AQ-41.
- **Comment JJ.** The labelling in *SEPA Air Quality Technical Report,* Appendix A, and the reference tabs in Table 3 in the technical report have been revised to make them consistent in the Final EIS. The unload hours of 1.85 hours in the text is consistent with information provided by the Applicant for the unloading time. The distances, unloading time and idle durations are based on unloading operation assumptions provided by the Applicant.
- **Comment KK.** The assumptions included in the *Environmental Report Air Quality Analysis* prepared by URS were reviewed and verified during preparation of the Draft EIS. In some cases, assumptions were revised, refined, or updated based on available information, consistent with regulatory guidance, or to develop more detailed assumptions necessary for the analysis of air quality impacts for the EIS.
- **Comment LL.** The footnote identified by the commenter has been corrected and no longer refers to unloading of rail cars in unenclosed areas.
- **Comment MM.** Additional clarification has been added to the *SEPA Air Quality Technical Report* to indicate the relevance of the use of maximum daily emissions. This section has also been revised to use PSD significance thresholds for levels to provide a threshold against which to evaluate potential impact from construction. The combustion source of the emissions is identified in Tables 4 and 5 of the technical report.
- **Comment NN.** The emissions factors included in the *Environmental Report Air Quality Analysis* prepared by URS were reviewed and verified during preparation of the Draft EIS. In some cases, emissions factors were modified for the Draft EIS. For example, the emissions factor for $SO_2$ in the Draft EIS was different because it was assumed that fuel used would have a different sulfur content than what was assumed in the *Environmental Report Air Quality Analysis*.

- **Comment OO.** Rail emissions within Cowlitz County are highest as a percentage increase for PM10 due to the increase in rail activity associated with the Proposed Action. These future year emissions reflect control technology (Tier 2 to Tier 4) engines while the 2011 Cowlitz County emissions reflect the Ecology estimated fleet average locomotive emissions in 2011, which is composed entirely of Tier 0 to Tier 2 engines. Carbon dioxide emissions show the largest fractional increase relative to all other train activity emissions in 2011, because no controls have been required for carbon dioxide emissions, unlike other air pollutants. The next largest increase in locomotive emissions is for NOx, which reflects moderately strong control requirements, thus, the increased activity results in only a 15% increase in fractional emissions. The most stringent emission standards have been placed on PM10 emissions, which reflects an approximate 95% reduction requirement between Tier 0 to Tier 2 and Tier 4 engines. Thus, even with the increased activity from the Proposed Action, the fractional increase in PM10 emissions is only a 11% increase.
- **Comment PP.** Additional clarification has been added to the *SEPA Air Quality Technical Report*, to indicate the relevance of the use of maximum daily emissions. This section has also been revised to use PSD significance thresholds for levels to provide a threshold against which to evaluate potential impact from construction.

# Comment AQ-77

I live in MT, 2 blocks away from the railroad tracks that bisect our community. A dramatic increase in rail traffic due to coal exports will have a very real, negative impact on air quality and its related health concerns here. Trains stop in our town to add locomotives when heading west in order to get over the Bozeman Pass. This means that each westbound train accelerates from a standing stop right in the middle of town. I witness daily the huge clouds of black diesel exhaust coming from 7-8 locomotives/train each time they head out of town. I didn't notice the impact of this mentioned in the EIS nor do I think it could be mitigated in any way. (0369)

## Response to AQ-77

Draft EIS, Chapter 5, Section 5.6, *Air Quality*, presented estimated locomotive emissions from Proposed Action-related trains on main line routes in Washington State and compared them to 2011 annual statewide emissions. Draft EIS Chapter 6, *Cumulative Impacts*, included a discussion of potential cumulative impacts on air quality.

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment AQ-78

The DEIS does not include the impacts on the Gorge resources due to more Union Pacific trains running on the South side of the Columbia River. These trains will also have significant scenic and air quality impacts on the Gorge on both the Washington and Oregon sides of the state line. For example, in windy conditions like those often experienced in the Gorge, PM 2.5 can travel long distances and coal dust emitted on the Oregon side of the Columbia River due to the proposed project could cumulatively raise PM 2.5 levels in Washington over the NAAQS thresholds. Adverse effects of the project should not be ignored simply because they originate out of state. The increased rail traffic would also require the construction of new rail capacity on the Oregon side of the

Columbia River, degrading the aesthetic resources of the Gorge in Washington. These adverse effects must be disclosed in the EIS. (2508)

### Response to AQ-78

Refer to Response to AQ-35.

## Comment AQ-79

Section 5.6 of the MBTL DEIS addresses air quality impacts of the proposed action, and Section 5.7 assesses coal dust and its impacts. However, Montana is once again excluded from the review and analysis. Air quality implications of the proposed action in some Montana rail communities may be even more serious than in Washington communities. Both Missoula and Helena, Montana (which are crossed by the rail line that would be used by the coal trains traveling both directions between the PRB mines and MBTL) experience air quality inversion events and are regularly unable to meet National Ambient Air Quality Standards (NAAQS) for certain pollutants, including particulate matter (PM10 and PM2.5). The proposed action could have severe impacts to these communities, and the agencies preparing the environmental analysis must take these cumulative and connected impacts into consideration in their review. (2504)

### Response to AQ-79

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

## Comment AQ-80

The Missoula Valley lies in a bowl surrounded by hills and mountains, and experiences frequent air inversions that trap pollutants. This buildup of pollutants can result in air quality that becomes hazardous for human health-particularly sensitive groups. Missoula was designated non-attainment for PM10 upon the promulgation of the Clean Air Act Amendments in 1990 and has not yet been removed from the list of PM10 nonattainment areas. In addition, fine particulate (PM2.5) levels in Missoula have come very close to exceeding the PM2.5 National Ambient Air Quality Standard (NAAQS). By significantly increasing the current number of trains through Missoula, an already sensitive air quality situation would be exacerbated. The DEIS finds that "increase in rail traffic would increase the emissions of criteria pollutants associated with rail transport." (Air Quality Fact Sheet, p.2)

Missoula's rail yard/switching yard bisects the downtown area, with thousands of residents living within two miles of the tracks. As acknowledged by the DEIS, inhalation cancer risks were highest in the major population centers along the rail route (Vancouver with a cancer risk of up to 500 cancers per million. Smaller communities (Spokane, Yakima, etc.) had a risk of 300 cancers per million (Chapter 5, p. 9-10). While the exact number of additional trains the Proposed Action would bring through Missoula is not given, a doubling of the current 16.9 total trains per day would not benefit the health of residents near the rail yard (2497)

### Response to AQ-80

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

## Comment AQ-81

Air quality may deteriorate as a result of the Proposed Project, from additional diesel emissions, coal dust, and the burning of the coal itself. Mercury deposition should be specifically examined. (0126)

### Response to AQ-81

Draft EIS Chapter 5, Section 5.6, *Air Quality*, evaluated potential impacts of the Proposed Action on air quality, including from diesel emissions, fugitive coal dust, and emissions of mercury from coal combustion in Asia. Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment AQ-82

Please study the effects of increased ocean acidity and mercury from coal burning in Asia. Our oceans are dying and climate change is exacerbating the problem. (0486)

### Response to AQ-82

Refer to Response to AQ-1 regarding mercury emissions. Final EIS Chapter 5, Section 5.8.2, *Climate Change*, has been revised to consider how future changes in climate, including ocean acidification, could modify the potential impacts of the Proposed Action, including fish and wildlife. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

## Comment AQ-83

Moreover, toxic pollutants from coal-fired energy plants in Asia rise in the winds and are carried in jet streams over the Pacific Ocean, resulting in increased air pollution in the Pacific Northwest. (0489)

### Response to AQ-83

Refer to Response to AQ-1.

## Comment AQ-84

I was concerned 5 years ago and I remain concerned about the cumulative effects of coal burning across the Pacific returning to plague us in Washington State. (0490)

### Response to AQ-84

Refer to Response to AQ-1.

# Comment AQ-85

The other aspect that IS NOT studied in this DEIS is that once the material arrives in ASIA and burned in countries like China, that air pollution does not stay in CHINA, no it travels across the pacific and comes back to the NW. If you are going to study the Environmental impact of this project you need to look from cradle to grave - ground to final use and impact beyond that use. Where is the study that shows the impact of coal burning in Asia on the Pacific NW? (2098)

## Response to AQ-85

Refer to Response to AQ-1.

# Comment AQ-86

The draft EIS didn't consider the impacts of mercury pollution outside of Washington State, yet it acknowledges that atmospheric mercury contamination is a global problem. Are contaminated fish and children with learning disabilities unimportant if they're outside the borders of Washington? (TRANS-SPOKANE-Q1-00011)

## Response to AQ-86

Refer to the Master Response for Geographic Study Areas of the EIS for information regarding the study areas analyzed in the Draft EIS.

# Comment AQ-87

The Draft EIS doesn't consider the impacts of mercury pollution out of Washington State, yet it acknowledges the atmospheric marketing examination is a global problem. Are our contaminated fish and children with learning disabilities unimportant if they're outside the borders of Washington? (TRANS-SPOKANE-M1-00072)

## Response to AQ-87

Refer to the Master Response for Geographic Study Areas of the EIS for information regarding the study areas analyzed in the Draft EIS.

# Comment AQ-88

Mercury and ocean acidification need to be looked into. (3748)

## Response to AQ-88

Refer to Response to AQ-82.

# Comment AQ-89

The EIS should look at global air quality (& not just local). How does coal burning in China/Asia impact our air quality in terms of mercury etc.? (3545)

### Response to AQ-89

Refer to Response to AQ-1 regarding the analysis of sulfur dioxide and mercury emissions from combustion of coal in China. Refer to the Master Response for Geographic Study Areas of the EIS for information regarding the study areas analyzed in the Draft EIS.

## Comment AQ-90

The DEIS doesn't even address coal burning emissions coming back to the Pacific Northwest on the jet stream full of mercury and many other toxic substances. (3213)

### Response to AQ-90

Refer to Response to AQ-1.

## Comment AQ-91

The DEIS doesn’t even address coal burning emissions coming back to the Pacific Northwest on the jet stream full of mercury and many other toxic substances. (2536)

### Response to AQ-91

Refer to Response to AQ-1.

# 5.7 Coal and Coal Dust Emissions

This section presents responses to substantive comments related to coal and coal dust emissions.

## 5.7.1 Coal

This section presents responses to substantive comments related to coal.

## Comment COAL-1

The DEIS did not include coal trains. Think of one going by your house with 50 cars of coal. Breathing becomes unhealthy, and local vicinity contamination to streams, creeks, ponds and lakes have not been factored into the DEIS. All human activities would be impacted by the pollution created from this proposed coal facility, including: Tourism, fishing stocks, rural quality of life (usually Administrative Rules would protect this), wetlands, all adjacent eco and microsystems, wildlife, wells, etc. etc. (1141)

### Response to COAL-1

The Draft EIS considered impacts of Proposed Action-related coal trains on the resources listed in the Master Response for Purpose and Focus of the EIS.

Concerns raised by the commenter that were not addressed in the Draft EIS, such as rural quality of life, are outside the scope of an EIS. The Master Response for Purpose and Focus of the EIS explains the basis for the EIS scope and focus.

## Comment COAL-2

Mountains of Coal burst into flames. How can you consider allowing something this dangerous to be located in the middle of a city beside paper mill mountains of sawdust that bursts into flame and smoke occasionally and an a gigantic log export terminal. A massive fire at the port would melt the tar on Lewis and Clark Bridge and take tinsel strength out of the steel, making a new bridge necessary to cross it. (1919)

### Response to COAL-2

As discussed in Draft EIS Chapter 2*, Project Objectives, Proposed Action, and Alternatives*, and Chapter 5, Section 5.6, *Air Quality*, the conveyors, transfer towers, and the coal storage piles would have water systems in place for dust control, and the Proposed Action would have an emergency fire system with on-site reservoir for emergency fire water demand. The Proposed Action would also include required fire and life safety systems in the project area according to fire code standards. These measures would reduce the potential for impacts related to coal dust and fires in the project area. Refer to the Master Response for Purpose and Focus of the EIS.

# Comment COAL-3

Given the location of the bulk terminal and its proximity to the region-essential BPA power facility, local schools, and hospitals in the city of Longview, the effects of coal dust on both electrical equipment and human health needs to be accurately accounted for in any EIS mitigation plan. (2055)

## Response to COAL-3

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment COAL-4

Although specific information on PRB fires is hard to come by, statistical data in the NFPA 120 Standard for Coal Preparation Plants can help identify equipment and systems that seem more prone to fires. Other data indicate that silos and conveyor belts were the source of more than half of the reported fires at coal- handling facilities over the past couple of decades. PRB coal's environmental friendliness — and low price per Btu — come with a cost: dustiness that raises the risk of fires and explosions. Although many such incidents have not been widely publicized, they have occurred, and plant operators suggest that their frequency may be rising. Small contained fires are reported to occur weekly at many plants, and several major explosions in recent years have caused extensive damage that cost many millions of dollars to repair. These facts should be included in the DEIS. (2646)

## Response to COAL-4

Refer to Response to Comment COAL-2.

# Comment COAL-5

First, Chapter 3 of the DEIS refers to coal as a "hazardous material." Ch. 3, p. 3.6-22. No state or federal law defines coal as a hazardous material, and neither should the DEIS. (2499)

## Response to COAL-5

Final EIS Chapter 3, Section 3.6, *Hazardous Materials,* has been revised to remove references to coal as a hazardous material.

# Comment COAL-6

There is no discussion on the possibility of a coal fire from a derailed loaded rail car or the ignition temperature to ignite or combust. A scenario with a diesel spill and ignition of the spilled fuel is not discussed if the coal will burn and create a wildland fire. With much of the rail route inaccessible by road, the only means to get to a wild fire on the rail line is by the BNSF Equipment that can drive on the rails. More information is needed. Page 4.6-25 SEPA DEIS pdf 141/219 (2572)

## Response to COAL-6

Draft EIS Chapter 5, Section 5.2, *Rail Safety*, identified the predicted number of accidents per year as a result of construction and operation of the Proposed Action. The analysis of rail safety in the Draft EIS used the 2015 FRA reporting threshold of $10,500 in sustained damage to define an accident. As noted in the Draft EIS, not every accident involving a loaded Proposed Action-related train would result in a spill or derailment. Based on available data, it is not possible to specifically predict the number of coal train derailments or fires that may occur. It is expected that the likelihood of a derailment and fire is very low, and the potential impacts would be similar to impacts that could occur under existing conditions or the No-Action Alternative. Therefore, potential impacts from rail-related fires are not assessed in the EIS.

With respect to wildfires, based on available data on wildfire starts, the likelihood of a train starting a wildfire would be very low and the area of such a wildfire would likely be small. To provide context, between January 2000 and December 2008, railroads accounted for 0.49% of all wildfire starts and 0.21% of the total areas burned on Department of Interior and U.S. Forest Service land. In western regions of U.S. Forest Service and Department of Interior lands, railroads accounted for a similar percentage of wildfire starts—0.41% (Prestemon et al. 2013). Records maintained by the Oregon Department of Forestry also show that railroad-caused wildfires are infrequent (Oregon Partnership for Disaster Resilience 2012).

In addition, if a fire does occur on railroad property or a right-of-way, the railroad has a legal responsibility to report them to the fire protection agency and to implement measures to suppress the fire. Railroad owners and operators would also be responsible for minimizing wildfire risk along the rights-of-way in accordance with all applicable federal, state, and local regulations.

# Comment COAL-7

Although Project opponents have claimed that coal is classified as a Hazardous Material, that is not the case, and the DEIS states this incorrectly in some places as well. (3218)

## Response to COAL-7

Refer to Response to COAL-5.

# Comment COAL-8

But what about the coal trains? Coal can burn too; burning it is, in fact, the plan. In addition to all the many direct and indirect health impacts from coal dust and detritus, there is some risk that a coal train could be caught in a situation where it is subject to ignition and combustion. The risk of non-ignition derailment is significant enough, but now we have to also consider the very worst case, unlikely though it is. (3410)

## Response to COAL-8

Refer to Response to COAL-6.

# Comment COAL-9

Coal is not a hazardous material under any legal definition in state or federal law.

The DEIS erroneously lists coal as a hazardous material. All statements of this type should be removed from the EIS. Specifically, Chapter 3, Section 3.6. Page 3.6-22. Remove the last bulleted item in a list of hazardous materials on site during operations that states "Coal handled during facility operations and during transportation". (2447)

### Response to COAL-9

Refer to Response to COAL-5.

## Comment COAL-10

The DEIS inadequately addresses fires and how these may cause burn injuries and respiratory problems for individuals in and near the terminal, as well as people living in communities along the rail route, including low-income individuals and communities, minority populations, and individuals with pre-existing respiratory disease.

MBT will be dealing with a hazardous type of coal. Powder River Basin (PRB) coal is notorious for the hazard it presents regarding fires and explosions1, 2, 3, 4, 5(de Place, E, 2016; Khambekar & Barnum, 2013; Doubery, 2013; Smoker & Albinger; Hossfeld & Hatt). This was a conclusion by NIOSH following an investigation into the deaths of two firefighters. They were killed in an explosion when trying to put out a fire of PRB coal6, 7(Ellis, B, 2013; NIOSH, 2012).

Self-combustion of coal presents a fire risk8 (USDOE, 1993) and this is an even greater problem with PRB coal which is twice as likely to self-combust than other types of coal6, 9 (Ellis, B, 2013; Merritt & Rahm, 2000). It will not only smolder and catch fire while in storage piles at power plants and coal terminals, but has been known to be delivered to a power plant with the rail car or barge partially on fire1, 10, 11 (de Place, 2016; groundtruthtrekking, 2014; Fox23, 2014).

PRB coal dust is also a fire hazard9, 1e (Merritt & Rahm, 2000; Block, S.). Sparks from machinery and heat from conveyor belts have caused major coal dust fires and explosions 4, 13,14 (Smoker & Albinger; VandenHeuvel & de Place, 2011; Casper Star Tribune, 2013). The potential for fires along the entire rail route is also a concern. BNSF has stated that coal dust deposits have caused fires in areas where coal dust has accumulated15 (BNSF Railway). A fire department in Wyoming has found that coal fires along railroad tracks account for at least 50% of the department's summer call volume16 (West Antelope II Coal Lease Application).

Operators familiar with the unique requirements of burning PRB coal say that it's not a case of "if" there will be a PRB coal fire, it's "when."17(dePlace, E, 2014) The 2013 report "The Human Health Effects of Rail Transport of Coal Through Multnomah County, Oregon" states:

…Powder River Basin coal may be particularly susceptible to spontaneous combustion as a result of its chemical composition. According to discussions between mining and energy companies that handle Powder River Basin coal, there have been reports of fires in railcars and barges transporting this type of coal.

Given coal's combustibility, fires and attendant injuries and property damage could also occur as a result of a train collision.

The FEIS must identify and analyze the risk of fire along with associated risks of injury, dislocation and death at the terminal in Longview and throughout the transportation corridor, including in

forested areas like the Columbia Gorge, Stampede Pass, and communities east and west of the Cascades. (3327)

### Response to COAL-10

Refer to Response to COAL-2 and Response to COAL-6.

## Comment COAL-11

The DEIS fails to adequately analyze the risk to human safety from wildfires.

The DEIS discloses that Cowlitz County is considered a high-risk area:

Cowlitz County is considered a high-risk area (Washington State Emergency Planning Division 2012c). A wildfire could affect the project area from the undeveloped areas adjacent to the project area or a Proposed Action-related train in the study area. Wildfires in Cowlitz County numbered more than 350 from 2004 to 2013, burning more than 561 acres. In late summer and early fall, dry easterly winds can produce extreme fire conditions. This threat has increased over time because of four climate-related factors: earlier snowmelt, higher summer temperatures, longer fire season, and an expanded vulnerable area of high-elevation forests (Washington State Emergency Planning Division 2012c) (DEIS at 5.8-32)

At Stage 2 (Full Build-out Operations), there could be 1.5 million metric tons of highly combustible PRB coal stored at the project site (DEIS 2-24). A wildfire leading to a terminal fire would have serious health impacts to workers and neighbors near and far and so must be fully analyzed in a Health Impact Assessment. (3327)

### Response to COAL-11

Refer to Response to COAL-2 and Response to COAL-6.

## Comment COAL-12

The DEIS fails to address the impurities embedded with the coal adequately. (TRANS-SPOKANE-M1-00075)

### Response to COAL-12

The commenter has not specifically identified how the analysis failed to address impurities in coal. Draft EIS Chapter 5, Sections 5.6, *Air Quality*, and 5.7, *Coal Dust*, evaluated the potential impacts of the Proposed Action related to air quality and coal dust emissions. This assessment described and evaluated typical substances and compounds bound to coal from the Power River Basin.

## Comment COAL-13

Additionally, the DEIS states that Millennium will monitor for fugitive coal dust and report to Cowlitz County. The DEIS does not state what actions will occur if it turns out that many documenting cases are correct and the modeling is wrong. Will Millennium be required to shut down? (TRANS-LV-Q1-00045)

### Response to COAL-13

The proposed mitigation measure referenced in the comment states that if emissions data show exceedances of air quality standards, the Applicant will report this information to Southwest Clean Air Agency, Cowlitz County, and Ecology. An air quality permit would be needed for the coal export terminal to define specific air pollution control requirements and monitoring and enforcement measures.

The proposed mitigation measures are separate from permit requirements. Refer to the Master Response for Mitigation Framework for information regarding implementing or enforcing the proposed mitigation and a description of the limits of the SEPA regulatory framework within which mitigation in the Draft EIS was developed.

## Comment COAL-14

Additionally the DEIS states that Millennium will monitor for fugitive coal dust and report to Cowlitz County. The DEIS does not state what the actions say if it turns out the many documented cases are incorrect and the modeling is wrong. Will Millennium be required to shut down? (TRANS-LV-M2-00095)

### Response to COAL-14

Refer to Response to COAL-13.

## Comment COAL-15

One area that hasn't been adequately addressed in the DEIS is the issue of fires and how these may cause burn injuries and respiratory problems for individuals in and near the terminal as well as people living in communities along the railroad. As I'm sure you know, the project will be dealing with the hazardous type of coal which is soft and easily breaks down. Powder River Basin coal is notorious for the hazards it presents regarding fires and explosions. (TRANS-LV-M1-00054)

### Response to COAL-15

Refer to Response to COAL-2.

## Comment COAL-16

Because the reclamation rate is so low for the current mines, these effects can be presumed to be to a very large extent permanent. Reclamation efforts can be expected to continue to decline as global coal prices continue to decline. Arch Coal has already declared bankruptcy. (That their corporate officers then claimed bonuses while trashing employee pension funds bodes very poorly for any responsibility they may owe to society as a whole.) Much or most of the disturbed/damaged area and water resources will likely only be reclaimed at future public expense. As demands for lower taxes continue, the likelihood of adequate reclamation becomes very low. (2487)

### Response to COAL-16

The Proposed Action is not dependent on new sources of coal. An evaluation of impacts related to existing sources of coal, such as those in the Uinta Basin, was conducted under NEPA as part of the

permitting for those projects and is, therefore, not part of the EIS for the Proposed Action. Refer to the Master Response for Connected or Similar Actions.

# Comment COAL-17

If the proposed MBTL coal export facility is approved, it would mean more coal strip mines and mining in the PRB with more impacts to the land, air, water, wildlife, and people in those areas. Coal strip mining industrializes ecologically important areas that are also home to vibrant and economically important agricultural communities. Strip mining completely destroys the land: topography is obliterated, vegetation is scraped away, aquifers and other water sources are destroyed, wildlife is significantly affected, ranching in the area is forever altered, and quiet areas become filled with noise. (2547)

## Response to COAL-17

Refer to Response to COAL-16.

# Comment COAL-18

We find the following to be significant adverse impacts and are concerned that they were inadequately addressed in the SEPA/NEPA review process.

Human Health and Safety:

- Dust from the trains and the storage piles contains toxic materials and heavy metals causing human health hazards and carbon dioxide emissions. Arsenic from coal can accumulate in soils near the coal trains.
- Coal dust is highly combustible creating unacceptable and dangerous fire hazards. Powder River Basin coal can spontaneously combust.
- Dust can travel for miles and will contaminate agricultural lands along the rail route and near the terminal.
- Coal dust pollution will degrade waters near the terminals, en route from the trains, and from coal ships as they cross the Pacific Ocean.
- Coal mining is a hazardous activity that produces known illnesses, injury, and death.
- Coal trains emit Nitrogen and Sulfur Oxides, which creates acid rain.
- Train derailments can occur due to accumulation of coal dust on the rails. The chance of rail collisions has the potential to increase by 22% throughout Cowlitz County and Washington.
- The coal will be shipped to Asia, where it will be burned, causing horrible health problems for the people and increasing climate change. Coal is the leading producer of carbon dioxide.
- Coal burned in Asia will cause air pollution on the U.S. West Coast.

5.7 million tons of coal will be exported from Longview. When burned it will release 10.3 million metric tons of carbon dioxide. If the company ships 80 million tons, as internal documents indicate, that coal would produce more than 130 million metric tons of carbon pollution, roughly equivalent to the emission from all the gasoline burned annually in Washington, Oregon, Idaho, Montana, Wyoming, Nevada, and more than half of California—combined. (0687)

## Response to COAL-18

The items in the following list respond to the issues raised by the commenter.

- Refer to the Master Response for Particulate Matter and Coal Dust Analyses.
- Refer to Response to COAL-2 and Response to COAL-6.
- Refer to the Master Response for Particulate Matter and Coal Dust Analyses.
- Refer to the Master Response for Particulate Matter and Coal Dust Analyses.
- Refer to Response to COAL-16.
- Draft EIS Chapter 5, Section 5.6, *Air Quality*, evaluated potential impacts on air quality in the study areas, including nitrogen oxide and sulfur dioxide concentrations, from construction and operations of the Proposed Action, including emissions from Proposed Action-related trains.
- Refer to Response to CD-40.
- Draft EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, estimated the potential greenhouse gas emissions from the combustion of Proposed Action-related coal in Asia. Draft EIS Appendix I, *Sulfur Dioxide and Mercury Emissions*, assessed sulfur dioxide and mercury emissions and deposition that could potentially affect Washington State.

## 5.7.2 Coal Dust Emissions

This section presents responses to substantive comments related to coal dust emissions.

# Comment CD-1

The Dept. of Ecology acknowledges that moving over up to 60 million tons of coal in uncovered trains and stockpiling it along the Columbia would harm people's health and the river. The trains carrying coal would pollute our air, water, and communities. Coal dust can contain toxic pollution, including arsenic and polyaromatic hydrocarbons. Coal dust poses a public health issue for farmers, landowners, and communities along the rail lines. Burlington Northern Santa Fe (BNSF) acknowledges that coal trains spill a lot of dust. BNSF's studies show that 500 pounds of coal can be lost in the form of dust from each rail car. Each 100-car train, therefore, may spill 50,000 pounds of coal dust into our rivers and towns. Coal dust blowing from the coal terminal will foul the air and water, as well as homes, boats, and businesses up to several miles away. (0044)

### Response to CD-1

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-2

Coal dust, considered as not having a major impact in the DEIS, on the contrary is likely to have major impacts on people, especially though not only on those with respiratory issues, and on agriculture along tracks. The EIS needs to consider effects seen with rail transport of coal and take account of its impact on Washington and other states. (0175)

### Response to CD-2

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-3

The DEIS did an analysis of Estimated Maximum and Average Monthly Coal Dust Deposition in both Cowlitz County (Table 5.7-7) and in Washington state outside of Cowlitz County (Table 5.7- 10). The analysis shows that at a distance of 100 feet, the maximum monthly deposition exceeds the trigger level for sensitive receptors inside Cowlitz County but doesn't outside of Cowlitz County. This doesn't make sense. The same trains travel over the same range of speeds throughout the entire state. How did the analyses produce different results? The discrepancy needs to be explained. (0478)

### Response to CD-3

EPA's standard regulatory air dispersion model, AERMOD, was used because impacts would be localized, and the model is designed to assess emissions for multiple point, area, and volume sources within simple and complex terrains, and uses local hourly meteorological data. In addition, AERMOD estimates the deposition of particulates (such as coal dust) using information on the particulates' emissions rate and particle sizes. Differences in the deposition rates are attributable to differences in these factors throughout and outside of Cowlitz County. For additional information regarding the

methods used in the analysis of coal dust impacts from the Proposed Action, refer to the Final EIS, Chapter 5.7, *Coal Dust,* and the *SEPA Coal Technical Report*.

# Comment CD-4

Mitigation measures proposed to alleviate impacts can't be speculative and unenforceable. They must be relevant and actually resolve the problem. Creating a reporting process (MM CDUST-2) so people can report coal dust complaints doesn't mitigate for the coal dust impairment. Applying surfactant in Pasco (MM CDUST-3) doesn't solve a coal dust problem in Spokane. Attending one meeting a year (MM CDUST-4) to discuss concerns doesn't solve coal dust impairment. Telling BNSF that they should conduct a dust monitoring study (5.7.7.3) when they aren't the entity receiving the permits in the DEIS in unenforceable. (0478)

## Response to CD-4

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-5

To assess heart impact of the Longview coal processing facility the follow issues need to be addressed. 1. What will the concentration of dusts be at various distances from the processing plant? 2. What is the size of the particles spread by coal cars? 3. What percentage of the particles will be respirable? Respirable is a term for the size a particle must be to be deposited in the lung tissue at base of lung. 4. What are the variety of chemical does the dust contain? (0811)

## Response to CD-5

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-6

Towns from Spokane, the Columbia Gorge to Vancouver, and up the I-5 corridor would see up to 16 additional coal trains rolling through the heart of town every day with this proposal. Increased coal dust and diesel exhaust from coal trains would expose residents to toxic heavy metals like mercury, potentially increasing their rate of cancer and asthma as well as lung and heart disease. If the proposed coal terminal is built, how can any urban planner or public policy maker working anywhere along the path of the coal trains accept the liability of promoting "Smart Growth" development in any community within miles of the tracks? (1159)

## Response to CD-6

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-7

I strenuously disagree with the "conclusion" that coal dust is not an issue. It is a huge issue from both the trains and the terminal itself. Coal trains spew a huge amount of coal dust, which has never been eliminated and cannot be mitigated. The coal companies complain that they cannot cover their loads -- a state requirement for all other transportation -- because of the concerns about

spontaneous combustion. But their "Elmers Glue" covering clearly does not work. At the coal terminal, huge amounts of water are used to "control" coal dust. But at every coal terminal, huge amounts of coal dust are blown by the wind into the water and onto surrounding communities. Grain export terminals do not just dump grain on the ground and hope it does not get blown away. Oil export terminals do not store crude or refined gasoline in open-air pools. No other exports industry dumps their product in the open, waiting for the wind to take it away. If Millenium could transport coal from Wyoming to its final destination without burdening every community along the route with toxic coal dust, then I would be ok with the terminal – despite my feelings about coal in general. But they either cannot or will not. I am sure which it truly is, but either way, the result is the same -- toxic coal dust that is illegally polluting our air, land and waterways. (1197)

### Response to CD-7

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-8

The findings on coal dust, that suppression systems (water spray) would limit coal dust to 1/4 teaspoon per year per square meter outside the terminal is just ludicrous. The tests obviously were not done on 85 foot piles of coal subjected to the 20 to 40 mph winds we get on the Columbia River. Water systems are not going to hold dust on the piles. Other coal export terminals have coal dust issues using water systems, what makes this one different? (1385)

### Response to CD-8

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-9

If the project is approved and dust becomes a major issue, who pays for cleaning up our community? Is the State going to require Millennium to put millions of dollars in a cleanup fund? (1385)

### Response to CD-9

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-10

The EIS does not include…coal dust in communities… (1388)

### Response to CD-10

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-11

I have two businesses within a half mile of the proposed coal terminal and I am extremely worried about the impacts to my health, our employee's health, our customer's health, to our equipment, and to our customers belongings, vehicles, and boats. The DEIS, in my opinion, supports my concerns. There are many eye witnesses who speak of the dust problems from similar terminals. I am still

trying to figure out why the DEIS did not find the dust to be more of a health issue and I would like you to re-examine the health affects to communities up and down the transportation corridors, by taking into consideration concerns from affected people and areas, and current studies that report such. The final EIS should look closer at real world examples of coal dust pollution in terminal communities. According to the DEIS coal dust and diesel contaminants will be an issue for our property since we are so close. Our property is pictured in the DEIS draft summary Figure S-1; that's how close we are. We have 10-20 people here on site every day. What about their health, our livelihood, our property value? Millennium plans to add 15-20 to the existing staff to reach the 135 employees they plan to have on site according to the DEIS. Why are their 15-20 new employees more important than our potential loss? We have been on site for over 30 years? (DEIS, S-13) I am concerned we will lose customers by having this plant near. The wind fiercely blows across our property from the direction of the proposed facility nearly every afternoon since I have been here for the past 20+ years. We actually get small dust-bowl swirls going through our yard often as the wind blows from the direction of the proposed facility. This is my eye witness testimony, not 3rd party data. (1431)

## Response to CD-11

Refer to the Master Response for Particulate Matter and Coal Dust Analyses. Draft EIS Chapter 5, Section 5.6, *Air Quality*, described air quality in the study area and evaluated impacts on air quality that could result from construction and operation of the Proposed Action, including impacts related to diesel particulate emissions. Final EIS Chapter 5, Section 5.6, *Air Quality*, has been revised to include an evaluation of increased cancer risk associated with the increase in diesel particulate matter emissions.

# Comment CD-12

Our peer-reviewed and published scientific analysis (Jaffe et al 2015) clearly indicates that the surfactant coating does not always work. At present there is no information on the cause of these failures. As such, it is impossible to know if additional coating facility (e.g. requiring a facility in Pasco) will significantly reduce coal dust emissions. The EIS needs to address what are the causes for failure in the surfactant coating. (2528)

## Response to CD-12

Surfactants (i.e., topper agents) are applied to the surface of coal loaded in rail cars to limit coal-dust loss during rail transport. Surfactants are applied at the mine and, as of December 2014, at a BNSF surfactant respray facility in Pasco, Washington. BNSF's Coal Loading Rule identifies seven acceptable topper agents and application rates that when used in conjunction with coal-load profiling can substantially reduce coal losses during transport. A shipper can use any of the seven approved topping agents.[1] As stated in the *SEPA Water Quality Technical Report,* and Draft EIS Chapter 4, Section 4.5, *Water Quality*, these agents generally consist of glue (polyvinyl acetate), alkyl alcohol, guar gum, or vegetable oils mixed with water. These chemicals are nontoxic and are not

[1] The Safe Harbor provision in BNSF's Coal Loading Rule states a shipper will be deemed in compliance with BNSF's Coal Loading Rule if it loads cars in compliance with BNSF's published Load Profile Template, and applies one of seven approved topper agents to the loaded cars in the manner specified by the topper manufacturer. The Safe Harbor provision does not allow for unlimited emissions.

pollutants of concern for air or water quality (Agency for Toxic Substances and Disease Registry 1992).

The effectiveness of surfactants has been studied by BNSF and independently in support of this EIS. BNSF conducted trackside monitoring of dust suppressants as part of a 2010 "super trial" approved by the Surface Transportation Board (STB), the federal agency responsible for regulation of surface rail transport. The super trial evaluated the effectiveness of a variety of coal topper agents. As a result of this and other studies, BNSF presented several commercially available products for reducing dust emissions by at least 85%. STB accepted these findings.

To support the Draft EIS analysis, a field study was conducted in October 2014, to collect sample data on coal dust emitted from existing coal trains on the BNSF main line, north of the Lewis River in Cowlitz County, where several loaded coal trains pass each day. In this area, freight trains generally travel at speeds of approximately 40 to 45 miles per hour. This field study found the surfactant applied at the mine sites to be 61% effective at the study location, based on a best-fit linear regression for the modeled and observational data for coal dust. Impacts reported in Draft EIS Chapter 5, Section 5.7, *Coal Dust,* were modeled using this level of surfactant efficiency, not industry-reported data. This study was conducted before BNSF began operating its spray facility in Pasco and, as such, coal dust emission estimates in the Draft EIS may conservatively overestimate emissions levels.

As described in Draft EIS Chapter 5, Section 5.7, *Coal Dust*, the Jaffe et al. (2015) study[2] findings referenced by the commenter are considered generally consistent with those of the Draft EIS. This study was conducted prior to the opening of the BNSF surfactant facility in Pasco, Washington.

Other commenters referenced BNSF studies indicating large amounts of coal dust could be lost from a loaded coal car during a single trip from mine to terminal. These studies were conducted prior to the establishment of BNSF's coal dust emission standards and the routine use of surfactant.

Therefore, the 61% emissions rate assumed in the Draft EIS analysis is considered appropriately conservative and has been retained in the Final EIS analysis.

As described in Draft EIS, Chapter 5, Section 5.7, *Coal Dust,* the Applicant has committed to voluntary mitigation to accept rail cars only if surfactant was applied to the rail cars at the mine area. Additionally, Section 5.7 includes a proposed mitigation measure for the Applicant to not receive coal trains unless surfactant has been applied at the Pasco facility for BNSF trains traveling through Pasco.

# Comment CD-13

I also would like to see this coal topping studied more thoroughly. Does it come off? Vibrate off? Break off in handling? Dissolve? All causing the effect to minimize or does it remain on the coal and is burned with the coal? If so, what does the burning of the surfactant cause? Does it wash off when the coal is sprayed down or falls into our waterways? What would stop the water spray from blowing into our waterway with coal dust in it as these MASSIVE piles of coal are continually sprayed down? (1431)

[2] *Diesel Particulate Matter and Coal Dust from Trains in the Columbia River Gorge, Washington State*

### Response to CD-13

Refer to Response to CD-12.

## Comment CD-14

There is well-documented evidence of coal discharge from existing coal trains contaminating the air, land and water in the Columbia River Gorge National Scenic Area. The problem is so severe that in some locations coal accumulates in layers several inches deep along the banks of the Columbia River. A recent University of Washington study of coal dust emissions from coal trains in the Columbia River Gorge determined that every coal train loses coal dust and that coal trains emit double the amount of particulate matter compared to other freight trains. The Dept. of Ecology has received this study but did not acknowledge it in the evaluation of coal dust impacts. (1434)

### Response to CD-14

Refer to Response to CD-12.

## Comment CD-15

Another study that must be done has to do with the coal trains themselves. The dust generated by the coal trains will impact cities for 300 miles, at least. This will effect the air quality of these cities. This will effect the health of people in these cities. We cannot allow this awful dust to destroy the health of people in these cities. (1470)

### Response to CD-15

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-16

The EIS showed that the estimated air quality would be above the NOAA standard and coal dust would be above the trigger levels (New Zealand Ministry of Environment 2001) within 100 feet of coal train runs. I assume that the coal dust data in the EIS were derived after considering the coal dust reduction treatment. The New Zealand study emphasized that for the sensitive area (residential area), the trigger level should be lower than that listed in the EIS (EIS, Chap 6, Table 6- 22). Coal dust doesn't stop at 100 feet but goes beyond. The Tri-Cities area is known as the windy cities. Accumulated coal dust would be dispersed by the wind. The problem is that the train tracks run through the vicinity of residential and school zones in Kennewick and Pasco. I have been asthmatic due to allergies but it hasn't been a big problem until the severe forest fire in WA last year. A couple weeks of bad air quality in Tri-Cities from the fire activated my asthma and now I have persistent asthma. The bad air quality triggers asthma to sensitive people. What would happens to the residents and school children who are chronically exposed to coal dust and contaminated air? (1742)

### Response to CD-16

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-17

The DEIS says the health related fears of coal dust is legitimate if you live near the terminal or the 16 additional trains that will traversing our state each day bringing the coal from the mines to the proposed terminal. Even under good conditions the average 125 open top trains will emit 12,125 lbs. of coal dust in just over 400 miles of travel. (Jaffe Study Nov. 2015). Furthermore, just this week, Dr. Joel Kaufman from the University of Washington published findings on a study that correlated increased heart disease with pollution. These findings are enough to make us question the wisdom of this project and the wisdom of the drafters of the DEIS in not analyzing emissions from current coal terminals. In the EIS the stated figure for PM 10 is 7.08 tons of pollutant for the Millennial terminal: yet a terminal in operation with all the known dust suppression equipment available, the Hay Point Terminal in Australia which exports 44 million tons of coal a year, self -reports a PM 10 emission rate of 154 tons. Either the proponents of Millennial are lying or sadly mistaken. Where are the comparison figures of other like facilities in the DEIS? (1743)

## Response to CD-17

Emissions for other coal export terminals, such as the Hay Point Terminal in Australia, cannot be applied directly to the Proposed Action. Numerous factors, including facility throughput, coal stockpile size, meteorological conditions, and dust-suppression techniques, affect estimated coal dust emissions.

The *Air Quality Impact Assessment Report* (Newcastle Coal Infrastructure Group 2006) prepared for the Hay Point Terminal was reviewed during the preparation of the Draft EIS. The Hay Point assessment used the same approach for calculating emissions as was used in the Draft EIS analysis. The difference in emissions results are related to the considerably larger total area covered by the coal stockpiles at the Hay Point terminal (153.5 acres versus 50.3 acres for the Proposed Action), as well as other site-specific factors including number of rainy days per year, silt content of the coal, and percentage of winds greater than 5.4 meters per second. The most important difference is the Hay Point terminal does not employ watering of the coal piles for coal dust suppression, which reduces emissions by an estimated 90% (Western Governors' Association 2006).

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of the coal dust analysis and conclusions, applicable regulatory standards related to human health, and how other human health concerns are being considered outside of the EIS.

# Comment CD-18

The terminal will bring with it a huge coal dust pollution problem. Coal dust from open piles of coal is a huge problem in other places with coal transport. Coal dust coats neighbors' homes, cars and boats, and the water quality around terminals is bad. In communities that have coal piles, companies are often unreliable in their control of coal dust, and local communities have been forced to bear the cost of cleaning up the problem, monitoring coal dust, or pursuing lawsuits to hold companies accountable. The final EIS should look harder at real world examples of coal dust pollution in terminal communities. (1912)

## Response to CD-18

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of analysis considerations, methods, and findings of the coal dust emissions analysis.

Refer to Response to CD-17 for a discussion of how information for other coal export terminals cannot be applied directly to the Proposed Action.

# Comment CD-19

1) The coal dust impact statement in Chapter 5 found that there would be an unavoidable coal dust deposition nuisance impact on people living along the tracks in Cowlitz County. Coal dust deposition will lower their property values, as no one wants to have their house and yard covered with coal dust. No action to compensate homeowners along the rail lines is outlined in the impact statement, which is unacceptable. (1916)

## Response to CD-19

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-20

The loading facility is supposed to voluntarily refuse to accept trains that have not been loaded to reduce fugitive coal dust emissions, i.e., that do not have rounded top profiles, and that have not had a topping agent sprayed on the coal. In practice this is unrealistic and unenforceable. The drive for profits will result in any and all trains being accepted, which will result in far more environmental impact in the area of the loading facility and all along the rail lines than the report predicts. This is unacceptable.

The report states that the predicted concentration of barium in fresh water will exceed the federal standards, and then tries to whitewash this prediction by pointing to the conservative assumptions (e.g. 100% bio-availability) employed by the model used to make the prediction, and claiming that the barium will quickly precipitate out of solution. No mention is made of other issues (see item 2 above) that might in fact actually increase the deposition of coal dust and therefore increase freshwater barium concentrations. This is unacceptable. (1916)

## Response to CD-20

Draft EIS Chapter 5, Section 5.7.1.1, *Railroad Coal Dust Requirements*, discussed the BNSF Railway Company Coal Loading Rule, which requires all shippers at any Montana or Wyoming coal mine to take measures to load rail cars to minimize coal dust lost in transit. Applicant has voluntarily agreed to not receive coal trains unless the coal has been appropriately shaped in the rail cars and surfactant applied at the mine area. This measure is considered part of the Proposed Action and, as such, would become legal requirements of the Applicant as part of permit conditions.

The commenter is referring to the Draft *Environmental Impact Statement, Tongue River Railroad Company* (Surface Transportation Board 2015). The methods and findings of a study to evaluate the potential ecological impacts of coal dust for that project (to construct a new railroad in southeast Montana to carry coal from a new mine site) was described in Draft EIS Chapter 5, Section 5.7, *Coal*

*Dust*. The report referenced by the commenter was provided for background information in the EIS and is not an assessment of potential impacts of the Proposed Action.

# Comment CD-21

The DEIS admits that coal dust would cover 750 houses in Rainier. That's the whole town. It would also cover and pollute our open drinking water reservoir with Arsenic, Cadmium, Lead, Chromium and a slew of other toxic chemicals and heavy metals. It would pollute the spawning grounds of salmon in Fox Creek that runs through the middle of town, contaminating the eggs and aquatic life there. (1919)

## Response to CD-21

The Draft EIS did not discuss coal dust covering houses in Rainier, Oregon. Refer to Final EIS Chapter 5, Section 5.7, *Coal Dust,* for revised estimates of maximum monthly and annual coal dust deposition rates at varying distances from the project area and along the rail line. Maximum annual deposition is estimated at 0.01 grams per square meter ($g/m^2$) approximately 2.4 miles from the project area; Rainier, Oregon, is approximately 3 miles from the project area. Maximum monthly deposition is estimated at less than 0.01 $g/m^2$ at 340 feet from the Reynolds Lead and BNSF Spur; Rainier, Oregon, is approximately 1.3 miles from the Reynolds Lead and BNSF Spur.

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-22

Dust control using water alone lasts only as long as the water doesn't evaporate. What happens after that? (1922)

## Response to CD-22

Dust control through the application of water would be part of normal, ongoing operations and water would be sprayed regularly to suppress dust. The model used to evaluate potential impacts of coal dust accounted for the effectiveness of dust-control measures such as watering.

# Comment CD-23

The estimated deposition rate of 1.88 $g/m^2$/year of coal dust input to the Columbia River and surrounding assumes no spills. This is an unrealistic assumption. BNSF estimates that 500 lbs. to a ton of coal can escape from a single loaded coal car. A recent examination of coal dust emissions from coal rail cars traveling through Washington indicate higher than anticipated emissions of coal dust, even though surfactants had been applied to control the dust (Johnson & Bustin 2006; Jaffe et al 2015). The FEIS should revise their deposition rate estimates to reflect these studies. (2691)

## Response to CD-23

The modeled coal dust deposition of 1.88 $g/m^2$/year referenced by the commenter was at the boundary of the project area not along the rail line.

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of analysis considerations, methods, and findings of the coal dust emissions analysis.

Refer to Response to CD-12 for a discussion of how the analysis accounted for the effectiveness of surfactants in reducing coal dust lost during rail transport.

# Comment CD-24

Release of coal dust along the trains' route will be increased. Coal dust is already entering the Columbia River from existing coal trains. (1929)

## Response to CD-24

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-25

I am especially concerned…with coal dust residue produced by open coal cars. Two coal dust spray stations are not enough to mitigate the impact of coal dust along the rail route. (1934)

## Response to CD-25

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-26

The DEIS is intended to identify clearly the impacts of the project, and possible mitigations for same; yet has no clear limit for coal dust exiting open cars, or any clear action plan to deal with it. This raises serious concerns about coal dust along the entire route from the Powder River Basin to Longview, and particularly at the proposed Port of Longview's 75-acre site of open stockpiles. 75 acres of huge, open, piles of coal chunks and dust immediately to the west of town. I submit that more study of coal dust impact associated with this project is seriously needed. For example: known wind speeds in the Kelso/Longview area - the DAILY average West wind speed of up to 18 mph (not including gusts) is enough to move "dust, loose paper and small branches"(usairnet.com) - certainly enough to move coal dust. Seasonal winds of 60+ mph. are not uncommon, so both must be accounted for in any EIS mitigation plan. Despite Millennium's surfactant spray, coal dust escapes from EVERY coal car in the mile-long trains moving to AND from Longview. (2055)

## Response to CD-26

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-27

Does the DEIS accurately reflect the upward draft effect of open coal cars moving 30+ mph into, and out of, town or the amount of coal dust deposited on the ground, that any walking observer can see? If not, more study is needed, since in some areas of coal transport, a full 20% of the soil, a full kilometer away from the tracks, is coal dust. (2055)

## Response to CD-27

Final EIS, Chapter 5, Section 5.7, *Coal Dust,* provides a description of the sources of information and methods used to evaluate the potential impacts of coal dust associated with the construction and

operation of the Proposed Action. As noted in that section, a field study was conducted in October 2014, to collect sample data on coal dust emitted from existing coal trains on the BNSF main line, north of the Lewis River in Cowlitz County, where several loaded coal trains pass each day. In this area, freight trains generally travel at speeds of approximately 40 to 45 miles per hour. This field study is summarized in the Final EIS. The full report, *Particulate Matter Measurements in Support of Assessing Coal Dust From Coal Hauling Trains*, is provided in the *SEPA Coal Technical Report*, Appendix A.

For the Final EIS Section 5.7, *Coal Dust,* the coal dust assessment was supplemented to include data collected from a coal train field study for the proposed Gateway Pacific Terminal project Whatcom County, Washington. These data were used to improve knowledge regarding coal dust emissions and improve the reliability of the impact assessment.

# Comment CD-28

I do not think the DEIS has adequately studied the full environmental impact of the coal dust from the 8 additional trains/day that will come to this terminal and then leave on ships. The technical report on Coal Dust seems to highlight just one study and is more focused on Cowlitz County. There is a lot of ground to cover from Wyoming to Cowlitz County, and if each coal car can lose up to 3% of its load in dust along the way - what is the real impact on the environment, wildlife, and human health. There should be detailed study that compares cars with the surfactants to those without and also how the coal dust reacts and changes in manners that can effect human health. Just because there are not US standards for this does not mean we should not be concerned. Millions of people live along the transportation route, and they need to know that their health is not jeopardy by this project through INDEPENDENT study that the applicant should pay for. (2098)

## Response to CD-28

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of analysis considerations, methods, and findings of the coal dust emissions analysis.

Refer to Response to CD-12 regarding the use of surfactants.

# Comment CD-29

Even with dust controls and attempts to stabilize the coal dust as the coal is transported, the air and waters will be contaminated, including by accidents. (2240)

## Response to CD-29

Refer to the Master Response for Particulate Matter and Coal Dust Analyses. Potential impacts from a train incident resulting in a coal spill were evaluated in the *SEPA Coal Technical Report* and relevant sections in Draft EIS Chapter 4.

# Comment CD-30

I am not surprised that the Cowlitz County study of dust from coal trains showed few of the fine particles. Those small particles on the surface of the load would have been the first to blow off

several hundred miles prior to arriving in Cowlitz County. Once that coal gets moving around the terminal, it will expose many more of those fine particles which will end up in the water. (2270)

### Response to CD-30

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-31

Please add air monitoring on the ship loading systems to get an idea of how much is ending up in the water. Since you are expecting a quarter teaspoon per square meter outside the project area, how much are you expecting over the water which is inside the project area? This water in the river is moving and will spread the lead, arsenic, and other contaminants again to the food chain. (2270)

### Response to CD-31

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-32

Coal dust. Though the coal dust along the rail lines and near the proposed terminal may not exceed federal standards, the dust will still degrade the environment and quality of life for anything living in the area or downstream. The DEIS fails to address the cumulative affects over time of the dust, which contains heavy metals. (2435)

### Response to CD-32

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-33

A recent study in Australia (http://caha.org.au/wpcontent/uploads/2015/02/CAHA.CaseStudy.Newcastle.pdf) indicates that more coal dust comes off "emptied" rail cars than some full ones. The issue of fugitive dust from residue left after coal cars are emptied was not addressed in the DEIS. This has now been shown to be significant and must be properly addressed and factored into estimates of the amount of fugitive dust that Longview residents can expect to be subjected to. In fact, the DEIS should require that all rail cars be scrubbed clean before leaving the Millennium site. (2448)

### Response to CD-33

For the Final EIS, an analysis of the coal dust impacts for unloaded coal trains was conducted and Final EIS Chapter 5, Section 5.7, *Coal Dust,* has been revised where appropriate.

## Comment CD-34

The primary air quality health issues with the proposed Millennium Bulk Terminal are due to coal dust emitted from railway coal cars and loading operations and emissions from diesel locomotives travelling through the Columbia Gorge or on a northern route to Longview. It is estimated that at full capacity this project will add about 3,000 round trip coal car train trips per year. Each uncovered

coal car may lose more than 500 lb. of coal dust per trip from Idaho to Longview; thus resulting in 400 tons per day of coal dust emitted to the environment from the proposed coal trains to this terminal. The effectiveness of the proposed mitigating open coal rail car spraying operations should be based upon measurements of full scale tests performed under actual transport conditions including a range of weather conditions. Detailed plans for coal car spraying including concentration, duration, frequency, location of spraying stations should be provided.

Using the above travel frequency estimates the coal train locomotive engines are calculated to contribute 200 Tons/year of PM2.5 (fine particulate matter 2.5μ diameter or less which easily penetrates human lungs.) To provide a perspective the 2008 DEQ Portland Area Diesel PM2.5 Inventory predicts 37.46 Tons/year from rail sources. The annual sum of rail contributions from the proposed Millennium Bulk Terminal Project is equivalent to 25% of the DEQ Portland Area Diesel PM2.5 Inventory from all sources. These projections raise a huge red flag warning of the potential of the proposed project to affect air quality and health along the train routes in Oregon and Washington.

It is particularly important for WDE to require the applicant to submit a detailed air quality analysis. The analysis should include estimates of the effects of coal dust emitted from rail cars considering the effectiveness and toxicity of mitigating spray operations and particulate, CO and NOx emissions from diesel locomotives, emissions from the loading operations, and the contribution to Washington ambient air from the combustion products of the exported coal burned in Asia and returned to Washington back across the Pacific Ocean by natural atmospheric processes. (2509)

## Response to CD-34

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of analysis considerations, methods, and findings of the coal dust emissions analysis.

Draft EIS Chapter 5, Section 5.6, *Air Quality*, included an analysis of emissions of sulfur dioxide and mercury from coal combustion in Asia. The model and methods used in the analysis were described in detail in Draft EIS Appendix I, *Sulfur Dioxide and Mercury Emissions*. As described in the analysis, the predicted maximum deposition of mercury would be 9.2 milligrams per year per square kilometer in 2040, from the combustion of Proposed Action-related coal, which would represent less than 0.3% of the total Asian-sourced mercury deposition over Washington State.

# Comment CD-35

It dismisses other impacts without a valid basis. The work of Dr. Dan Jaffe on emissions from coal trains in the Columbia Gorge demonstrates that "a diesel-powered open top coal train releases nearly twice as much respirable total particulate matter (PM 2.5) compared to a diesel-powered freight train." In addition, a significant number of coal trains observed in his study generated visible coal dust plumes, adding to the particulate matter. Medical literature documents significant adverse cardiac and respiratory effects of inhaling this particulate matter near the tracks. (2511)

## Response to CD-35

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of the coal dust analysis and conclusions, applicable regulatory standards related to human health, and how other human health concerns are being considered outside of the EIS.

Refer to Response to CD-12 for a discussion of how the analysis accounted for the effectiveness of surfactants in reducing coal dust lost during rail transport.

# Comment CD-36

I ask that the DEIS be revised to include the following specific concerns regarding Millennium's uncovered coal stockpiles: Millennium's uncovered coal stockpiles would emit approximately three million pounds of coal dust annually. Millennium's uncovered coal stockpiles would be less than 1000' from the Columbia River. This coal dust would pollute the air and water for as far as the wind blows and the Columbia River flows. The virtually constant release of coal dust from Millennium's uncovered coal stockpiles would be an ongoing, serious and significant source of toxic air pollution for all persons particularly employees working at Millennium and at nearby facilities. Equally concerning is that the virtually constant release of coal dust from these uncovered coal stockpiles would be an ongoing, serious and significant source of toxic air and water pollution harming all wildlife and vegetation exposed to it. (2553)

## Response to CD-36

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-37

Chillingly, the DEIS indicates that coal dust from the terminal can be mitigated by a "reporting process" for coal dust complaints. By including such an insolent mitigation measure the DEIS writers display ethical incompetence and undermine the credibility and integrity of the entire DEIS. Please revise the DEIS to remove inadequate, unsupported and unenforceable mitigation measures. A fatal asthma attack is not mitigated by sending an email or making a phone call. The fact that the DEIS is devoid of any mitigation to meaningfully reduce the release of fugitive coal dust confirms that there is no way to prevent hazardous amounts of coal dust from escaping a 75 acre uncovered coal stockpile holding 1.5 million metric tons of coal. (2553)

## Response to CD-37

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-38

Weak & Unenforceable Mitigation: In some instances, the Draft EIS claims mitigation can reduce coal dust, rail traffic, and other project impacts. For example, to mitigate coal dust from the terminal, the Draft EIS proposes a reporting process for coal dust complaints. This borders on offensive. A phone call or email to complain about coal dust fouling a person's lungs, home, and river is not "mitigation." The agencies should revise the Draft EIS and remove inadequate, unsupported, and unenforceable mitigation. (2555)

## Response to CD-38

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-39

The Draft Environmental Impact Statement (DEIS) contains significant information that is out-of-date and now known to be false, e.g. the Asian market for U.S. coal is gone and isn't coming back. The DEIS completely fails to address significant impacts, e.g. fugitive coal dust from uncovered coal stockpiles, and the described mitigation measures are incapable of adequately reducing the project's significant serious risks to the public's health and safety and to the environment. (2556)

## Response to CD-39

Refer to the Master Response for Coal Market Assessment and Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-40

Coal dust is a real and significant hazard. One recent report noted, "So much coal dust escapes from the open-top rail cars used for transporting coal that it can create safety problems for rail traffic. Coal dust deposits sometimes cause spontaneous fires, and in 2005, for example, coal dust that had accumulated in ballast, the layer of crushed rock that supports rail tracks, caused derailments."

Powder River Basin (PRB) coal—the type that would be exported from proposed terminals in the region—is notoriously difficult to handle without enormous amounts of escaping dust. One technical analysis finds that "PRB coal is extremely friable and will break down into smaller particles virtually independent of how the coal is transported or handled."(1162)

## Response to CD-40

Draft EIS Chapter 5, Section 5.7, *Coal Dust,* discussed the potential safety impacts of coal dust, including ballast fouling, and stated coal dust deposition in railroad ballast may negatively affect the stability of the ballast. Draft EIS Chapter 5, Section 5.2, *Rail Safety*, evaluated potential impacts on rail safety using FRA accident data for all freight trains, including coal trains. FRA general regulations require track inspections to ensure they are in compliance with federally regulated safety standards. These regulations require inspections, maintenance, and repairs.

As described in Draft EIS Chapter 5, Section 5.7, *Coal Dust*, AERMOD estimates the deposition of particulates (such as coal dust) using information on the particulates' emissions rate and particle sizes. Because no information was available on the particle size distribution for Powder River Basin or Uinta Basin coal for particle sizes smaller than 65 micrometers, the coal type with the highest near-field deposition among data available from 11 coal mines in Australia was used.

# Comment CD-41

I think the DEIS was short sighted in not addressing the coal dust problem. Coal dust does cause medical problems for people with asthma and dry eyes. I think you should study coal dust to find out if it is a cause of black lung. (1177)

## Response to CD-41

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-42

Regarding health threats, the DEIS shows violations of the National Ambient Air Quality Standards (NAAQS) for particulate matter, estimated maximum monthly coal dust in Cowlitz County would exceed the trigger levels for health safety…(1726)

## Response to CD-42

Draft EIS Chapter 5, Section 5.6, *Air Quality*, described the potential air quality impacts of the Proposed Action. The analysis did not find a violation of any of the National Ambient Air Quality Standards (NAAQS). Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of analysis considerations, methods, and findings of the coal dust emissions analysis.

# Comment CD-43

How much coal dust from the mining and transportation of coal can be expected along each section of the transportation corridors from the Powder River Basin and Uinta Basin to the proposed terminal and then to the mouth of the Columbia River (1763)

## Response to CD-43

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-44

How much accumulation will result after 50 years of transport or the operating life of the terminal (1763)

## Response to CD-44

Final EIS, Chapter 5, Section 5.7, *Coal Dust,* identifies estimated coal dust deposition in terms of annual deposition level. Deposition and accumulation would vary as deposited coal may mobilize during wind or storm events, build up in some locations, or be removed by human activities. Refer to the Master Response for Purpose and Focus of the EIS.

# Comment CD-45

How many children and adults can be expected to have increased risk of asthma and other respiratory diseases, including current and projected populations (1763)

## Response to CD-45

The specific concerns raised by the commenter are outside the scope of the EIS. Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-46

What will be the effect of contamination from coal dust and spills on farmland along the rail corridor? (1763)

### Response to CD-46

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-47

What will be the effect of contamination from coal dust and spills on grazing animals used for human consumption? (1763)

### Response to CD-47

The concerns raised by the commenter are outside the scope of an EIS. Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-48

What is the loss of coal dust from residual dust still on the cars on the return journey back to the Powder River Basin and the Uinta Basin (so called "carryback coal")? How much of the "carryback coal" is expect to be lost in Cowlitz County in particular? (1763)

### Response to CD-48

Refer to Response to CD-33.

## Comment CD-49

If coal dust is, as is claimed by the proponents of the project, a near mine issue, is the terminal itself considered similar to a near mine site, with the coal lost from loose residual coal matter still on the rail cars from which most of the coal has just been shaken loose and dumped at the terminal site? (1763)

### Response to CD-49

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-50

Which chemical surfactants will be used? Which chemicals will be applied by workers, deposited along the transportation corridors and in communities around the coal pile, from blowing dust and leaching by rainwater. What are the human and environmental impacts of exposures? Have chemical compounds such as GE Powertreat, designed for use on Powder River Coal (and known to be a serious skin, eye and lung irritant), been tested for chronic toxicity? Have these compounds been tested for longer term human and environmental health impacts? (1763)

### Response to CD-50

Refer to Response to CD-12.

# Comment CD-51

The numbers in the DEIS appear to me to vastly underestimate what I believe will be the reality of the experience particularly during hot windy days. There are few benchmarks in the United States and the world to adequately understand fugitive emissions from experience for a 44 million ton mega terminal having 550,000 MT of coal in surge piles on the ground at all times, uncovered and subject to the elements. Honestly, I cannot imagine or grapple with that volume of cargo. Maybe Australia. We do know that winds will cause a significant elevation of fugitive emissions and this has been recorded at the Westshore coal Terminal in Canada. Most bulk terminals operate covered facilities not open as in coal. In my experience at the Port, if I solicited 4,000 tons of coal for the Port without being stowed in covered storage the Environmental Director would have laughed at me and turned it down. My best guess, and its without proof, is that this terminal will expose the community to fugitive emissions within 3 miles of the terminal on windy days and the annual loss of coal will be in the neighborhood of ½ to 1 percent or upwards of 440,000 tons per year. The only way to really measure the loss is to exhaust the pile and compare the reclaim volumes and this will not happen. I don't believe anyone has a handle on this subject and coal dust is difficult to discern in the air with the naked eye. Interestingly the CEO of Millennium who spoke at the hearing about dust has no background or experience in bulk terminal operations. I recommend that this subject go back to the drawing boards and a member of ecology's staff visit a mega terminal somewhere in the world to understand better the impact open coal storage will have on the greater community and in particular the Highland's area and Weyerhaeuser. As an aside I can't imagine how Japan will react when their newsprint loaded just upstream at the Weyerhaeuser dock out turns with black dust on the rolls. There will no doubt be coal dusting during vessel loading operations at the spout and the Weyerhaeuser mill will be most in line to receive the fugitive emissions. Coal will find its way into the River during vessel loading operations and any other day. Simply put there is no way in an open storage environment to effectively control the coal dust/fines with a BAT of sprinkler heads and the dust/fines will escape and find its way into the air and into the Columbia River. (2201)

## Response to CD-51

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-52

The DEIS as it exists now does not seem to make much mention of coal dust. Really? 500 lbs of coal dust per car on trains that have over 100 cars? Many trains each day? THAT HAS AN IMPACT! (2245)

## Response to CD-52

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-53

In addition, these trains, pulling uncovered rail cars, are projected to spew coal dust as they travel, raising severe concerns regarding economic, public health and environmental impacts across a wide area. We encourage the draft EIS to go further in evaluating the harmful impacts of coal dust in affected communities and environmentally sensitive areas. Closer to home, Olympia is highly concerned about uncovered rail cars (even empty cars with residual coal dust) traveling through the

sensitive Nisqually Basin where Olympia's main supply of drinking water and the Nisqually National Wildlife Refuge are located. (2453)

### Response to CD-53

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a description of revisions to the Final EIS coal dust analysis, including coal dust emissions from empty rail cars.

## Comment CD-54

The DEIS cited rail roadbed degradation as a result of coal dust deposition.

Air modeling and deposition discussions assumed management practices of load shaping and top-coating. I found no mention of whether these practices are enforceable. In light of the recent derailment, oil spill, fire, and contamination of the Columbia river, this could be a very serious oversight. (2487)

### Response to CD-54

Draft EIS Chapter 5, Section 5.7.1.1, *Railroad Coal Dust Requirements*, discussed the BNSF Railway Company Coal Loading Rule, which requires all shippers at any Montana or Wyoming coal mine to take measures to load rail cars to minimize coal dust lost in transit. One method allowed by the rule is the use of one of topper agents (surfactants) that, along with shaping the load profile, have been shown to reduce average coal dust emissions by at least 85%. The Applicant has voluntarily agreed to not receive coal trains unless the coal has been appropriately shaped in the rail cars and surfactant applied at the mine area. This voluntary commitment is considered part of the Proposed Action and, as such, would become a legal requirement of the Applicant as part of permit conditions. The Final EIS has been updated to include mitigation monitoring and reporting requirements for the Applicant as proof of compliance with the mitigation requirements.

## Comment CD-55

To assess the environmental impact of coal dust, this EIS relies heavily on a draft EIS of the Tongue River Railroad which was never finalized due to withdrawal of the permit request. Much of the chapter on coal dust in the Millennium report is lifted verbatim from the Tongue River draft without attribution. Fugitive coal dust increases with wind and is inversely related to days of rainfall so there is reason to suspect that conclusions about one location may not apply to another. A partially completed environmental review of another project in another state by another agency is an inadequate basis to determine the safety of transporting coal by train through Washington.

What we do know about coal dust in the Washington context is that a published peer reviewed study of coal trains in the proposed rail corridor showed short term increases in PM2.5 at levels known to cause adverse health effects (Jaffe, 2015). Short term spikes in PM2.5 from coal trains have been described elsewhere in the literature (Kane, 2015). Since BNSF policy has required coal loads to be topped since 2011, Jaffe's measurements in 2014 suggest that topping is either ineffective or the railroad is incapable of ensuring compliance. We recommend that WDOE independently review fugitive coal dust studies and the literature on the health impact of short term PM2.5 exposure, consider them in the context of areas prone to drought and high winds, and formulate their own conclusions. (2529)

### Response to CD-55

The *Draft Environmental Impact Statement, Tongue River Railroad Company* (Surface Transportation Board 2015) was one of several sources of information used to identify the potential impacts of the Proposed Action on coal dust in the study area. Draft EIS Chapter 5, Section 5.7.3.1, *Information Sources*, identified additional resources, including Jaffe et al. (2015) that were used and evaluated as part of the analysis.

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of analysis considerations, methods, and findings of the coal dust emissions analysis, and a for a discussion of how the EIS considered short-term exposures to PM10 and PM2.5. Refer to Response to CD-12 for a discussion of the effectiveness of surfactants in reducing coal dust emissions during rail transport.

## Comment CD-56

Rail cars carrying coal would have to be treated with topping agents or surfactants to the surface of loaded coal to control dust. These agents generally comprise glue (polyvinyl acetate), alkyl alcohol, guar gum, or vegetable oils mixed with water.

There have been additional reports of "Mag Water" Magnesium chloride being used as a coal dust suppression agent as it is widely used for dust suppression on roads. One person advised me that 2 inches of paraffin was placed on top of the coal rail cars to control dust. At this point in the DEIS, a definitive "Dusting Agent" needs to be disclosed and not a general shopping list of possibilities. Page 4.5.26 SEPA DEIS pdf 110/219. (2572)

### Response to CD-56

Refer to Response to CD-12.

## Comment CD-57

To address coal dust emissions, the Applicant will not receive coal trains unless surfactant has been applied at the BNSF Railway Company (BNSF) surfactant facility in Pasco, Washington for BNSF trains traveling through Pasco. The Pasco Location is 260 miles from the Longview Terminal. The DEIS does not mention if Surfactants are added at the Source at the western coal mines or how many miles the surfactant is reapplied. Since this only applies to Washington State, this is new information, but does not tell the entire story. (2572)

### Response to CD-57

Refer to Response to CD-12.

## Comment CD-58

Nalco DustBind Plus Technology Makes Short List of Approved Over-the-Rail Topper Agents to Diminish Coal Dust in the Powder River Basin Nalco announced it has been approved by BNSF Railway as a supplier of car top binding agents (a.k.a. "topper") to reduce coal dust releases.

Effective Oct. 1, 2011, BNSF has implemented a requirement for coal shippers in the Powder River Basin of Wyoming and Montana to reduce the loss of in-transit coal dust by at least 85 percent as compared to coal cars that have had no remediation measures. After an extensive seven-month testing period by BNSF that involved more than 1600 trains under real-world operating conditions, Nalco DustBind Plus Technology proved it can meet this dust mitigation requirement and is one of only three products included as a topper agent on the BNSF-accepted list.

DustBind Plus technology is a patent-pending, VOC-free, car topper agent with a freeze point of -20°F (-29°C). This is an advantage over other toppers that typically have a freeze point of 32°F (0°C) due to their high water content. The DustBind Plus agent forms a flexible, yet durable crust on the coal or mineral surface, providing dust control even as the material settles during transit.

Nalco formed the Global Mining and Mineral Processing Group in 1978, focused on the coal industry with dedicated sales, service, marketing and research teams. Nalco first provided solids handling and dust mitigation in the Powder River Basin in 1983, expanding significantly over the years.

Nalco has a local presence in the Powder River Basin as well. DustBind Plus technology is manufactured at the Nalco facility in Casper, WY. Nalco Fab-Tech LLC, also in Casper, WY, custom designs and builds site-specific, robust equipment and systems for heavy industry. Fab-Tech systems are designed to ensure that DustBind Plus technology is properly applied and that the "topper" dust control program will be successful

This information does not identify what is in the dust topper agent or the distance needed for reapplication. With a $26 Million Dollar Surfactant Application Facility in Pasco Washington, It is not known of reapplication is required and how often. More information is needed as this is only the fraction of what is really needed. Page 5.7 -3 SEPA DEIS pdf 186/243 (2572)

### Response to CD-58

Refer to Response to CD-12.

## Comment CD-59

I would suggest doing the math to US Units of Tons per Square Yard per Month instead of grams per cubic meter per month. The use of Metric and US Units back and forth just adds to the complexity and confusion to the reader of the document. The Bottom Line Question is "How many Tons of Coal Dust are deposited along the tracks from the mine to the terminal by using open top rail cars in a 30 year period of the proposed Longview Coal Export Terminal for the Columbia Gorge National Scenic Area.

Continue to the remainder of the areas and result will be what is the impact to the entire system.

No Action Alternative is Recommended Page 6-69 SEPA DEIS pdf 69/73 (2572)

### Response to CD-59

The coal dust deposition levels presented in Draft EIS Chapter 5, Section 5.7, *Coal Dust,* were expressed in grams per square meter per month consistent with the benchmarks used in the analysis. Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-60

Substantial uncertainty exists, including contradictory evidence, about the potential environmental effects from coal dust that may blow off or otherwise escape the coal cars. The DEIS acknowledge that there is not a state or federal standard for coal dust deposition. Instead, the DEIS uses a "nuisance" standard from a New Zealand study. We believe that using this standard minimizes the impacts of the disposition of coal dust to our citizens living along the rail line. The FEIS should study and conclusively determine what direct and cumulative impacts may occur to human health as well as natural systems such as wetlands, soil, vegetation and streams. Serious consideration should be given to requiring that all coal cars which access the Millennium Terminal be covered during transport in order to mitigate such impacts to a level of non-significance. (2745)

## Response to CD-60

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-61

The DEIS fails to adequately consider the amount of coal dust discharged from coal trains and the clear violations of the federal Clean Water Act that would result from the project. (2980)

## Response to CD-61

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-62

All Assessments and Scientific Analysis of Potential Human and Natural Environmental Effects Caused or Generated by Construction of Coal Export Terminals and Specifically the Gateway Pacific Terminal in Whatcom County, Washington, In Order to be Comprehensive, must include, but not limited to:

Air Quality - Emphasis on generation of coal dust starting with mining and loading, transportation with shedding of coal dust, unloading rail cars and barges and loading coal to ships for export… (2980)

## Response to CD-62

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-63

The DEIS fails to adequately consider the amount of coal dust discharged from coal trains, the impacts of this coal dust on the scenic, natural, cultural and recreation resources of the Columbia River Gorge National Scenic Area, and the clear violations of the federal Clean Water Act that would result from the project. (3818)

## Response to CD-63

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-64

There are no federal or State regulatory measures for dust nuisance. On page S-26, regarding coal dust, the Draft EIS states "A reference standard commonly cited on the question of levels of dust deposition for nuisance and environmental effects is a New Zealand Ministry of Environment study". The New Zealand document is entitled: "Good practice guide for assessing and managing the environmental effects of dust emissions". The New Zealand document is not an applicable regulatory standard, and is instead guidance. We also question the basis for the assertion that the New Zealand guideline is "commonly cited." The authors arbitrarily chose the New Zealand guideline for 'highly sensitive residential areas', even though there are other guidelines mentioned, including one from British Columbia which shows levels more than twice the New Zealand level for average dustfall in residential areas as acceptable. Nuisance is subjective; the more local, Canadian guideline is better suited, on cultural, socioeconomic, and geographical/climatic levels, to address potential for coal dust nuisance in Washington State. Any references to nuisance guidelines within the Coal Dust reports should be clearly marked as guideline values, and all adjectives such as 'threshold', 'trigger', 'limit', or the like should be removed. (3070)

## Response to CD-64

Final EIS Chapter 5, Section 5.7, *Coal Dust,* has been revised to address this comment. Specifically, the section has been revised to identify the trigger levels from the New Zealand study as benchmark levels for the purpose of the analysis of coal dust for the Proposed Action.

# Comment CD-65

The Draft EIS is incorrect in comparing coal dust PM10 and PM2.5 impacts (concentration in air) to the National Ambient Air Quality Standards (NAAQS). Impacts from the whole Project were evaluated in the Air Quality report. Breaking out the source type for coal dust can be used to show what percentage of the impact is attributable to coal dust, but should not be evaluated by the standard. A quick assessment of that could have been made just by looking at the apportionment of particulate emissions (coal dust or combustion). The Air Quality report already showed Project impacts meeting the standard, so evaluating a portion of the Project would also show impacts that meet the standards. (3070)

## Response to CD-65

Draft EIS Chapter 5, Section 5.7, *Coal Dust,* addressed potential impacts related specifically to coal dust and identified the particulate matter concentrations attributable to coal dust. The section also described the regulations for coal dust exposure in nonoccupational settings, such as outdoor exposures, and described existing conditions and the potential impacts related to coal dust from construction and operation of the proposed export terminal.

# Comment CD-66

Contrary to what the Draft Environmental Impact Statement (DEIS) seems present, coal dust is significant issue that will result in greater than "limited" impacts. To tribal people who live and work along the river, coal dust is an ongoing issue of concern, even with the current low level coal train traffic (14-19 trains each week). Rail companies have admitted in the past that as much as 600 pounds of coal dust is released from each rail car per trip. CRITFC demands that nothing short of

total containment of coal and fugitive coal dust during transport, storage, and shipping should be acceptable to Washington state. (3287).

### Response to CD-66

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of the coal dust analysis, including updates in the Final EIS specific to the Columbia River Gorge. Refer to Response to CD-12 for a discussion of the effectiveness of surfactants in reducing coal dust emissions during rail transport.

Draft EIS Chapter 3, Section 3.5, *Tribal Resources*, identified potential impacts on tribal resources due to coal dust emissions from Proposed Action-related rail transport.

## Comment CD-67

The DIES was especially deficient in coal dust emissions analyses, grossly underestimating the impacts on human health, air, land and water quality from the significant increase in the amount of fugitive coal dust generated and deposited resulting from a significant increase in rail traffic. Open-top coal trains lose huge volumes of coal dust and debris during transportation. Several studies have been conducted that predict that one coal train with 120 cars traveling 85 miles through the Columbia River Gorge National Scenic Area could lose just over 10,000 pounds of coal. (3107)

### Response to CD-67

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of the coal dust analysis, including updates in the Final EIS specific to the Columbia River Gorge. Refer to Response to CD-12 for a discussion of the effectiveness of surfactants in reducing coal dust emissions during rail transport.

## Comment CD-68

The air quality monitoring that was completed only in Cowlitz County and used in the emissions models to predict impacts may be inaccurate for the National Scenic Area because it did not take into consideration the meteorological conditions throughout the Columbia River Gorge National Scenic Area. The NSA is famous for its high winds and extreme weather conditions. Often, wind gusts up to 40-60 miles per hour. As the uncovered coal trains move through the NSA, the high wind gusts will exponentially increase the amount of coal pieces and particles that are blown off the train and deposited; moreover if there is a derailment and fire, Gorge winds could rapidly spread the fire into nearby towns and important scenic, cultural, recreational and natural lands. Photos have shown the "cloud" of coal dust that is generated as theses trains move through the NSA, and the amounts that are deposited on the ground within the railway corridor. More testing, at realistic Columbia River Gorge wind speeds, needs to take place for the final EIS to provide accurate estimates of the potential effects of the proposal on air quality in the NSA. (3107)

### Response to CD-68

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of the coal dust analysis, including updates in the Final EIS specific to the Columbia River Gorge.

Refer to Response to COAL-6 regarding potential impacts of a coal train fire.

# Comment CD-69

The DEIS seems to imply that coal dust does not contribute to inhalable particulate matter that contributes to human health problems (eg PM2.5). This is clearly not the case. To quote from the DEIS Coal Dust fact sheet "The study found that coal dust particles from rail cars are typically large and fall close to the rail tracks." Our data, and the Cowlitz County data, clearly indicate that coal dust constitutes a range of particle sizes including particles smaller than 2.5 micrometers in diameter. The EIS needs to clearly indicate that coal dust includes inhalable PM2.5. (2528)

## Response to CD-69

Draft EIS Chapter 5, Section 5.7, *Coal Dust,* evaluated potential impacts of coal dust emissions, including emissions of PM2.5. Refer to the Master Response for Particulate Matter and Coal Dust Analyses for more information.

# Comment CD-70

The DEIS describes an "acceptable level of dust deposition" in terms of g/m2/month. However, nowhere does the document describe an acceptable level of human health impacts. Our data demonstrates short-term PM2.5 concentrations of up to 232 ug/m3 due to coal trains. These exposures were documented on private property adjacent to rail lines in the Columbia River Gorge (Jaffe et al 2015). This was due to a large, clearly visible cloud of coal dust. While the health effects of such short-term exposure have not been extensively studied, some peer-reviewed published scientific papers have documented significant health effects from short-term exposure to PM2.5 (Salvi et al 1999; Pope et al 2015; Li et al 2016). These short-term exposures are not currently regulated by the federal clean air act. Nonetheless, the DEIS should set an acceptable "nuisance" level for public health. In order words, what are the limits for coal dust and PM2.5 exposure on private property, and what are the consequences for exceeding these limits? I propose that the EIS define an acceptable level of short term coal dust/PM2.5 exposure of no more than 50 ug/m3 in a 3-minute average one time per year and that a monitoring program be put in place to ensure this limit is achieved. Our data in the Columbia River Gorge show that approximately 97% of all coal trains would meet this standard. This limit should apply to all private property that is adjacent to rail lines that transport coal. (2528)

## Response to CD-70

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of the coal dust analysis, including updates in the Final EIS specific to the Columbia River Gorge. The Final EIS compares estimated coal dust deposition from the Proposed Action to a benchmark level for nuisance dust impacts, but the EIS does not set regulatory standards for nuisance dust.

# Comment CD-71

The coal dust modeling (e.g. table 5.7.2) fails to incorporate any failure rate into the calculations. Our data show that the failure rate for moving trains is at least 5%. The contribution from these coal trains where the surfactant has been misapplied (or not applied at all) likely dwarf the emissions from all other trains. (2528)

### Response to CD-71

Refer to Response to CD-12.

## Comment CD-72

The DEIS reports on one study down in Cowlitz County (pg 5.7-5 main document and 2.2-4 in technical supplement). There are a number of problems associated with this study. First, this study was likely influenced by an inherent bias due to the fact that the shipper knew the date, time and location of the tests. They can then utilize their best operating conditions to minimize diesel, coal dust and other PM impacts. This is not the same as a "blind" test, whereby the shipper is not notified of the date and location of the testing. In particular, a "blind" test will identify the true failure rate for the surfactant and true coal dust emissions, whereas the biased test will not identify the true failure rate. This study apparently never saw a coal train with a PM2.5 concentration greater than 22 ug/m3 (Figure 4), whereas we identified coal trains with large dust plumes and much higher PM2.5 concentrations of up to 232 ug/m3. This is likely due to the fact that the shipper was aware of the testing that was taking place. (2528)

### Response to CD-72

Refer to Response to CD-27.

## Comment CD-73

In this case, the model is clearly not reproducing the observed concentrations. This can only be explained if the modeled coal dust emissions are much larger than what is being put into this model. The Cowlitz County data, shown in Figure 4, indicate that the model is under-estimating the coal dust emissions by about a factor of four. This would imply that the actual coal dust emissions are four times greater than the modeled emissions. The DEIS cites a dust suppression effectiveness of 61%, whereas the data indicate an effectiveness of only 25%. Section 2 in the technical document ends with Figure 4 and does not discuss the implications of this large discrepancy between the model and observations. It is absolutely essential that the modeling be redone with the significantly higher, and correct, coal dust emissions. Based on both the UW and Cowlitz County studies, the data show much higher dust emissions than are accounted for by the modeling. (2528)

### Response to CD-73

Refer to Response to CD-12.

## Comment CD-74

Based on these results, the modeling should be redone using two different approaches: First, the model should assume that 5% of the coal trains had no surfactant (equivalent to saying that the surfactant was incorrectly applied or otherwise ineffective). The model results should then be re-evaluated based on this assumed failure rate. Second, the modeling should be redone with a coal dust emission factor that is four times larger. This would be consistent with the Cowlitz County data presented in Figure 4 of the *SEPA Coal Technical Report*. This is particularly important given that the trigger level for impacts (2 g/m2/day) are already exceeded for some receptor location (Table 5.7-

7) or very close to the currently model estimates (1.88 g/m2/day, Table 5.7-3) and that human health impacts from short term exposure to high concentrations have been documented. (2528)

## Response to CD-74

Refer to Response to CD-12.

# Comment CD-75

Deposition of coal dust at the 'adjacent' rate into the Columbia River assumes full mixing, which is absurd given that only the surface of the Columbia River would re coal dust. (page 4.5-24) "The estimated maximum coal dust deposition from coal export terminal operations would be below the trigger level for sensitive areas. The highest estimated monthly deposition amounts would be near Mt. Solo Road, as shown in Figure 5." Illc Page 24. We disagree with this analysis and request substantiation to this claim.

**Table 5. Estimated Maximum Annual and Monthly Coal Dust Deposition—Project Area**

| Location | Maximum Annual Deposition ($g/m^2$/year) | Maximum Monthly Deposition ($g/m^2$/month) | New Zealand Trigger Level for Sensitive Areas ($g/m^2$/month) |
|---|---|---|---|
| Fence line | 1.88 | 0.31 | 2.0 |
| Notes: $g/m^2$/year = grams per square meter per year; $g/m^2$/month = grams per square meter per month | | | |

(3227)

## Response to CD-75

As described in Final EIS, Chapter 4, Section 4.5, *Water Quality*, coal dust was estimated to deposit a maximum of 1.99 grams per square meter per year (g/m2/year) adjacent to the project area. As shown in Final EIS Figure 5.7-4, coal dust would deposit beyond the project area, including in the Columbia River. As deposition is measured in grams per square meter (a 2-dimensional unit of surface area not a 3-dimensional unit of cubic volume), the initial estimate of deposition does not assume any mixing with the river water. Coal dust would be transported downriver by the flow of the river and distributed over a broad area. As discussed in Final EIS Section 4.5, coal dust deposition to the Columbia River would result in an unmeasurable change in total suspended sediment concentrations in the river.

Refer to Final EIS, Chapter 5, Section 5.7, *Coal Dust,* and the *SEPA Coal Technical Report*, for a detailed description of the information sources and methods used to characterize the existing environment and evaluate potential impacts of coal dust from the Proposed Action.

# Comment CD-76

The Service believes that the Millennium Longview Coal Terminal project will cause or result in significant coal dust deposition along the rail transport corridor. We do not agree that the risk of accumulation in soils, sediments, and water is negligible or insignificant. The Service expects that the proposed action will measurably increase toxic pollutant concentrations in soils, sediments, and water, and will very likely result in exposures, potential toxic effects, and impacts to the Service's trust resources.

The Applicant and SEPA co-leads have failed to identify mitigation measures that would adequately avoid these significant impacts. The Applicant and SEP A co-leads have stated, "Coal dust [will] become airborne from rail cars.. [but] the rail cars [will] not be covered" (Cowlitz County and DOE 2016; Coal Dust Fact Sheet). The Applicant and SEPA co-leads have offered no explanation as to why covered rail cars were not considered and adopted as a reasonable measure to avoid and minimize significant adverse impacts to human and ecosystem health. We believe that the proposed mitigation measures, coal pile shaping and topper agents, represent half-measures and do not adequately address these significant impacts. (3458)

### Response to CD-76

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-77

In the EIS the stated figure for PM 10 is 7.08 tons of pollutant for the Millennial terminal: yet a terminal in operation with all the known dust suppression equipment available, the Hay Point Terminal in Australia which exports 44 million tons of coal a year, self -reports a PM 10 emission rate of 154 tons. Either the proponents of Millennial are lying or sadly mistaken. Where are the comparison figures of other like facilities in the DEIS? (1743)

### Response to CD-77

Refer to Response to CD-17.

## Comment CD-78

Inadequate & Unenforceable Mitigation: In some instances, the Draft EIS claims mitigation can reduce coal dust, rail traffic, and other impacts of this coal export project. For example, to mitigate coal dust from the terminal, the Draft EIS proposes a reporting process for coal dust complaints. This is grossly inadequate. A phone call or email to complain about coal dust fouling a person’s lungs, home, and river is not “mitigation.” The agencies should revise the Draft EIS and remove inadequate, unsupported, and unenforceable mitigation. (2325)

### Response to CD-78

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-79

The DEIS downplays impacts from coal dust on public health and environment, and does not reflect the impacts communities along rail lines are already experiencing. Communities along the Gorge already report issues with deposits of coal dust along rail lines from existing coal trains, where contaminants can be washed in to the river. The DEIS projects that “average and maximum deposition of coal dust on the BNSF main line in Cowlitz County [is] estimated to be above the nuisance thresholds at 50 and 100 feet,” but then finds that these impacts are “not significant” because no state or federal standards apply. The proposed requirement to establish a coal dust complaint system only applies in Cowlitz County, and the requirement to share information with the

Columbia River Gorge Commission once a year does not address the physical impacts of coal dust or provide any certainty they will be addressed. (3253)

### Response to CD-79

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-80

A preliminary and significant flaw is that the DEIS uncritically accepts industry statements that surfactants are 85% effective at reducing coal dust, and that there is 100% compliance with using surfactants. Those assumptions should be challenged for several reasons. First, it is inconsistent with real-world experience. The Coalition incorporates by reference the separate comments and exhibits submitted by Friends of the Columbia Gorge describing ongoing coal dust pollution in the Columbia Gorge from existing rail traffic. This information shows that airborne deposition of coal dust remains a significant problem, even since the construction of a second surfactant spray facility in Pasco, and that the railroad is undertaking efforts to clean up coal dust adjacent to the Columbia River even as it denies that dust is a problem.

Second, the industry has not provided adequate data to back up its 85% claim; these statements about effectiveness have not been independently peer reviewed or assessed. Do they account for the high wind conditions in the Gorge, for example? Third, there is evidence that coal shippers are ignoring the surfactant tariff and not applying a surfactant at all. A utility coalition estimated only 30% of coal shippers were applying a surfactant.39 And finally, the claims of effectiveness are belied by the evident need to build and operate a second spray station in Pasco. Plainly, if the surfactants remained effective for their entire voyage, respray would not be necessary. But there was abundant evidence that the surfactant wears off, prompting BNSF to invest in the Pasco facility. By definition, the surfactant is not 85% effective right before the respray station, nor is it appropriate to assume that it will be 85% effective a few hundred miles later when arriving in Longview. But the DEIS incorrectly assumes that the surfactant is 85% effective over the entire voyage. (3277)

### Response to CD-80

Refer to Response to CD-12.

## Comment CD-81

Indeed, the DEIS itself acknowledges that so much dust is produced by coal trains that it creates a safety hazard by destabilizing railroad ballast. DEIS 5.7-15. The point is well taken, as coal dust accumulation in railroad ballast has been documented as a factor in derailments, and BNSF has undertaken significant efforts to remove coal dust in the Columbia and elsewhere. However, the DEIS does not acknowledge the huge inconsistency between its modeled conclusions of "insignificant" dust deposition with the known experience that so much coal dust is escaping that it is destabilizing rail infrastructure. Both of those things cannot be simultaneously true. (3277)

### Response to CD-81

Refer to Response to CD-40.

# Comment CD-82

Another data point reflecting that the DEIS model-based approach is inconsistent with known experience is hidden in the technical report itself. Figure 4 of the coal dust technical report compares the "modeled" emissions of coal dust with the actual emissions as measured during the October 2014 test. As Dr. Dan Jaffe has pointed out in his independent comments, actual emissions are four times higher than the modeled emissions. Even so, the DEIS conclusions are all based on the modeled emissions, likely understating the dust impacts by a considerable degree. The Coalition incorporates by reference Dr. Jaffe's comments, which address this as well as a number of modeling flaws. This is true even though the measured emissions that form the basis for the DEIS conclusions are themselves deeply compromised, as discussed in both Dr. Jaffe's analysis as well as the separate comments submitted by Friends of the Columbia Gorge.

Recent data from Australia backs up our concern that "real world" measurements do a substantially better job predicting what will happen than the models used in the DEIS. In a recent study in Australia, monitors showed dramatic spikes—including spikes that exceed levels set to protect human health and safety—when uncovered coal cars passed by. One particularly startling finding of this study was that empty coal trains had higher particular pollution than loaded ones. However, the DEIS dismisses pollution concerns from empty cars, an omission that must be rectified in the FEIS. (3277)

## Response to CD-82

Refer to Response to CD-12 for a discussion of how the analysis considered the Jaffe et al. (2015) study.

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a description of revisions to the Final EIS coal dust analysis, including coal dust emissions from empty rail cars, and a discussion of how the EIS considered short-term exposures to PM10 and PM2.5.

# Comment CD-83

A critical question remains unanswered with respect to the ecological impacts of coal dust in water and the environment. Relatively little is known about the how coal dust harms plants and animals in the aquatic environment. However, a recent study in Nature confirmed a link between coal dust and mortality to aquatic organisms. Although the DEIS acknowledges that the USGS is currently studying the issue closely, it doesn't acknowledge the possibility that there may be serious impacts to the Columbia River associated with coal dust. There is certainly no scientific basis on which to conclude that it is not a problem, given the paucity of scientific studies on the topic. The Coalition understands that the USGS work is almost complete. Given the critical importance of this question, we ask that the FEIS not be released until the USGS results are finalized and incorporated into this section. (3277)

## Response to CD-83

Refer to the Master Response for Particulate Matter and Coal Dust Analyses. Once the U.S. Geological Survey study is published, it will be available to inform permit decision-makers.

# Comment CD-84

The DEIS relies heavily on one field study conducted over two weeks in October 2014 that found relatively small amounts of coal dust pollution and deposition, lower than a similar peer reviewed study conducted by Dr. Jaffe. DEIS 5.7-7. However, little information is provided on variable background conditions (such as wind speed and other weather factors) that could affect the outcome, or other factors (such as whether the railroad was aware of the time and location of the study). Nor is acknowledgment made of other credible and peer reviewed studies that found much different results, like Dr. Jaffe's work, or of the verifiable "real world" experience with significant pollution in some conditions in the Columbia. This one study should not receive any particular weight given its inconsistency with others. (3277)

## Response to CD-84

Refer to Response to CD-27 regarding the coal dust field study for this EIS. Refer to Response to CD-12 for a discussion of how the analysis considered the Jaffe et al. (2015) study.

# Comment CD-85

The DEIS also relies heavily on coal dust analysis prepared by the Surface Transportation Board for the now defunct Tongue River Railroad EIS process.43 That EIS process used the same flawed model approach that is used in this one. It was the subject of intense criticism and expert review which found that actual emissions would be far higher than predicted. The Coalition incorporates by reference the environmental group comments on the TRR DEIS, and accompanying expert report prepared for the Northern Cheyenne Tribe. These criticisms are equally appropriate in the context of this DEIS. (3277)

## Response to CD-85

Refer to Response to CD-55.

# Comment CD-86

The DEIS is also totally silent on the other mechanism by which coal dust can enter the environment: via leaking from the bottom of the open rail cars due to precipitation events or even just normal travel. The open rail cars are not watertight: if the train encounters rain or snow during the lengthy voyage to Longview, that water—presumably carrying some amount of coal dust and particles—will leak out the bottom of the train. It is also possible, since the cars are not airtight, that coal dust leaks from the bottom during normal rail travel conditions. The Coalition is unaware of any modeling to estimate how much coal is introduced into the environment in this manner, and asks that it be modeled in the final EIS. (3277)

## Response to CD-86

Although coal can leak from the bottom of the rail cars during travel from the mine, the amount would depend on the nature of the coal being transported (e.g., moisture level, particle sizes) and the vibrational forces acting on the rail cars. Dust particles falling through the bottom may also become entrained in the aerodynamic wake from the train movement.

There are no data quantifying coal dust emissions from the bottom leakage of rail cars. It is likely the amount of coal dust falling into the environment would be less than the amount of coal dust that could fall from the top of the rail cars because a hole in the bottom or side of a rail car would likely have a smaller surface area compared to the open surface of the rail cars.

# Comment CD-87

Overall, the issue of coal dust is deemed insignificant because known pollution would be below federal health standards. DEIS 5.7-25. That is not the only basis on which to deem an impact significant. As documented above, the conclusions are likely greatly understated and there remain too many unknowns to dismiss coal dust pollution. The DEIS acknowledges that coal dust deposition on property for people who live near the rail lines would be a "nuisance." (3277)

## Response to CD-87

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-88

The DEIS relies on a flawed model to project the amount of coal dust released by MBT. The DEIS acknowledges multiple pathways for coal dust to enter the Columbia River, stating:

> Coal and coal dust could enter the Columbia River directly or via the surrounding drainage channels from spills during loading or unloading or through airborne transport of fugitive dust from stockpiles. The extent of average annual coal dust deposition was modeled and mapped (Chapter 5, Section 5.7, *Coal Dust,* Figure 5.7-3). Coal dust is anticipated to deposit a maximum of 1.88 grams per square meter per year (g/m2/year) adjacent to the project area. This area extends past the project area into the Columbia River. The spatial extent of the maximum annual coal dust deposition near the project area is shown in Figure 5.7-3 in Chapter 5, Section 5.7, Coal Dust.

In assessing the terminal's impacts on water quality and aquatic life, the DEIS relies on the 1.88 g/m2/year estimate. For the reasons stated in Section VI, the DEIS utilizes a model that underestimates the amount of fugitive coal dust and, therefore, renders the 1.88 g/m2/year estimate flawed. The Co-leads must revise the DEIS to account for accurate estimate of fugitive coal dust entering the Columbia River, and the associated impacts of that estimate on water quality and aquatic life. (3277)

## Response to CD-88

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-89

The DEIS understates the impacts of coal dust on Columbia River water quality and aquatic life. As an initial matter, the DEIS acknowledges studies demonstrating significant impacts from coal and coal dust on marine and estuarine environments.137 The DEIS states:

At sufficient quantities, coal and coal dust in marine and estuarine environments have similar adverse effects as elevated levels of suspended sediments on water quality (Ahrens and Morrisey 2005). During periods of lower flow, a smaller amount of coal dust could have a greater impact on water quality. Impacts include increased turbidity, which can interfere with photosynthesis and

increase water temperatures (Ahrens and Morrisey 2005). Coal and coal dust in the water column can also affect marine organisms through abrasion of tissue and smothering and clogging of respiratory and feeding organs (Ahrens and Morrisey 2005).138

As noted above, the DEIS relies on a flawed model to project coal dust concentrations in the Columbia River at the terminal site and downstream. Based on this flawed model, the DEIS concludes that MBT would not result in significant impacts to aquatic life and water quality. The Co-leads should revise the DEIS to account for the impacts of fugitive coal dust based on deposition levels described in the Coalition's expert report. (3277)

### Response to CD-89

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-90

The deis did an analysis of Estimated Maximum and Average Monthly Coal Dust Deposition in both Cowlitz County (Table 5.7-7) and in Washington state outside of Cowlitz County (Table 5.7-10). The analysis shows that at a distance of 100 feet, the maximum monthly deposition exceeds the trigger level for sensitive receptors inside Cowlitz County but doesn't outside of Cowlitz County. This doesn't make sense. The same trains travel over the same range of speeds throughout the entire state. How did the analyses produce different results? The discrepancy needs to be explained. (0478)

### Response to CD-90

Refer to Response to CD-3.

## Comment CD-91

Mitigation measures proposed to alleviate impacts can't be speculative and unenforceable. They must be relevant and actually resolve the problem. Creating a reporting process (MM CDUST-2) so people can report coal dust complaints doesn't mitigate for the coal dust impairment. Applying surfactant in Pasco (MM CDUST-3) doesn't solve a coal dust problem in Spokane. Attending one meeting a year (MM CDUST-4) to discuss concerns doesn't solve coal dust impairment. Telling BNSF that they should conduct a dust monitoring study (5.7.7.3) when they aren't the entity receiving the permits in the deis in unenforceable. (0478)

### Response to CD-91

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-92

Open-top coal trains lose huge volumes of coal dust and debris during transportation. Even after the re-spray facility opened in Pasco, the picture below demonstrates the occurrence of a massive coal dust emission from a typical coal train in the Gorge. According to Burlington Northern Santa Fe ("BNSF") studies, between 500 lbs. and 2000 lbs. of coal can be lost in the form of dust from each rail car.22 In other studies, as much as three percent of the coal in each car (around 3600 pounds per

car) can be lost in the form of dust. A study of a West Virginia rail line found that one pound of coal per car per mile is lost from coal trains.23 At this rate, one coal train with 120 cars traveling 85 miles through the Columbia River Gorge National Scenic Area could lose just over 10,000 pounds of coal in the Gorge. One coal train per day for 365 days is 3,650,000 lbs. per year deposited on Gorge lands and in Gorge waterways. (2508)

### Response to CD-92

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of the coal dust analysis, including updates in the Final EIS specific to the Columbia River Gorge.

## Comment CD-93

Section 5.7 of the DEIS analyzes the effects of fugitive coal dust emissions from the proposed new coal trains. Much of the analysis in Section 5.7 is lifted directly from another DEIS prepared for the Tongue River Railroad Company. That DEIS never went through a complete review because the proponents abandoned the project before the EIS process was finished. The Tongue River DEIS was incomplete and inaccurate on coal dust issues and those problems have infected the MBTL DEIS. Copying large parts of a DEIS that was never completed, but that had received a significant amount of critical comments, was a mistake. We have enclosed one set of comments on the Tongue River DEIS as an example of expert comments that refute its draft findings. Section 5.7 needs to be reworked from scratch by the responsible officials to eliminate the bias and inaccuracies found in the Tongue River DEIS. (2508)

### Response to CD-93

Refer to Response to CD-55.

## Comment CD-94

Section 5.7 appears to rely too much on industry assertions that topper agents, like those applied at the Pasco re-spray facility, are 85% effective in controlling coal dust emissions from open-top coal train cars. However, the analysis does not take into account the safe harbor to the 85% rule that allows unlimited emissions as long as certain practices are followed. Evidence from the field indicates that shippers routinely take advantage of the safe harbor. Please see the attached Coal Dust Pollution in the Columbia River Gorge National Scenic Area for photographic evidence of the ineffectiveness of topper agents and load shaping in controlling coal dust emissions. (2508)

### Response to CD-94

Refer to Response to CD-12.

## Comment CD-95

Section 5.7 also relies on a coal dust study that is inadequate for estimating the fugitive coal dust emissions that would come from new coal trains in the Gorge. The fact that the original study design was abandoned part way through calls the results into question. Particulate Matter Measurements in Support of Assessing Coal Dust From Coal Hauling Trains [henceforth Study] at 5-1. It is not clear from the study whether the errant data points were discarded or included as part of the study.

Either the conclusions reached by the study were based partially upon data points that the party doing the study acknowledged were collected sub-optimally or the questionable data was discarded resulting in a study that had far fewer data points than designed. Either way, the study is simply inadequate. (2508)

### Response to CD-95

Refer to Response to CD-27. As explained in the *SEPA Coal Technical Report*, Appendix A, the study was terminated only after steady rainfall began and was predicted to persist. All data collected during the study were evaluated including data from two different sets of monitoring sites.

## Comment CD-96

Furthermore, during data collection for the study only one sample was taken when the wind was blowing at greater than 5 MPH. Study at 5-7. All other samples were taken when winds were below 5 MPH. Id. In the one sample that was taken when winds were greater than 5 MPH (the wind speed was 2.5 m/s or 5.6 MPH) the downwind concentration of coal-related PM 2.5 at 15 m was 26.09 µg/m3 after netting out the upwind sample as an approximation of background conditions. Id. Samples taken when wind speeds were below 5 MPH typically showed much lower concentrations of coal-related PM 2.5. Study at A-2. Unfortunately, the study simply does not shed light on what the PM 2.5 concentrations would be in the Gorge when, as is typical, a strong wind is blowing. It does, however, raise a red flag that higher wind speeds result in higher coal-related concentrations of PM 2.5 being emitted from trains. The study, based entirely on low wind speed conditions of 5.6 MPH and below, simply does not provide a basis to conclude that the NAAQS levels will not be exceeded due to the additional eight coal trains that would traverse the Gorge per day if this proposal went forward. (2508).

### Response to CD-96

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of the coal dust analysis, including updates in the Final EIS specific to the Columbia River Gorge.

## Comment CD-97

The study itself acknowledges that it failed to adequately measure coal-related emissions in crosswind conditions.24 Study at 5-1. Trains make sweeping turns in many locations in the Gorge – turns that expose the sides of the train cars to very high winds. More testing, at realistic Gorge wind speeds and aspects, needs to take place for the EIS to provide full disclosure of the potential effects of the proposal on air quality in the Gorge. (2508)

### Response to CD-97

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of the coal dust analysis, including updates in the Final EIS specific to the Columbia River Gorge.

# Comment CD-98

There are also other problems with Section 5.7 and the Study as identified by Dr. Dan Jaffe, Professor of Atmospheric Chemistry at the University of Washington Bothell and an expert on particulate matter emissions from trains.25 These include:

- The railroad knew when the tests would be conducted so it could go above and beyond normal practice to skew the results of the study;
- The DEIS is based on the conclusion that the surfactant is always applied, is always applied correctly, and actually works when the test data show that coal dust is still emitted at a higher rate than would be supported by these assumptions;
- The DEIS assumes that any level of PM 2.5 below the NAAQS is acceptable when studies show that it is dangerous at levels below the NAAQS; and
- The modeling in the DEIS undercounts the amount of PM 2.5 from fugitive coal dust emissions by four-fold even if it were relying solely on the conclusions of the flawed study.
- Consequently, Dr. Jaffe calls for the modeling to be redone assuming that the fugitive coal dust emissions will be 4 times higher than previously modeled to be consistent with the study. He also calls for an assumption in the modeling that the surfactant is misapplied or not applied 5% of the time to conform the model to observed conditions. We adopt these two recommendations and ask for updated modeling to be done. (2508)

## Response to CD-98

Refer to Response to CD-12 regarding how the Final EIS coal dust modeling accounted for the use and effectiveness of surfactants. Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of analysis considerations, methods, and findings of the coal dust emissions analysis.

# Comment CD-99

The DEIS also fails to adequately consider the amount of coal dust spilled between the coal mine and the proposed terminal, the amount of coal dust spilled between the state border and the second surfactant spraying operation in Pasco and onward along the Columbia River to the proposed terminal. The DEIS assumes that the re-spray facility in Pasco, which became operational in early 2015, has deeply reduced coal dust emissions from rail transport, but this assumption is not backed by anecdote of by the coal dust study. (2508)

## Response to CD-99

Refer to Response to CD-12.

# Comment CD-100

As discussed above, coal trains spill large amounts of dust. As seen in the photographs above, some of that coal dust is deposited adjacent to the tracks. Coal dust that has settled next to the tracks is disturbed by passing trains – whether unit coal trains or trains carrying other commodities. The

effect on air quality in the Gorge due to the disturbance of coal dust is not even addressed in Section 5.7 of the DEIS. This is a fatal omission that must be corrected in the EIS. (2508)

### Response to CD-100

Once deposited in railroad ballast, coal dust is unlikely to be re-entrained into the ambient air because of the shielding effect of large ballast particles. Based on these considerations, this pathway for coal to enter the environment is not explicitly included in the Final EIS as the amount is small relative to other pathways and the coal dust likely remains with the ballast.

## Comment CD-101

Another issue missed by the DEIS is the effect of unloaded coal train on air quality. Unloaded coal trains may emit even more coal dust than loaded coal trains. For example, the Coal Train Pollution Signature Study that was conducted in Australia in 2013 concluded that there was "an average [ambient air particulate matter] increase of 18.8μg/m3 for full trains and 33.9μg/m3 for empty trains." This is not addressed in any way in the DEIS. The EIS must include an analysis of the air quality impacts of empty coal train cars and proper mitigation measures (e.g. cleaning empty train cars before they exit the project area) should be required. (2508)

### Response to CD-101

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a description of revisions to the Final EIS coal dust analysis, including coal dust emissions from empty rail cars.

## Comment CD-102

The attached sworn declarations of Polly Wood, David Berger, Peter Cornelison, Michael Lang, Matthew Ryan, and Jeremy Bechtel document coal found along the BNSF railroad tracks in the Columbia River Gorge NSA and of at least two fugitive emission incidents that affected declarants. According to Dr. Jaffe, "some peer-reviewed published scientific papers have documented significant health effects from short-term exposure to PM2.5." Jaffe Comments at 1. These dusting incidents are sure to grow more common if there is an increase in open-top rail cars carrying coal through the Gorge as proposed by MBTL. This is a significant hazard to public health and should be mitigated in the EIS.

In fact, the DEIS itself shows that the average and maximum monthly deposition of coal dust within 100 feet of the tracks would be double the nuisance level set by the DEIS. DEIS at 6-69. The DEIS estimates that the average deposition would exceed the nuisance level at 200 feet from the tracks and that the level would be equal to the threshold at a full 250 feet in the instance of maximum monthly deposition. Id. This is troubling given that the flawed study likely underestimated average and maximum deposition of coal dust. Further study and modeling is necessary to adequately disclose the effects of fugitive coal dust emissions on the air quality in the Gorge. Proper mitigation measures – e.g. covering full coal cars and cleaning empty coal cars – should also be adopted as part of the EIS. (2508)

### Response to CD-102

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of the coal dust analysis, including updates in the Final EIS specific to the Columbia River Gorge.

## Comment CD-103

Burlington Northern Santa Fe Railway (BNSF) transports coal by rail through the Columbia River Gorge National Scenic Area in open-topped coal cars. Three to four trains, each more than one mile-long, travel from the Powder River Basin (PRB) in Wyoming and Montana through the Columbia River Gorge every day. Coal discharged from nearly every coal train from the PRB pollutes lands and waters in the Columbia River Gorge. In some places, like Columbia Hills State Park in Klickitat County, coal accumulations is several inches deep on the shoreline of the Columbia River. If the Millennium Bulk Terminal proposed in Longview, Washington is built, an additional eight loaded coal trains with open coal cars would travel through the Gorge, further polluting the National Scenic Area, the Columbia River and its tributaries with toxic coal. The photos below focus on Columbia Hills State park, just one of many sites in the Columbia River Gorge that is continuously polluted with dust and debris from passing BNSF coal trains. These photos demonstrate that the transport of coal in open rails cars has polluted and will continue to pollute the Columbia River Gorge despite the application of surfactant at the PRB mines and the installation of a surfactant re-spray facility in Pasco, Washington. (2508)

### Response to CD-103

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of the coal dust analysis, including updates in the Final EIS specific to the Columbia River Gorge.

## Comment CD-104

Burlington Northern Santa Fe (BNSF) acknowledges that coal trains spill a lot of dust. BNSF's studies show that 500 pounds of coal can be lost in the form of dust from each rail car. Each 100-car train, therefore, may spill 50,000 pounds of coal dust into our rivers and towns. BNSF's website stated that "the amount of dust that escapes from PRB [Powder River Basin] trains is surprisingly large." BNSF has removed this page from its website, but our allies at the Sightline Institute captured the image. (1910)

### Response to CD-104

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of the coal dust analysis, including updates in the Final EIS specific to the Columbia River Gorge. Refer to Response to CD-12 for a discussion of how the analysis accounted for the effectiveness of surfactants in reducing coal dust lost during rail transport.

## Comment CD-105

Coal dust blowing from the coal terminal will foul the air and water, as well as homes, boats, and businesses up to several miles away. The Westshore coal terminal in British Columbia is located three miles from residences, yet homes are still covered with coal dust. (1910)

### Response to CD-105

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-106

This Draft EIS uses this New Zealand study to identify a threshold for nuisance level dust deposition. Coal dust nuisance impacts refer to coal dust that affects the aesthetics, look, or cleanliness of surfaces but not the health of humans and the environment." This is not only without proof, it is palpable nonsense! Science clearly comes down on verifying coal dust is toxic and not a mere legal nuisance as verified by the references at the end of this paper. (1910)

### Response to CD-106

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-107

The DEIS downplays impacts from coal dust on public health and environment, and does not reflect the impacts communities along rail lines are already experiencing. Every loaded train that would deliver coal to this facility would pass through the Columbia River Gorge National Scenic Area in uncovered cars. Communities along the Gorge already report issues with deposits of coal dust along rail lines from existing goal trains, where contaminants can be washed in to the river. The DEIS projects that "average and maximum deposition of coal dust on the BNSF main line in Cowlitz County [is] estimated to be above the nuisance thresholds at 50 and 100 feet," but then finds that these impacts are "not significant" because no state or federal standards apply. While application of surfactant is a proposed mitigation, this treatment only reduces but does not eliminate coal dust coming off of open coal cars. The proposed requirement to establish a coal dust complaint system only applies in Cowlitz County, and the requirement to share information with the Columbia River Gorge Commission once a year does not address the physical impacts of coal dust or provide any certainty they will be addressed. (2449)

### Response to CD-107

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-108

The proposed railroad could eventually carry 16 coal trains per day. The DEIS identifies that " Day to day rail operations could release contaminants into water resources immediately adjacent to the rail line, resulting in the potential for water quality impairment from increased rail operation." (S-24), but the DEIS fails to take these impacts seriously. Much of this coal would ultimately travel on through Spokane to terminals across the Spokane River and over hangman Creek, on to the West Coast. BNSF studies have shown that each coal car loses as much as 500 lbs of raw coal from uncovered cars each trip. These cars travel adjacent to our river and two tributaries to our river. Spokane Riverkeeper volunteers have found coal in the creeks and along the banks of these rivers from the train traffic carrying loads of coal. This dust is laden with heavy metals and is toxic to humans and to aquatic ecosystems. The construction of the railroad will discharge more coal and coal dust into our waterways and into our urban neighbourhoods. (3280)

### Response to CD-108

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of analysis considerations, methods, and findings of the coal dust emissions analysis. Refer to Response to CD-12 for a discussion of how the analysis accounted for the effectiveness of surfactants in reducing coal dust lost during rail transport.

## Comment CD-109

It will increase the chances for more derailments. Coal dust is a “pernicious ballast foulant” according to USDOT. It can weaken and destabilize tracks. Read the Dr. Dan Jaffe study on coal dust. The surfactants that are sprayed on it at the mine and put on again at Pasco still don’t keep all the coal dust off the roads and out of fields, rivers, lakes, communities, etc. And a huge swath of rail exists between the mines and Pasco. And about 150 miles of tracks exist between Pasco and the Columbia River, which allows more time for the surfactant to wear off. Friends of the Columbia Gorge have documented coal in the Columbia River and other places. They have photos of a company, called Hulcher, hired by BNSF, vacuuming coal dust off the banks of the Columbia River. BNSF has a new spray station at their yard in Pasco to spray coal trains, but they have sprayed coal trains since 2015 and the surfactant used still does not prevent all coal from leaving the hoppers. Neither does shaping the coal in a special position in the hopper. This has to be examined more carefully in the FEIS. (2536)

### Response to CD-109

Refer to Response to CD-40 regarding potential safety impacts of coal dust related to ballast fouling.

Refer to Response to CD-12 for a discussion of how the analysis accounted for the effectiveness of surfactants in reducing coal dust lost during rail transport. Refer to the Master Response for Particulate Matter and Coal Dust Analyses for additional information.

## Comment CD-110

The DEIS understates the toxic impacts of coal dust. The DEIS states, “One review of the chemical composition of coal dust (U.S. Geological Survey 2007) suggests that the risk of exposure to concentrations in toxic materials (e.g., PAHs and trace metals) from coal are low because the concentrations are low and the chemicals bound to coal and not easily leached.” The DEIS fails to address other studies identifying risks from toxic materials in coal dust. Co-leads should evaluate the expert report prepared by Leyda Consulting, Inc., on the proposed Morrow Pacific coal export project (hereafter “Leyda EXHIBIT”). The Leyda EXHIBIT includes an in-depth toxicology report on coal dust.

It should be emphasized that children are not "little adults" and are thus more vulnerable to the health effects of environmental contaminants. Children eat more, breathe more, and drink more per body weight than adults, and therefore receive a greater exposure and dose of any material. In addition, children have unique behaviors such as hand-to-mouth actions that increase exposure to contaminants. Developing organ systems are more vulnerable to adverse effects.

Toxic Air Pollutants (TAPS) of concern that may be emitted by this project include arsenic, cadmium and mercury. We request that the Washington Department of Ecology conduct independent health risk assessments for all TAPS that may be emitted by this project. (3327)

## Response to CD-110

The Draft EIS text quoted by the commenter was included in reference to possible coal dust impacts on water quality and aquatic environments. Information in the Draft EIS and the *SEPA Coal Technical Report* described impacts in the aquatic environment using information from the Ahrens and Morrisey (2005) report. This published report summarizes data and findings from over 185 scientific studies on the chemical or physical effects of unburnt coal on the biology of freshwater and marine environments. The Leyda toxicology review draws from nine scientific studies, some of which are included in the Ahrens and Morrisey meta-summary study. The *SEPA Coal Technical Report* provided additional information and analysis on this topic. The Leyda report was reviewed as part of the responses to comments on the Draft EIS; information in the Leyda report does not change the conclusions presented in the Draft EIS.

Refer to the Master Response for Particulate Matter and Coal Dust Analyses regarding the analysis of impacts from toxic air pollutants from coal dust.

# Comment CD-111

In addition, recent data from Australia underscores our concern that "real world" measurements do a substantially better job predicting what will happen than the models used in the DEIS. In a recent study in Australia, monitors showed dramatic spikes—including spikes that exceed levels set to protect human health and safety— when uncovered coal cars passed by. One particularly startling finding of this study was that empty coal trains had higher particulate pollution than loaded ones. (See MBT DEIS comments and exhibit from Columbia Riverkeeper et al.) However, the DEIS dismisses pollution concerns from empty cars, an omission that must be rectified in the FEIS. (3327)

## Response to CD-111

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of the modeling conducted for the analysis of coal dust emissions in the Draft EIS, a description of revisions to the Final EIS coal dust analysis, including coal dust emissions from empty rail cars, and a discussion of how the EIS considered short-term exposures to PM10 and PM2.5.

# Comment CD-112

Furthermore, Dr. Jaffe, Professor of Atmospheric Chemistry at University of Washington, submitted comments in June on the DEIS after reviewing Chapter 5.7: Coal Dust. He states:

> The DEIS describes an "acceptable level of dust deposition" in terms of g/m2/month. However, nowhere does the document describe an acceptable level of human health impacts. Our data demonstrates short-term PM2.5 concentrations of up to 232 ug/m3 due to coal trains. These exposures were documented on private property adjacent to rail lines in the Columbia River Gorge (Jaffe et al 2015). This was due to a large, clearly visible cloud of coal dust. While the health effects of such short-term exposure have not been extensively studied, some peer reviewed published scientific papers have documented significant health effects from short-term exposure to PM2.5 (Salvi et al., 1999; Pope et al., 2015; Li et al., 2016).

(3327)

### Response to CD-112

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-113

The DEIS seems to imply that coal dust does not contribute to inhalable particulate matter that contributes to human health problems (eg PM2.5). This is clearly not the case. To quote from the DEIS Coal Dust fact sheet: "The study found that coal dust particles from rail cars are typically large and fall close to the rail tracks." Our data, and the Cowlitz County data, clearly indicate that coal dust constitutes a range of particle sizes including particles smaller than 2.5 micrometers in diameter. The EIS needs to clearly indicate that coal dust includes inhalable PM2.5. (3327)

### Response to CD-113

Draft EIS Chapter 5, Section 5.7, *Coal Dust,* evaluated potential impacts of coal dust emissions, including emissions of PM2.5. Refer to the Master Response for Particulate Matter and Coal Dust Analyses for more information.

## Comment CD-114

The DEIS reports on one study down in Cowlitz County (pg 5.7-5 main document and 2.2-4 in technical supplement). There are a number of problems associated with this study. First, this study was likely influenced by an inherent bias due to the fact that the shipper knew the date, time and location of the tests. They can then utilize their best operating conditions to minimize diesel, coal dust and other PM impacts. This is not the same as a "blind" test, whereby the shipper is not notified of the date and location of the testing. In particular, a "blind" test will identify the true failure rate for the surfactant and true coal dust emissions, whereas the biased test will not identify the true failure rate. This study apparently never saw a coal train with a PM2.5 concentration greater than 22 ug/m3 (Figure 4), whereas we identified coal trains with large dust plumes and much higher PM2.5 concentrations of up to 232 ug/m3. This is likely due to the fact that the shipper was aware of the testing that was taking place. (3327)

### Response to CD-114

Refer to Response to CD-27.

## Comment CD-115

Despite the point, the data from the Cowlitz study clearly show that the dust suppression methods are much less than 100% effective. This is because the observed concentrations are 4 times higher than the modeled concentrations, as shown in Figure 4 of the *SEPA Coal Technical Report*. Models are useful to estimate many environmental situations, but they must be constrained and confirmed by observations. In this case, the model is clearly not reproducing the observed concentrations. This can only be explained if the modeled coal dust emissions are much larger than what is being put into this model. The Cowlitz County data, shown in Figure 4, indicate that the model is under-estimating the coal dust emissions by about a factor of four. This would imply that the actual coal dust emissions are four times greater than the modeled emissions. The DEIS cites a dust suppression effectiveness of 61%, whereas the data indicate an effectiveness of only 25%. Section 2 in the

technical document ends with Figure 4 and does not discuss the implications of this large discrepancy between the model and observations. It is absolutely essential that the modeling be redone with the significantly higher, and correct, coal dust emissions. Based on both the UW and Cowlitz County studies, the data show much higher dust emissions than are accounted for by the modeling. (3327)

### Response to CD-115

Refer to Response to CD-12.

## Comment CD-116

Based on these results, the modeling should be redone using two different approaches: First, the model should assume that 5% of the coal trains had no surfactant (equivalent to saying that the surfactant was incorrectly applied or otherwise ineffective). The model results should then be re-evaluated based on this assumed failure rate. Second, the modeling should be redone with a coal dust emission factor that is four times larger. This would be consistent with the Cowlitz County data presented in Figure 4 of the *SEPA Coal Technical Report*. This is particularly important given that the trigger level for impacts (2 g/m2/day) are already exceeded for some receptor location (Table 5.7-7) or very close to the currently model estimates (1.88 g/m2/day, Table 5.7-3) and that human health impacts from short term exposure to high concentrations have been documented. (3327)

### Response to CD-116

Refer to Response to CD-12.

## Comment CD-117

Our peer-reviewed and published scientific analysis (Jaffe et al., 2015) clearly indicates that the surfactant coating does not always work. At present there is no information on the cause of these failures. As such, it is impossible to know if additional coating facility (e.g. requiring a facility in Pasco) will significantly reduce coal dust emissions. The EIS needs to address what are the causes for failure in the surfactant coating. The coal dust modeling (Table 5.7.2) fails to incorporate any failure rate into the calculations. Our data show that the failure rate for moving trains is at least 5%. The contribution from these coal trains where the surfactant has been misapplied (or not applied at all) likely dwarf the emissions from all other trains. (3327)

### Response to CD-117

Refer to Response to CD-12.

## Comment CD-118

The DEIS acknowledges that so much dust is produced by coal trains that it creates a safety hazard by destabilizing rail road ballast (DEIS 5.7-15). The point is well taken, as coal dust accumulation in railroad ballast has been documented as a factor in derailments, and BNSF has recently undertaken significant efforts to remove coal dust near the Columbia River and elsewhere. However, the DEIS does not acknowledge the huge inconsistency between its modeled conclusions of “insignificant”

dust deposition with the known experience that so much coal dust is escaping that it is destabilizing rail infrastructure. (3327)

### Response to CD-118

Refer to Response to CD-40.

## Comment CD-119

Another point that demonstrates that the DEIS model-based approach is inconsistent with known experience is hidden in the technical report itself. Figure 4 of the coal dust technical report compares the "modeled" emissions of coal dust with the actual emissions as measured during the October 2014 test. As Dr. Dan Jaffe has pointed out in his independent comments, actual emissions are four times higher than the modeled emissions. Even so, the DEIS conclusions are all based on the modeled emissions, likely understating the dust impacts by a considerable degree. This must be corrected in the FEIS. (3327)

### Response to CD-119

Refer to Response to CD-12.

## Comment CD-120

Note that Table 5.7-3 (Estimated Maximum Annual and Monthly Coal Dust Deposition) utilizes a trigger level for sensitive areas based on a New Zealand Ministry of the Environment level for nuisance dust. This is not a health based measure. This is a misleading comparison in that it serves to minimize impact of the coal dust deposition for the study area by comparison with a non-health based number. (3327)

### Response to CD-120

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-121

The FEIS should also consider evidence from Australia, which has had a long history of large coal-export terminals with open coal stockpiles and extensive experience with the pollution that they cause. One analysis for a new terminal in Newcastle, performed as part of the project's license, shows that it would discharge over 300,000 kg/year of coal dust at operations of 66 million ton/year. The analysis breaks down the emissions rate for each stage of the process. The largest source of emissions is from wind erosion of stockpiles. Another analysis, based on data from Australia's National Pollutant Inventory 14--that nation's most authoritative data source for pollutant information—shows that coal terminals were the primary sources of particulate air pollution in two areas where major coal terminals operated.

The Hay Point coal terminal in MacKay self-reported a release of 160,000 kg of PM10 and 17,000 kg of PM2.5 in 2014-15. A news report from April of this year reported that the three coal export terminals in Newcastle were responsible for 62% of that city's PM10 air pollution.15 These authoritative figures collide sharply with the DEIS's modeled emissions—which anticipated releases

an order of magnitude lower, using the exact same approaches to reduce dust from open stockpiles. Clearly, the realworld experience in Australia has more to offer than the flawed models of the DEIS. (3327)

### Response to CD-121

Refer to Response to CD-17.

## Comment CD-122

BNSF requires the use of these chemical agents by companies shipping coal from mines. Given that they are used at the mine and it has been found that they need to be reapplied along the route (e.g., at Pasco), then what is the fate of these surfactants or dust suppressants in Longview and along the transportation route (from the Powder River Basin and the Uinta Basin to Longview, and back)?

Six topper agents have been approved for use on rail cars shipping coal on BNSF railroads. (See BNSF Rules and Other Governing Provisions, Appendix B, BNSF 6041-B, Page 19, September 2011) These topper agents have been tested for effectiveness in dust suppression. But information is not given in the DEIS on their fate and transport or toxicity in the environment. If they are washed off by rain or through fire suppression efforts or lost with blowing coal dust (while losing efficacy in time along the route), what is their impact on ground and surface water, on plants and animals that may be exposed to them, or to humans who may be exposed by ingestion, inhalation, or dermal absorption of these chemical compounds?

While dust suppressants are available for use, little or no information is available on their chemical make-up or toxicity to human health or the environment. The DEIS must identify all components of dust suppressants or "topper agents" in order to determine whether there is risk associated with their use. (3327)

### Response to CD-122

Refer to Response to CD-12.

## Comment CD-123

Table 5. 7-2 identifies the storage and loading of coal onto vessels as having potential to generate coal dust emissions. The document states that the stockpile area and vessel-loading conveyors would not be enclosed due to operational requirements. The ecological impacts of coal dust is discussed on page 5.7-14 of the document; however, the analysis focuses on bioavailability of the chemical constituents based on U.S. EPA standards. The potential impacts of these sources on the aquatic lands below and adjacent to the dock were not analyzed. The analysis does not address the potential impacts of potential smothering or shading of benthic habitats associated with coal dust deposition into surface waters adjacent to the dock. Page 5.7-17 concludes that monthly coal deposition in the project area would be.31 grn!m2/month. What is the basis of this conclusion, given that at the BC Canadian Roberts Bank coal terminal, coal was shown to compose 10-12% of the sediments in the vicinity of the terminal after 22 years causing anoxic conditions beneath the coating of oxidized coal? How could spills associated with loading of vessels result in potential for additional deposition? How will the buildup of coal onto benthic habitats and state-owned aquatic lands over time be prevented? What measures are in place to prevent the loading spout from

overfilling or opening when operating above the deck of the vessel, or in the case of a vessel collision with the dock or other vessel? What procedures will be taken to clean up any spills before they cause damage? (2691)

### Response to CD-123

Draft EIS Chapter 4, Section 4.7, *Fish*, described the potential impacts on fish and aquatic habitats that could occur as a result of the Proposed Action, including impacts related to coal dust deposition. Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of the analysis methods and findings.

The potential impacts from coal spills during operations of the Proposed Action were also described in Section 4.7. Such a spill would likely result in a limited release of coal into the environment due to safeguards to prevent such operational errors, such as start-up alarms, dock-containment measures (i.e., containment "gutters" placed beneath the docks to capture water and other materials that may fall onto and through the dock surface) to contain spillage /rainfall/runoff, and enclosed shiploaders. The magnitude of a potential impacts from a coal spill on these resource would depend on the location of the spill, the volume of the spill, and success of efforts to contain and clean up the spill. As such, the Draft EIS described the general types of impacts on these resources that could result from a coal spill and how certain factors would affect the success of containment and clean up. Final EIS Chapter 4, Section 4.7, *Fish*, has been updated to include a summary of a coal train derailment in Burnaby, British Columbia, Canada. In addition, mitigation measure WQ-2 in Final EIS Chapter 4, Section 4.5, *Water Quality*, would require the Applicant to develop and implement a coal spill containment and cleanup plan, as well as water quality and sediment monitoring to determine the potential impact of coal spills in aquatic environments for which the Applicant is responsible.

## Comment CD-124

Compared to other measures of coal dust from rail cars and accumulation of coal dust at sites 5 miles away, as has been observed at the Point Roberts terminal in Canada, the application of surfactants to control dust adds the impacts from these chemicals when coal dust is blown or spilled during transport (Jaffe et al, 2015. Johnson & Bustin, 2006). This impact should also be assessed. (2691)

### Response to CD-124

Refer to Response to CD-12.

## Comment CD-125

In addition, there should be an analysis of the potential health and environmental effects from resuspension of accumulated coal dust from regular rail traffic. (2691)

### Response to CD-125

Refer to Response to CD-100.

# Comment CD-126

The DEIS does not include an analysis of urban forest health along potential rail routes. The following mitigation, restoration and enhancement activities should be considered in the FEIS:

- It is difficult to predict the amount of cumulative coal dust deposition on vegetation or how that will affect trees within the impact area. The report states that dust will be minimized through mitigation techniques and that the dust emission will be below an unacceptable level. There does not appear to be a monitoring plan in place to determine impact, or to mitigate impacts should they be discovered. A monitoring plan should be developed in urban areas to assure the health of urban trees and address issues that may arise.
- Adjacent to the project area, there should be consideration of the potential to plant a large-tree vegetative screen to aesthetically enhance the area, help to capture aerial dust, and act as a sound and light barrier between the project site and residential areas.
- Since vegetation will be maintained along the perimeter road, rail tracks, and rail loop, the loss of trees could be mitigated by planting trees, monitored through establishment, on the outside of the maintenance perimeter, particularly in proximity to residential areas. (2691)

## Response to CD-126

The expected rail routes for Proposed Action-related rail traffic are outside the study area defined for the vegetation analysis in Draft EIS, Chapter 4, Section 4.6, *Vegetation*. Draft EIS Appendix F, *Rail and Vessel Corridor Information*, provided a summary of existing conditions for vegetation along rail transportation corridors for Proposed Action-related trains in Washington State. In accordance with SEPA Rules, the SEPA co-lead agencies defined the geographic study areas for the Draft EIS analyses to encompass the areas where the Proposed Action could result in significant adverse environmental impacts. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment CD-127

Moreover, coal dust may be more than just a nuisance. Coal dust for non-occupational exposure is not regulated at the state and federal levels, but it is well-accepted coal dust is harmful to human health for workers in the coal industry. For example, exposure to coal dust has been linked to increases in chronic bronchitis, emphysema, asthma, COPD, and black lung disease in miners (Coal Mine Dust 2011). Research on the health effects of non-occupational exposure to coal is minimal so that the correlation between non-occupational exposure to coal and cancer or respiratory illness remains inconclusive (Jenkins et al. 2013, Learn 2013). Some additional research on the human health effects of living in close proximity to coal operations is being done. For instance, a 2013 study showed increases in digestive and other cancers, depending on the proximity of the city of residence to Spanish coal mines (Fernandez-Navarra, et.al. 2013). We call on the DOE to fund studies of residents in other parts of the United States who live in areas with coal dust to see whether there are negative effects on their health. If coal dust is found to be detrimental to the health of residents exposed to this pollutant, the Final EIS should recommend regulation at the state level and withhold permits until this regulation is in place. (3465)

### Response to CD-127

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-128

The DEIS states that there will be no adverse and significant effects from the Millennium project in tenns of coal dust pollution along the tracks. The BSNF railroad claims that 85% of coal dust from open coal cars will be reduced by shaping the load into a brick and spraying each load with surfactants. Trains from the Powder River Basin in Montana and Wyoming will be sprayed when they are loaded there and again in Pasco as they enter the state of Washington. However, these claims that the dust from coal trains will be significantly reduced are based only on the industry's internal studies. The Final EIS should not be issued until third-party studies confirm that the particulate matter from coal trains will indeed be reduced substantially by the mitigation measures and that they will be sufficient to reduce hazards to human health. (3465)

### Response to CD-128

Refer to the Response to CD-12.

## Comment CD-129

We also request that studies be completed on covers for rail cars loaded with coal since at least five have been developed (Gambrel 2013). The effectiveness of these covers should be measured against the effectiveness of the current system required by the BSNF railroad for cars loaded with coal, i.e., loading the coal in a loaf shape and spraying loaded cars with surfactants. People living and working along the tracks deserve the best possible protection from toxics contained in the coal, whether this protection be from surfactants, rail car covers, or a combination of both. (3465)

### Response to CD-129

The current system of coal dust control for trains is administered by BNSF. The Applicant has no ability to make railroad improvements or set operational standards for trains that are the responsibility of the rail lines under federal regulations. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

## Comment CD-130

In addition, some coal for the terminal will come from Utah and the Powder River Basin by the Union Pacific rail line -the DEIS states that the rail companies will work out what measures will be taken to prevent coal dust deposition from those mines. This is too vague - the final EIS must specify what steps will be taken and how they will be monitored and enforced. While outside the jurisdiction of Washington, the DOE should not issue a permit until other states affected by increased coal transport carry out their own EIS processes, or mitigation measures for all states are listed in the U.S. Corps of Engineers NEPA review. (3465)

### Response to CD-130

Draft EIS, Chapter 5, Section 5.7, *Coal Dust,* identified potential mitigation measures that would reduce impacts related to coal dust from construction and operation of the Proposed Action. These measures include a voluntary commitment by the Applicant to accept coal trains only if surfactant is applied at the mine site. In addition, Applicant Mitigation included in the Draft EIS would require the Applicant to work with rail companies to implement advanced technology for applying surfactants along the expected rail routes for Proposed Action-related trains that do not have surfactant reapplied at the Pasco facility. These proposed mitigation measures, and others included in the Final EIS, were developed within the limits of the SEPA regulatory framework described in the Master Response for Mitigation Framework. For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

## Comment CD-131

Studies done by BNSF itself have shown that each railcar can release up to 500 pounds of coal dust, a number that really adds up when there's more than 100 cars long and eight coal trains will pass through Pasco every single day. This much dust blowing off of trains leads to impaired water and air quality, (inaudible), and increasing asthma and cancer rates that affects the people living, working, and going to school within the effected area of coal dust pollution. Up to ten miles away from the railroad tracks must be studied and taken into consideration with this project. (TRANS-PASCO-M2-00024)

### Response to CD-131

Refer to Response to CD-12**.**

## Comment CD-132

According to Table 5.6 of the Draft EIS, the maximum annual average emissions of particulate matter from operations of the coal terminal from the total project area is 7.08 tons. That would be amazing if compared with actual emissions reports from an operating coal terminal.

A coal terminal in Australia has been in operation for almost 50 years and has been addressing their coal dust and pollutant emissions the entire time. They are cranking out 140,000 kilograms or 154 tons, way past the estimated amount of the Millennium Bulk Terminals, and they are both proposing or already putting out the same amount of tons of coal every year. So there's an underestimate of the amount of emissions from this project. (TRANS-PASCO-M2-00049)

### Response to CD-132

Refer to Response to CD-17.

## Comment CD-133

The facility -- in the Draft EIS, the facility alone will dump tons of coal in the river per year which is probably unacceptable I would think. The Draft EIS needs to evaluate the coal dust at high wind locations in the Gorge. You did study of Lewis River in Longview. That was good. That was awesome.

But you need to study the same type of thing in Rufus or somewhere where it gets really windy in these locations.

The Draft EIS does count coal dust emissions in Table 6.24 which is four grams per cubic meter per month at 100 feet from the track. The Draft EIS needs to account for this coal dust ending up in the river, because there's thousands of meters of track next to the river.

Finally, wind is mentioned but not included in the coal lost to dust in section 5.7-8. (TRANS-PASCO-M1-00062)

### Response to CD-133

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of the coal dust analysis, including updates in the Final EIS specific to the Columbia River Gorge.

## Comment CD-134

Thus it is difficult for me to say this but the DEIS falls woefully short in providing a convincing argument that coal dust and PM 2.5 will not be a problem with this project. What I have learned in 40 years is that models often produce what appear to be realistic results and can be very alluring. However, models are only as good as the data on which they are derived and operate. The modeling in this DEIS uses too small of data set to yield stable results. Additionally, the model has not been verified against independent local data. In short, only half the task has been completed. The results should be rejected in light of the documented problems with fugitive coal dust and PM 2.5 concentrations at existing coal loading facilities including Seward, Alaska, West Shore, British Columbia, Norfolk, Virginia, and many other U.S. and international locations. (TRANS-LV-Q1-00045)

### Response to CD-134

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-135

As a mathematician, I have reviewed the coal deposition modeling formula given in the DEIS. In my professional opinion, the impact of coal dust from trains is being severely underestimated and mostly dismissed. The studies used to develop the formula do not adequately assess effect of Northwest weather, winds in the Gorge, train speed, level of vibration that breaks coal down into smaller matter. Each involves inadequate estimates and fuzzy math. Rudimentary calculus shows the suggestion to simply pile the coal in a bread loaf shape doesn't cut it. There simply is no safe level of particulate matter when it comes to children breathing in toxic coal dust and known carcinogens. (TRANS-LV-Q1-00029)

### Response to CD-135

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of the coal dust analysis, including updates in the Final EIS specific to the Columbia River Gorge.

# Comment CD-136

I think DEIS was shortsighted in not addressing the coal dust problem. Coal dust does cause medical problems for people with asthma and dry eyes. I think you should study and should also look into black lung and that effects as well. (TRANS-LV-M2-00111)

## Response to CD-136

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-137

Coal dust and diesel exhaust both are known health hazards, which would be added to an already severely compromised air shed in the community. This DEIS does not adequately address this not insignificant health issue. (TRANS-LV-M2-00106)

## Response to CD-137

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-138

Thus it is difficult for me to say this, but the DEIS falls woefully short in providing a convincing argument that coal dust and pm 2.5 will not be a problem with this project.

What I've learned in 40 years is the models often produce what appear to be realistic results and can be very alluring. However models are only as good as the data upon which they derive and operate. Modeling in this DEIS uses too small a dataset to yield stable results.

The results should be rejected and in light of the documented problems with fugitive coal dust and pm 2.5 concentrations that exist in coal loading facilities including Seward, Alaska; West Shore, British Columbia; and Norfolk, Virginia and many other U.S. and international locations. (TRANS-LV-M2-00095)

## Response to CD-138

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-139

If you look at the mapping on 305.7-4 it shows an estimated maximum annual coal deposition. You can clearly see that a major area of concentration is right in the Columbia River. I believe that this map is deceiving because it does not show how the coal contamination will continue down the river because of its current.

The map makes you think that just this area will be contaminated. This is obviously not the case in a river. Plus we all know how windy it can be on the Columbia River. Why would you use open conveyors to load the coal on the ship? Doesn't this allow for more coal to blow around and fall into our rivers?

I'm wondering why the coal is sent to Asia in closed ships, yet it's transported thousands of miles even loaded onto ships on open conveyers. If it's smart to send the coal on closed ships, why isn't it transported and loaded onto the ships in a closed system? (TRANS-LV-M2-00094)

### Response to CD-139

The map referenced by the commenter is intended to present coal deposition from the Proposed Action and was not intended to depict downstream impacts. For a description of potential impacts of the Proposed Action on the Columbia River, refer to Draft EIS Chapter 4, Sections 4.5, *Water Quality*, and 4.7, *Fish*, and the *SEPA Coal Technical Report*.

As described in Draft EIS Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, transfer stations and approximately one-third of the conveyors would be enclosed. The stockpile area and vessel-loading conveyors would be open due to operational requirements.

## Comment CD-140

According to table 5.6-5 of the Millennium Bulk Terminal DEIS the maximum annual average emissions of particulate matter from operations of the coal terminal from global project areas' sources is 7.08 tons.

This would be a miraculous achievement if compared with actual emissions reports from operating coal terminals. Hay Point Coal Terminal in Australia has been in operation for almost 50 years and has been addressing coal dust and pollutant emissions the entire time.

They promote the most current dust suppression system. There is a long record of emissions data. Their rail and ship operations are similar to that proposed to MBT and their terminal capacity until recently was the same, 44 million metric tons. Hay Point Coal Terminal self-reported to the Australian National Pollutant Inventory for 2014/15 pm 10 air emissions of 140,000 kilograms or 154 tons or more than 20 times what the MBT DEIS predicts. Pm 2.5 emissions have a similar wide discrepancy. MBT 2.4 tons, HPCT 19 tons. Which data has more credibility? The important data in the MBT DEIS is too good to be true and not to be believed. (TRANS-LV-M2-00056)

### Response to CD-140

Refer to Response to CD-17.

## Comment CD-141

The Draft EIS ignores admissions studies done by UW Professor Daniel Jaffe in neighborhoods in Seattle, in towns along the Columbia Gorge in Washington. The Seattle setting in 2013 found that trains add 6.8 micrograms per meter square pm 2.5 to the background pollution.

The EIS does not evaluate the concentration, the concentration of pm 2.5 in relation to the proximity to the rail lines. (TRANS-LV-M2-00046)

### Response to CD-141

Refer to Response to CD-12 for a discussion of how the analysis accounted for the effectiveness of surfactants in reducing coal dust lost during rail transport.

Draft EIS Chapter 5, Section 5.7, *Coal Dust,* described the anticipated concentration of PM2.5 (and PM10) along the Reynolds Lead and BNSF Spur, BNSF main line in Cowlitz County, and BNSF main line in Washington State. Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-142

The problem of coal dust is not addressed. (3721)

## Response to CD-142

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-143

In some instances, the Draft EIS claims mitigation can reduce coal dust, rail traffic, and other project impacts. For example, to mitigate coal dust from the terminal, the Draft EIS proposes a reporting process for coal dust complaints. This is unacceptable. A phone call or email to complain about coal dust fouling a person's lungs, home, and river is not "mitigation." (3655)

## Response to CD-143

The mitigation measure referenced by the commenter is not the sole measure proposed to address coal dust impacts. It is intended to complement three other potential mitigation measures and one voluntary mitigation measure. For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

# Comment CD-144

The Coal dust from 25.6 loaded trains per day should be shown in its cumulative for project years. It is now cited for MONTHLY emissions. Dishonest GAP; DEIS should show us the entire range of months till 2038. (3652)

## Response to CD-144

Cumulative coal dust deposition is presented in terms of maximum monthly estimates because the monthly nuisance level from the *New Zealand Ministry of Environment Good Practice Guide for Assessing and Managing the Environmental Effects of Dust Emissions* (New Zealand Ministry of Environment 2001) is also presented for a monthly basis. The use of similar units for deposition in the Draft EIS provided an easier comparison of potential cumulative coal deposition to this benchmark.

# Comment CD-145

I am gravely concerned about the weak and unenforceable mitigation. The Draft EIS proposes a reporting process for coal dust complaints. A phone call or email to complain about coal dust fouling a person's lungs, home, and river is not "mitigation." The agencies should revise the Draft EIS and remove inadequate, unsupported, and unenforceable mitigation. (3650)

### Response to CD-145

Refer to Response to CD-143.

## Comment CD-146

All we need to do is look at the industry's track record and see what citizens in other coal export towns are saying. Residents complain of things such as black grime in their neighborhoods, on their homes, and on their fishing boats, increasing asthma rates and coal dust blacking their local waterways. (I obtained this information from a Sightline article dated April 29 of this year. I will submit that with my statement). The final EIS should look harder at real world examples of coal dust pollution in terminal communities. (3649)

### Response to CD-146

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-147

This study should have included the dangers of coal dust exposure to the public. Coal trains pass homes, schools, business and agriculture. The total lack of recognition of the dangers to the public is unacceptable. (3641)

### Response to CD-147

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-148

According to Table 5.6-5 of the Millennium Bulk Terminals DEIS, the maximum annual average emissions of PM 10 from operations of the coal terminal from total project area sources is 7.08 tons. This would be a miraculous achievement if compared with actual emissions reports from operating coal terminals.

Hay Point Coal Terminal in Australia has been in operation for almost 50 years, and has been addressing coal dust and pollutant emissions the entire time. They promote the most current dust suppression systems. There is a long record of emissions data. Significantly their rail and ship operations are similar to that proposed for MBT and their terminal capacity until recently was the same, 44 million metric tons.

Hay Point Coal Terminal self-reported to the Australian National Pollutant Inventory for 2014-2015 PM 10 air emissions of 140,000 kilograms, or 154 tons, or more than 20 times what the MBT DEIS predicts. PM 2.5 emissions have a similar wide discrepancy-MBT 2.4 tons, HPCT 19 tons. Which data has more credibility? Important data in the MBT DEIS is too good to be true and not to be believed. (3627)

### Response to CD-148

Refer to Response to CD-17.

# Comment CD-149

Please cross reference topics that impact several different areas. Example: surfactant info is listed in coal dust chapter & I couldn't find anything about the chemicals. (3534)

## Response to CD-149

Refer to Response to CD-12.

# Comment CD-150

The EIS indicates about 9 tons per year of coal dust will result from operations at the site. It is unclear where the dust will spread throughout the community and in what concentrations the EIS describes an annual deposit of half a teaspoon of coal--but it seems unlikely there would be uniform distribution. Was there any modeling of the spread of the dust. Will residents be complaining about water spots and coal dust visibility covering their yards? (3510)

## Response to CD-150

Draft EIS Chapter 5, Section 5.7, *Coal Dust,* and the *SEPA Coal Technical Report*, provided an introduction to coal dust and described impacts related to coal dust that could result from construction and operation of the Proposed Action and the No-Action Alternative, and also presents proposed measures identified to mitigate impacts resulting from the Proposed Action.

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-151

What has not been covered sufficiently is the danger coal dust on the railroads presents to the entire railroad corridor through the state up to Longview. The coal dust is so fine that it clogs the drainage of the road bed. The tracks are then more subject to sagging and therefore to derailment. The degraded railroad beds make the tracks more hazardous not only for the coal trains but for all the other trains that use the same tracks--oil trains, Amtrak, and miscellaneous freight. (3491)

## Response to CD-151

Refer to Response to CD-40.

# Comment CD-152

Next, I have read the coal dust information and believe the dust would impact a very large area in Longview, as well as be a risk for the Columbia River. This is a very windy area and the winds are quite changeable. The EIS is using very old wind records. (3478)

## Response to CD-152

The wind records collected from the metrological station near the project area include 3 years of hourly wind speed and wind direction measurements to accurately represent the condition in the area. Additional meteorological data are now being collected by a tower installed in the Applicant's

leased area in 2013; data collection began October 1, 2013. Data will be evaluated and reported again for air quality permitting purposes prior to the start of operations.

# Comment CD-153

Another important issue is the reporting system for the community re coal dust issues. To quote the EIS, "Millennium would operate the system or provide funding for SW Clean Air Agency to operate the system." I think it is critical that the receiving of complaints, investigation, and response be handled by SW Clean Air and NOT Millennium.

Also, it is stated that Millennium would "conduct monthly reviews of the emissions data and maintain a record of data for at least five years after full operations." Instances where emissions exceeded air quality standards would be reported. Monthly reviews and a record of data should be a permanent activity, from the beginning of any operations throughout any full operations. (3478)

## Response to CD-153

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-154

Coal dust from open piles of coal is a huge problem in other places, yet the DEIS finds the impacts to be insignificant. [S-37; ch 5.7] Coal dust coats neighbors' homes, cars and boats, and the water quality around terminals is bad. In communities that have coal piles, companies are often unreliable in their control of coal dust, and local communities have been forced to bear the cost of cleaning up the problem, monitoring coal dust, or pursuing lawsuits to hold companies accountable. The final EIS should look harder at real world examples of coal dust pollution in terminal communities. (3451)

## Response to CD-154

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of the coal dust analysis. Refer to Response to CD-17 for a discussion of how information for other coal export terminals cannot be applied directly to the Proposed Action.

# Comment CD-155

The EIS statement acknowledges that particulates in coal dust causes disease when breathed; however the EIS draft states the amounts along the route met NAAQ standards. Your testing needs to involve medical professionals. The dust is a problem, at even low levels especially to people with pulmonary disease. Children and adults with asthma are a particular concern, also people with COPD (emphysema), and Cystic Fibrosis. (3438)

## Response to CD-155

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-156

However there is a mitigation process that will be set up to call or e-mail about the health problems you are having. The mitigation process however doesn't have any teeth. You will be heard, but there is nothing in the EIS to state that anything will be done to fix your problems. I know people who left their positions at the Dept. of Ecology, because they heard people's issues, but had no power to fix them. Your mitigation process has no process for fixing problems, therefore it is not a mitigation process and unacceptable. (3438)

## Response to CD-156

Refer to Response to CD-143.

# Comment CD-157

A highly optimistic statistic of 95% reduction in dust emission due to standard operating procedures and mitigation measures, was assumed at the export terminal site, which seems ludicrous in how small a number. The EIS states that 9.86 tons (19,728 lbs) of coal dust will be emitted at the site due to handling and transfer of coal related to rail unloading, ship loading, conveyor transfer, coal pile development and removal and wind erosion of coal piles. This is less than a millionth of the coal to be exported. The EIS does not indicate how it arrived at the exceedingly low figure it gives per year, which it then converts to 1.88 grams per square meter at the site, with no explanation as to how it arrived at this minimal impact. It is reasonably foreseeable that this toxic black sediment, deposited at the site would accumulate X per year given river flow and transport from the site. The EIS should have given the river miles expected to be impacted, and the size of the impact area by this 19780 lbs annually, and how far downstream the currents as well as winds will take this impact. They assume only 300 feet offsite for an impact area, which is laughable. The BE for a take determination on federally listed salmonids usually require a downstream sedimentation impact area from any instream work. There are other studies that have been used for sediment transport as well. The EIS states only that it was unable to determine impacts on aquatic resources and will rely on the US Geological Survey study yet to be published for its final EIS. This is entirely unacceptable as there are other studies cited in the attached National Wildlife Federation (NWF) publication addressing impacts to fish and fish habitat. While the EPA's cited 2005 study states that all of the chemical constituents would be bioavailable, the use of the study to show the project "would not exceed ecological soil screening levels for plants, soil invertebrates, avian wildlife or mammalian wildlife" does not seem to account for an irreversible smothering impact in the impact area with a continuing annual impact of additional 9.86 tons to the year 2038, and it does not discuss the impacts within the river and how far it would be carried by currents downstream, but only says it would be spread out over an area of 3 million square meters (despite assuming an impact of only 300 feet downstream), which would not cause a "measurable" change. The impacts of deposition of 9.86 tons of coal dust annually at the site on the Columbia River, a free flowing river estuary and at the confluence of the Cowlitz River must be considered when weighing the impacts of the project vs any potential benefits from the project. These impacts should include the loss of vast sums of money spent on restoration of river and salmonid aquatic habitats in Washington State, the City of Cowlitz and affected watersheds, and on the Columbia River. (3426)

### Response to CD-157

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-158

Surfactants have been shown not to be effective over long trips much shorter than these. The DEIS falsely assumes the surfactants will prevent dust, ignoring the evidence. We have suffered too much from coal dust that regulators have allowed. We need responsible government that does its job and protects us from harm. So do it, fix the DEIS or reject it, and reject this terminal. Surfactants are usually toxic, degrading local environments, unidentified and unregulated, uncontrolled by us. (3422)

### Response to CD-158

Refer to Response to CD-12.

## Comment CD-159

While the DEIS says the levels of chemicals in coal dust will be within safe limits, the head of Oregon Physicians for Social Responsibility says there are no safe levels for the chemicals in coal dust, which include uranium, mercury, arsenic, and PAHs (polycyclic aromatic hydro compounds). The EIS should reflect these problems more forcefully and the No Action alternative chosen in the final analysis. (3417)

### Response to CD-159

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-160

Regarding blowing coal dust that will result from the proposed project. I think the EIS inadequately evaluated the impact of dust on the ecology of the Cowlitz and Columbia Rivers as well as all the estuaries and riparian areas in proximity to the site. Blowing wind will carry the coal dust long distances and then water moving downstream will move the dust particles even further. The impact region studied must be much larger and cumulative impacts studied must be studied for a wider region. (3396)

### Response to CD-160

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-161

We do not feel adequate attention was given in DEIS to coal dust and chunk contamination of water and land along the rail route and especially at the port in Longview. Other coal export terminals have had a huge problem containing coal dust and contamination of the water is unavoidable. We do not want coal with its contaminants in our Columbia River! The sediment in the river would be contaminated with toxic Mercury which is known to bioaccumulate in fish. (3388)

### Response to CD-161

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-162

Coal dust mitigation 5.7-26 no mention of covered coal cars, an obvious mitigation measure for coal dust suppression. The EIS needs a discussion of its feasibility, and if it is not feasible, why not. (3386)

### Response to CD-162

Refer to Response to CD-129.

## Comment CD-163

The DEIS fails to adequately consider the amount of coal dust discharged from coal trains and the clear violations of the federal Clean Water Act that would result from the project. (3223)

### Response to CD-163

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-164

In the Draft EIS, in Chapter 6, there is a shortcoming that needs to be addressed: "OEA's models assumed that transported coal would be dry and would not be affected by high ambient humidity, rainfall, or snowfall". In the Northwest, the rain and snow would impact the amount of coal dust leaving the coal cars. "Weep" holes in the bottoms of the cars would allow more coal dust to be deposited on the rail bed. This has not been taken into account. (3173)

### Response to CD-164

Refer to Response to CD-86.

## Comment CD-165

Chapter 5 of the diesel particulates, which include PAHs. According to John Incardona, a biologist and toxicologist in Seattle with NOAA. Incardona's research focuses on what are called polycyclic aromatic hydrocarbons or PAHs. You'll find these compounds in fossil fuels, including coal. And they're a problem for fish. "It's a very simple matter," Incardona explains. "If it leaves the PAH source and goes into the water and gets taken up by the fish it will be toxic. It doesn't matter if it's coming from coal dust or fuel." PAHs have been connected with liver disease and lower reproductive rates in English sole in Puget Sound. Incardona's research has shown that when salmon and zebrafish embryos are exposed to PAHs in the lab, their hearts don't develop normally. That can affect their growth as well as their ability to survive and reproduce. Scientists don't know exactly how much heavy metals and PAHs escape from coal –- especially when it's in dust form as opposed to solid chunks, but Incardona says it wouldn't be too hard to find out. These items should be addressed in the EIS and the Millennium coal terminal ultimately denied. (3173)

## Response to CD-165

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-166

To summarize, the MBTL DEIS severely underestimates the amount of fugitive coal-dust losses into the surrounding environments, both on land in Longview and into the adjacent Columbia River. The principal reasons for these underestimates include the use of unwarranted, optimistic input parameters in the AP-42 fugitive dust calculations (specified by the Environmental Protection Agency), and the application of unjustified and unreasonably high efficiency factors for dust-control measures (such as watering) proposed to be used at the terminal. In general, I find that the figures for fugitive-dust emission rates presented in the DEIS to be low by factors of 2 to 7. This means that the values provided in Table 5.7-2. Coal Dust Total Suspended Particulates Emissions Rates at Maximum Throughput (DEIS p. 5.7-5) should be multiplied by factors of 2 to 7 to be truly representative of emissions that would occur at the proposed MBTL facility. (3009)

## Response to CD-166

Final EIS Chapter 5, Section 5.7, *Coal Dust,* and the *SEPA Coal Technical Report*, have been revised to adjust the silt-loading factor used in the fugitive coal dust wind erosion calculation from storage piles, to be more representative of the coal likely to be used at the Millennium export terminal. The analysis of coal dust in the Final EIS has been revised to assume the average silt-loading content of 6.2% for western surface coal mines. For the emissions estimates of coal dust described in Final EIS Section 5.7 and the *SEPA Coal Technical Report*, the emissions from aggregate handling of coal use the same AP-42 Section 13.2.4 equation and methodology that conservatively assumes each transfer point (rail dump, transfer towers, surge bins, and conveyor to ship loading) contributes equal amounts of fugitive dust emissions.

With respect to dust-control factors, the analysis in the Final EIS continues to assume 90% control efficiency of the coal storage pile given the fixed active watering and fogging systems proposed to suppress dust emissions for the Proposed Action and the relatively high humidity environment and natural mitigation that would occur on days with rain. This, in combination with some of the transfer points being enclosed (e.g., rotary coal car dump and approximately one-third of the conveyors), improves the overall dust suppression efficiency to 95%. The proposed dust-control system design was discussed with the Southwest Clean Air Agency Air Quality Engineer familiar with the Applicant's current and proposed operations, and it was recommended the overall 95% control efficiency be retained in the Final EIS.

# Comment CD-167

The assumption of a 95 percent fugitive-dust reduction efficiency two paragraphs below that table is unwarranted. This figure was imported from a previous analysis of the (1 Michael Riordan, "Estimating Fugitive Coal Dust at the Proposed Gateway Pacific Terminal," Eastsound, WA: Research Now Working Paper No. 16-1, January 26, 2016, available online at http://www.researchnow.org/wp-content/uploads/2016/01/FugitiveDustAtGPT.pdf) proposed Boardman project and has no basis in actual experience. Moreover, the Coyote Island terminal proposed for that site was a completely enclosed coal-storage-and-transfer system — unlike MBTL, which is proposed to employ open coal-storage piles. Adequate justification is not given for the 95

percent figure used in the MBTL DEIS. If one instead applied an equally reasonable 90 percent in this calculation, given the limited justification for the other figure, the estimated fugitive coal-dust losses from the corresponding part of the transfer system would double. If the 95 percent efficiency factor is to be used in this calculation, it requires much better justification than has been provided in the DEIS. (3009)

### Response to CD-167

Refer to Response to CD-166.

## Comment CD-168

Appendix C states at the outset that the maximum throughput for this project will be 49 million tons of coal per year, based on 8 trains per day each consisting of 125 rail cars containing 100 tons per car unloading coal 355 days a year. But these figures yield only 100,000 tons per day or 35.5 million tons per year, well short of the projected annual total. Something is seriously amiss with these figures, probably the coal tonnage per car, for if one were instead to use 125 tons/car, the total annual throughput comes in close to 49 million tons per year. This obvious error may however have been propagated through the calculations of fugitive dust emanating from the trains bringing coal to the terminal. (3009)

### Response to CD-168

As explained in Draft EIS, Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, stated the Proposed Action would have a maximum annual throughput capacity of up to 44 million metric tons of coal per year. According to the Applicant, proposed rail operations and coal export terminal design would support terminal throughput of 40 million metric tons per year. The Proposed Action is based on a throughput of up to 44 million metric tons of coal per year. The Applicant assumes a 10% increase in throughput (4 million metric tons of coal per year) is possible with rail car capacity increases, through process efficiencies and technological improvements by 2028, the first year of assumed full operations. The co-lead agencies confirmed this assumption with the Applicant during development of the Draft EIS. As described in Draft EIS Chapter 5, Section 5.7, *Coal Dust,* and the *SEPA Coal Technical Report*, the modeling estimated coal dust deposition impacts from coal dust emissions for full operations include a throughput of 44 million metric tons of coal per year.

## Comment CD-169

Appendix E uses a simplified approximation to obtain the fugitive coal dust from wind erosion of the storage piles, similar to the approach used in my report, "Estimating Fugitive Coal Dust at the Gateway Pacific Terminal." [Footnote 4: Riordan (2016), p. 8. This approach is based on C. Cowherd, G. E. Muleski, and J. S. Kinsey, "Control of Open Fugitive Dust Sources: Final Report," Midwest Research Institute Report No. EPA- 450/3-88-008, Kansas City, MO, September 1988. See especially section 4.0: Storage Piles, pp. 4-1 to 4-24, and eqn. 4-9, p. 4-17. The URS Corporation report cites the Western Regional Air Partnership Fugitive Dust Handbook, Section 9.3, as the source of this approximation, which is derived from the EPA report] A crucial input parameter in this approximation is the silt content of the coal, which the URS Corporation report cites as 2.2 percent, based on the mean value given in AP-42, Section 13.2.4, Table 13.2.4-1 for the coal used in "coal-fired power plants (as received)." But this value is not appropriate because that category of dust sources includes coal from many different mines within the US and shipped to electrical utilities

located mainly east of the Mississippi. That sample necessarily includes lots of eastern bituminous coal, while the coal to be transported to the Longview terminal would all be western subbituminous coal from the Powder River Basin in Montana and Wyoming. The latter is generally much dustier and becomes even more so because it also dries out during open rail-car transport for more than 1,000 miles through one of the most arid regions of the country. [Footnote 5: See, for example, Roderick J. Hossfeld and Rod Hatt, "PRB Coal Degradation — Causes and Cures." Available online at http://krtcommodities.com/files/PRB%20PRB%20COAL%20DEGRADATION.pdf.] A more suitable number for the coal silt content to be inserted in this approximation is the mean value 6.2 percent for "western surface coal mining" in the same Table 13.2.4-1. And it could be dustier. AP-42 Section 11.9: Western Surface Coal Mining gives a mean value 8.6 percent in Table 11.9.3 for the silt content of western coal, based on a range of measured values from 6.0 to 11.3 percent — much greater than the 2.2 percent used by URS Corporation in its estimates.

Replacing 2.2 percent by 6.2 percent in the equation, and applying the same 90 percent efficiency factor for wetting down the coal storage piles, one obtains total annual emissions from storage-pile erosion that are nearly three times as large as those in DEIS Table 5.7-2, or total suspended particulates (TSP) of 3.05 tons/year rather than 1.08. [Footnote 6: But note that wetting down coal storage piles is not a very effective strategy for reducing dust emissions, especially when they are being frequently altered as in this case. As the EPA's AP-42 Section 13.2.4 states on p. 13.2.4- 5, "Watering of the storage piles themselves has only a very temporary slight effect on total emissions. Thus the 90 percent efficiency factor applied in this calculation is likely to be excessive.] (In the same vein, the PM10 emissions should come in at 2.59 tons/year rather than 0.92, and the PM2.5 emissions at 0.40 tons per year rather than 0.19.) And given such an extreme uncertainty in the silt content used in these very rough estimates, the uncertainties in the estimated particulate emissions rates should be taken as the difference between the two calculations — 1.97 tons/yr for TSP (and 1.67 and 0.21 tons/yr for PM10 and PM2.5.) (3009)

### Response to CD-169

Refer to Response to CD-166.

## Comment CD-170

A much better approach to estimating these fugitive dust emissions would be to have made actual measurements of the silt content of the PRB coal being exported from the Westshore Terminals in Delta, British Columbia. These exports have been occurring throughout the period of the URS Corporation study and are continuing today. Given the major uncertainties in the estimated emissions due to the uncertainty in the silt content, it seems mandatory for the terminal proposers to make such measurements and then repeat these calculations (and AERMOD dust-dispersion modeling) using more accurate values obtained from such measurements of PRB coal similar to that to be exported by MBTL. (3009)

### Response to CD-170

Refer to Response to CD-166.

# Comment CD-171

Appendix F addresses another major source of fugitive coal-dust emissions at MBTL, those that occur when coal is added to or extracted from the storage piles by the huge "stacker/reclaimer" mechanisms. According to AP-42 Section 13.2.4: Aggregate Handling and Storage Piles, the quantity of dust emissions is proportional to the average annual local wind speed U to the 1.3 power, or U1.3, and inversely proportional to the coal moisture content M to the 1.4 power, or M1.4. This part of the calculation appears to have been done properly, using appropriate values for U= 5.04 mph and M = 4.5 percent. But the report authors then apply two multiplicative efficiency factors to correct the emissions for wetting of the coal by sprayers and foggers: the same 90 percent efficiency factor as applied to the coal storage piles, and another factor of (1 - 175/365) = 0.52 derived from AP-42 Section 13.2.2: Unpaved Roads. The first correction factor is extremely dubious and the second completely inadmissible because it duplicates the effect of the first factor, and it applies to suppressing dust from unpaved roads — which is very different from the dust caused by falling coal. That is double counting. But taken together, as done in the URS Corporation calculations, they result in an excessive 95 percent reduction in the estimated emissions rate due to these coal-handling processes. Instead of 50.4 tons/per year TSP, for example, they obtain only 2.62 tons/year, the exact figure that appears in line 2 of DEIS Table 5.7-2, "Coal pile development and removal."

A much better way to estimate these emissions would be to use an appropriately higher value of the moisture content M in the AP-42 calculations to reflect the moisture added to the coal being transferred to and from the storage piles. If the moisture content were to be doubled to 9.0 percent, for example, the quantity of fugitive dust emissions generated in the materials-handling processes would decrease by 62.1 percent from 50.4 to 19.1 tons per year. [Footnote 7: The appropriate domain of definition for these AP-42 calculations ranges up to a moisture content M of 4.8 percent. At higher levels, the accuracy of the calculations deteriorates and the uncertainty of the results increases. See EPA AP-42 Section 13.2.4: Aggregate Handling and Storage Piles, table on p. 13.2.4-4.] Or if M were to be tripled to 13.5 percent, the emissions would fall by 78.5 percent to 10.8 tons per year. But under no circumstances can anyone reasonably obtain an emissions rate reduction of 95 percent in these materials-handling processes by wetting the coal being handled, because coal dries out rapidly after wetting. The approach used by URS Corporation is wrong, pure and simple, leading to estimated values of coal particulate emissions rate that is too low by a factor of 4 to 7. Unfortunately, these errors are then propagated throughout the AERMOD dust-dispersion calculations to achieve results completely at odds with reality. (3009)

## Response to CD-171

Refer to Response to CD-166.

# Comment CD-172

Appendix F also attempts to estimate the fugitive coal-dust emission rate from all other materials-handling operations, including the loading of the coal onto bulk carriers at the MBTL piers, and it reports a total TSP figure of 1.05 tons per year. This is exactly 20 percent, or one fifth of the 5.25 tons/year entered in Table 5.7-2, which leads me to think that a more conservative efficiency factor was used to obtain the latter result. Indeed, if one were to substitute an overall dust-containment efficiency factor of 95 percent for the 99 percent used for this calculation (i.e., one multiples the uncorrected emissions by 0.05 rather than 0.01), one obtains the necessary factor of 5 increase. That

must be what was meant by the statement given on DEIS p. 5.7-5, "The modeling was completed for the deposition of coal particles and a more conservative assumption about the effectiveness of full enclosures and spray/fogging for conveyors. A 95% reduction was assumed for the enclosed conveyors and spray/fogging systems.." [Footnote 8: The exact same statement appears in the *SEPA Coal Technical Report*, p. 13.] But a closer examination of these calculations reveals that an additional multiplicative factor of 0.52 has been applied to the uncorrected emissions, as it was to materials handling at the storage piles, based on AP42 Section 13.2.2: Unpaved Roads. As before, this additional factor is duplicative and inadmissible. Thus the entry in Table 5.7-2, line 3, for "Ship transfer and conveyors," must be divided by 0.52 to remove the effects of this factor, resulting in a more credible value of 10.1 tons/year for these materials-handling emissions, not 5.25 tons/yr.

This approach is however inappropriate for calculations of emissions at the rail-car unloading facility and during loading of the bulk carriers at the piers, which are very different operations from those that occur inside the enclosed coal conveyors to and from the storage piles. During ship loading, for example, it is more appropriate to use equation (1) in AP-42 Section 13.2.4 (as was done for the storage-pile operations in Appendix F), which is the approach used to estimate to estimate such fugitive coal-dust emissions in the Coyote Island and Gateway Pacific Terminal projects. [Footnote 9: ENVIRON International Corporation, "Gateway Pacific Terminal Air Quality Technical Report, Revised Site Layout," June 16, 2014, http://eisgatewaypacificwa.gov/sites/default/files/content/files/AQGPT_RevisedLayout_AQ_Report_061614.pdf/.] Doing so, one readily obtains uncontrolled emissions during ship loading of 25.2 tons/year. Of course, some reduction of these emissions will occur due to the fact that ship-loading chutes would extend down into the carrier holds during loading, especially when the loading begins and the holds are largely empty. But winds blowing over the holds, which all have to remain open during the loading process, pulls out much of the dust drifting within them due to the Bernoulli effect. And coal is accidentally dropped onto the deck as a chute moves between holds; this coal is directly exposed to these winds. [Footnote 10: See, for example, Riordan (2016), p. 13.] Thus it is unreasonable to expect any better than a 50 percent reduction, which results in fugitive dust emissions during ship loading of 12.6 tons/year — much greater than the 5.25 tons/year given in DEIS Table 5.7-2 for the entire chain of materials-handling processes but comparable to the 10.1 tons/yr above. (3009)

### Response to CD-172

Refer to the Response to CD-166.

## Comment CD-173

Appendix G attempts to estimate rates of fugitive dust emissions from coal trains approaching the MBTL site and waiting in line to be unloaded at the facility. This is a subject area beyond my specific expertise that would be better examined by experts like University of Washington Professor Dan Jaffe, who has researched this question in great detail. [Footnote 11: See, for example, Daniel Jaffe et al., "Diesel particulate matter and coal dust from trains in the Columbia River Gorge, Washington State, USA," Atmospheric Pollution Research 6 (2015), pp. 946-952, available at http://www.atmos.washington.edu/jaffegroup/modules/APOLLO/Jaffe_DPM_coal_dust_trains_ColumbiaRi vGorge_2015.pdf] But a brief examination of these calculations reveals that they are based on the same rough approximation URS Corp. used in Appendix E to estimate fugitive emissions from wind erosion of coal storage piles. This is an exceedingly crude approximation that is likely to be rife

with major errors and large uncertainties, because this approach was intended to be used for storage piles, not trains. For example, URS Corporation again employs the same low value 2.2 percent for the coal silt content and provides no logical basis for it. Highly appropriate measurements of the silt content on the surface of trains carrying PRB coal passing near Longview after traversing the Columba Gorge could easily have been made, but they were not. Instead these estimates rely on a conveniently low value taken from AP-42 Table 13.2.4-1 for coal from mines throughout the United States. And such measurements could have evaluated the impact of topper agents called "surfactants" that are supposedly being administered by BNSF Railways to suppress the coal-dust emissions in transit. In addition, these calculations do not attempt to evaluate the percentage of time that the vector sum of the wind speed and train motion, called the "effective wind speed," exceeds the 12 mph threshold value for dust emission to occur — a necessary component of this approximation procedure. [Footnote 12: Cowherd et al. (1988), pp. 4-16 to 4-18. This dependence of fugitive emissions on the vector sum of the wind velocity and train velocity was also examined in Jaffe et al (2105). See especially Figure 4 on p.951.] The authors evaluate only the percentage of time annually (8.78%) that the ambient wind speed exceeds 12 mph, but that is not sufficient for this purpose. In the summer, for example, winds above 6.7 mph blow from the ENE about 26 percent of the time, in roughly the opposite direction from trains approaching and entering the MBTL site. [Footnote 13: Millennium Coal Export Terminal, Longview, Washington, Environmental Report, Air Quality Analysis Appendix L – Air Quality Modeling Analysis, URS Corporation, October 2014, revised January 2015. Figure 6: Wind Rose for the Mint Farm Station – Summer, p. 23.] The effective wind speed at the coal surface will easily exceed the 12 mph threshold if the trains are traveling at only 10 mph.

For these and other reasons, the extremely rough approximation presented in Appendix G is completely inadequate in attempting to establish the total fugitive dust emissions from coal trains entering the MBTL site and awaiting unloading. (3009)

## Response to CD-173

Refer to Response to CD-166.

Coal dust emissions from coal cars in the project area were estimated for both moving and waiting coal cars. Refer to the *SEPA Air Quality Technical Report*, *Appendix G*. This model, used to identify potential impacts in the EIS, includes the time coal cars would wait to unload coal. The travel speeds for the train at this location is 2 mph. The use of coal dust emissions estimate is based on the *Western Regional Air Partnership's Fugitive Dust Handbook*, Section 9.3, for open coal cars is conservatively used to estimate emission factors for the moving train assuming all of the hours exceed the 12-mph threshold wind speed. This approach conservatively estimates the coal dust emissions from coal while awaiting to unload.

# Comment CD-174

In addition, the DEIS includes no estimate whatsoever for the fugitive-dust emissions that would occur during the process of unloading the rail cars and injecting the unloaded coal into the material stream entering terminal operations. This is a flagrant omission. (3009)

## Response to CD-174

Draft EIS Chapter 5, Section 5.7, *Coal Dust*, evaluated coal dust emissions from operations in the project area, including during the handling and transfer of coal related to rail unloading, shiploading, conveyor transfer, coal-pile development and removal, and wind erosion of coal piles. Coal transfers would occur in enclosed areas (e.g., rotary coal car dump facility and approximately one-third of the conveyors) and open areas (e.g., coal storage piles).

# Comment CD-175

The fugitive coal-dust emissions rates for PM10 and PM2.5 particulates given in report Appendices C through G (but not presented in DEIS Table 5.7-2 or anywhere else that I could find in the DEIS) are low by similar factors as presented above. Since these rates are crucial input parameters to the AERMOD simulations of dust dispersal around the MBTL site, the results of these simulations will be correspondingly low by similar factors. This is especially significant because these lighter dust particles will remain aloft much longer and travel much farther than the larger, heavier particles included in TSP values. As this subject area is beyond my specific expertise, however, I can offer mostly general comments about this problem. More analytical work needs to be done to correct this glaring deficiency before issuing the final MBTL Environmental Impact Statement.

Much of the coal-dust emissions will occur at and around the coal-storage piles. As shown in the first two lines of my table above, the contributions of total suspended particulates TSP amount to between 13.8 and 24.1 tons/year in all — 40 to 144 percent higher than the entire 9.89 tons/year given in DEIS Table 5.7-2. Similar increases are to be expected in the PM10 and PM2.5 particulates to be entered in AERMOD simulations. And since strong winds occur from the southeast, according to wind roses in Fig. 4-8 of URS Corporation report's Appendix L, plumes of fugitive coal dust will occasionally be blown into the residential areas northeast of the MBTL facility. [Footnote 14: Millennium Coal Export Terminal, Longview, Washington, Appendix L (2014/2015), pp. 21-25.] This adverse impact is partially reflected in DEIS Figure 5.7-4 (on p. 5.7-19), but it will be substantially more severe. And the environmental impacts here will increase significantly once the fugitive dust released in unloading the coal trains is adequately treated and included in the mix. (3009)

## Response to CD-175

Refer to Response to CD-166. Draft EIS Chapter 5, Section 5.7, *Coal Dust*, evaluated coal dust emissions from operations in the project area, including during the handling and transfer of coal related to rail unloading, shiploading, conveyor transfer, coal-pile development and removal, and wind erosion of coal piles. Coal transfers would occur in enclosed areas (e.g., rotary coal car dump facility and approximately one-third of the conveyors) and open areas (e.g., coal storage piles).

# Comment CD-176

The coal-dust emissions during ship loading at the piers will largely fall into the adjacent Columbia River and drift downstream with the current. Such an impact seems to be included in DEIS Figure 5,7-4, with a plume centered near the end of the pier. But it will be much greater and more significant due to the fact that the coal-dust losses from ship loading appear to be grossly underestimated in the URS Corporation report. As I estimated on p. 6 of this comment, the total annual emissions during ship loading could easily be as large as 12.6 tons/year—almost all of it

ending up in the water. This dust dispersal must be simulated using AERMOD, as must its downstream drift and settling. (3009)

### Response to CD-176

Refer to Response to CD-166.

## Comment CD-177

The DEIS fails to adequately consider the amount of coal dust discharged from coal trains and the clear violations of the federal Clean Water Act that would result from the project. (2990)

### Response to CD-177

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-178

Coal handling terminals around the country and abroad utilize BMPs and, nonetheless, release considerable amounts of fugitive coal dust (Ex. 42; Ex. 43 (Sightline Institute, Are Coal Export Terminals Good Neighbors? A closer look at coal dust (Mar. 15, 2011)). The DEIS provides a laundry list of BMPs and design features to address fugitive coal dust. For example, the DEIS states that MBT will control fugitive coal dust from 75-acres of unenclosed coal stockpiles. The DEIS states:

The coal export terminal would employ dust suppression systems throughout the terminal, including the tandem rotary dumpers, all conveyors, stockpile pads, surge binds, transfer towers, and trestle. The dust suppression system would employ sprayers, sprinklers and foggers that disperse water and capture coal dust (DEIS at 4.5-24).

The DEIS fails to evaluate the effectiveness of these BMPs and design features based on real-world applications, including varying temperature and wind conditions.

In addition to 75-acres of unenclosed coal piles, MBT proposes enclosing only 4,900 linear feet of the 16,100 linear feet of conveyor belts. The DEIS fails to address BMPs, if any, to reduce fugitive coal dust from unenclosed conveyor belts. (3277)

### Response to CD-178

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of the coal dust analysis. Refer to Response to CD-17 for a discussion of how information for other coal export terminals cannot be applied directly to the Proposed Action.

## Comment CD-179

Millennium is asking for approval to do business in Longview without fully acknowledging the social and health costs to the community and to individuals. Coal dust impacts are not “insignificant” to existing communities where there are coal piles and coal by rail deliveries. It is a huge problem affecting neighbors‘ homes and property, as well as water quality. The Final EIS should present real world examples of coal dust pollution in terminal communities and how Millennium will guarantee to truly minimize this cost to the community (1980)

### Response to CD-179

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of the coal dust analysis. Refer to Response to CD-17 for a discussion of how information for other coal export terminals cannot be applied directly to the Proposed Action.

## Comment CD-180

In addition, several MBT mitigation measures contain undefined language with no clear path to ensure compliance. MM CDUST-3, "Reduce Coal Dust Emissions from Rail Cars," is a poster child for the weak and undefined mitigation that characterizes MBT's fish mitigation. Under this mitigation measure, MBT "will work with rail companies to implement advanced technology for applicants of surfactants along the expected rail routes for Proposed Action-related trains." If MBT is aware of "advanced technology," the applicant should identify this technology in the DEIS, the Co-leads should analyze the efficacy of the "advanced technology," and the Co-leads should require MBT to utilize this technology. As a practical matter, MM CDUST-3 reads like other mitigation measures: weak, undefined, and potentially meaningless. (3277)

### Response to CD-180

As stated in the Master Response for Mitigation Framework, an applicant cannot be required to act beyond its legal authority or jurisdiction. The measure referenced by the commenter states that the Applicant will not receive coal trains unless surfactant has been applied at the BNSF surfactant facility in Pasco, Washington, for trains traveling through Pasco. For trains traveling along routes that do not pass through Pasco (i.e., along the UP main line), the Applicant would work with rail companies to implement advanced application of surfactants.

## Comment CD-181

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| A | **Summary**<br>Page S-36, *Coal Dust,* first paragraph | Revise sentence to read: "*The movement of the train cars during transit <u>may</u> create vibrations that could break larger pieces of coal into smaller <u>pieces</u>*." | As originally written, this is an unsubstantiated claim and would need to be proven to be referred to here. To have it remain in the text is misleading. |
| B | **Summary**<br>Page S-35, Coal Dust first paragraph, last sentence. | Rewrite to be less definitive: "Coal dust ~~would~~ <u>may</u> also be generated and dispersed by wind~~s and air currents~~ during coal stockpiling …." | This is not necessarily fact, as controls, including natural controls (rain and coal moisture), would prevent this. No need to use "air current" in here as anything different from wind; the use of "air current" suggests coal dust moving long distances with large air masses, and could imply that a light current could move coal dust around, which is, in fact, highly unlikely. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| C | **Summary**<br>Page S-36, Coal Dust second paragraph | Add information about the site being part of the study area. | One or both of the study areas needs to include the site, not just the rail lines outside of the site. |
| D | **Summary**<br>Page S-36, Coal Dust third paragraph | Use correct terminology for PM2.5 and PM10: particulate matter with a mean diameter less than *or equal to* [2.5/10] *micrometers* in diameter. | Consistent with federal definitions. "Micron" is old terminology and no longer correct. |
| E | **Summary**<br>Page S-36, Coal Dust fourth paragraph | Remove references to "standard" when discussing nuisance. Clarify usage of New Zealand document and any reference concentrations/rates. | The assessment of nuisance is subjective. There are no standards, and referencing a threshold level from another country is inappropriate. In addition, the New Zealand document is a guide, not a standard. The New Zealand materials describe this as a "Good practice guide for assessing and managing the environmental effects of dust emissions". Furthermore, page 32 of the New Zealand document states: "In some industrial or sparsely populated areas, deposition rates of more than 4 g/m2/30 days may not cause significant nuisance. However, in highly sensitive residential areas deposition rates in the order of 2 g/m2/30 days, above background concentration, may cause nuisance." It is misleading to have the NZ document represented the way it is here (authors are citing the 2 g/m2/30 day trigger level throughout the report, when it is likely not even applicable to the project study area (industrial and rural).Also, there are British, Australian and IOS standards; provide justification for referring only to the New Zealand case. |
| F | **Summary**<br>Page S-36, *Coal Dust,* Operations, second paragraph | Remove discussion of "trigger level for sensitive area". | There is no substantiation in technical report regarding a 'trigger' level or any valid regulatory threshold, and there is no discussion defining 'sensitive' areas or receptors. |
| G | **Summary**<br>Page S-36, *Coal Dust,* Operations, second paragraph | Coal Dust: *"The study found the estimated maximum coal dust deposition from coal export terminal operations at and* | This is first mention of "the study" (clarify that this is an analysis of proposed project), and first mention of a specific "trigger level" |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| | | *beyond the project area boundary would be 0.31 gram per square meter per month (near Mount Solo Road). This estimated maximum deposition would be below the trigger level for sensitive areas (2.0 grams per square meter per month) used for the analysis. Within a few thousand feet of the project area, the annual deposition of coal dust is estimated to be less than 0.1 gram per square meter per month."*<br>Revise/clarify this conclusion statement. Simplify to discuss that analysis shows potential for coal dust deposition, but do not quantify, as these results and potential impacts are misleading. | (see comment above), which makes it seem like an absolute/definitive standard. Make whole statement qualitative and refer to New Zealand (or whichever is eventually used) nuisance guideline level. |
| H | **Summary**<br>Page S-37 *Coal Dust,* second sub bullet under each of the bulleted headings | Remove/rewrite 2nd sub-bullet in each case. | Do not use inapplicable 'threshold' terminology. References to nuisance should be qualified as subjective. |
| I | **Summary**<br>Page S-37, Coal Dust BNSF Main Line, Cowlitz County and BNSF< Mainline, Washington State, second sub-bullet under each of the headings | Provide explanation as to why the results change between the County and Washington State, | Provide brief/summary explanation (and details in Coal Dust section and Technical Report). |
| J | **Summary**<br>Page S-37, *Coal Dust,* Operations, first paragraph bellow the bulleted items, last sentence | Remove/rewrite sentence to exclude the 'threshold' terminology. | Threshold reference is not applicable; reference is to a foreign guideline for nuisance. |
| K | **Summary**<br>Page S-57, Section 5.7, Coal Dust | CDUST-4: *"Provide Information to the Columbia River Gorge Commission. To address statewide public interests and concern of coal dust emissions, the Applicant will attend at least one Columbia River Gorge Commission public meeting per year and be available to present information on coal dust emissions and rail traffic related to the Proposed Action and discuss concerns."* | This requirement should be deleted. This is not an issue within the control of the Applicant. Trains and dust in the Gorge are not something the Applicant has information on or manages. This is information held by the railroad. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|---|
| L | **5.7 Coal Dust**<br>Page 5.7-1 | *"The vibration of the train during transit can break larger pieces of coal into smaller particles, creating more dust."*<br>Revise sentence to read: "*The movement of the train cars during transit <u>may</u> create vibrations that could break larger pieces of coal into smaller <u>pieces</u>.*" | This statement needs to be substantiated, where is the study that measures this. If it can't be substantiated it needs to be deleted as misleading |
| M | **5.7 Coal Dust**<br>Page 5.7-2, first [t] paragraph | Use correct terminology for PM2.5 and PM10: particulate matter with a mean diameter less than *or equal to* [2.5/10] *micrometers* in diameter. | Consistent with federal definitions. "Micron" is old terminology and no longer correct. |
| N | **5.7 Coal Dust**<br>Page 5.7-2, second and third paragraphs | Remove sentence regarding NZ study as "most commonly cited". Combine these two paragraphs as examples of studies. | Number of citations is irrelevant; it does not make this study more valid. It is okay to describe these studies, but need to give them equal weight here, and not represent NZ 'thresholds' as better than Canadian ones. Also need to stress that nuisance levels are subjective, and these values are used more as benchmarks than thresholds, or trigger/acceptable/maximum levels, as described throughout text. |
| O | **5.7 Coal Dust**<br>Page 5.7-4, Section 5.7.3.2 Impact Analysis, last paragraph | Explain what the "emissions rates" are that were adjusted. | First time mentioning emission rates, and we don't know what these are or where they came from. Instead, just saying how they were adjusted. |
| P | **5.7 Coal Dust**<br>Page 5.7-5, Direct Impacts, Table 5.7-2 | Add reference to table. Correct values, as needed. | Reference appropriate Air Quality Tech Report appendices. Value for Ship Transfer and Conveyors uses lower control than proposed, making this emission rate 5 times higher than expected (see comments on Air Quality Tech Report). Value for Train Unloading is from original URS air quality appendix; update with ICF # (numbers have changed due to other changes made by ICF regarding train operations and characteristics). |
| Q | **5.7 Coal Dust** | Remove the additional conservative factor (95%) for dust control, returning it back | The current facility permit was modified in 2014 to include a retrofit of coal handling areas with |

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| | Page 5.7-5, Direct Impacts, second paragraph below Table 5.7-2 | to 99%, consistent with the existing permit at the site. | fogging systems. A control efficiency of 99% for enclosure plus fogging was based on vendor information, and was approved by SWCAA during permitting. There is no basis for applying the lower control efficiency due to one draft permit from Oregon DEQ, as stated. |
| R | **5.7 Coal Dust**<br>Page 5.7-5, Direct Impacts, third paragraph below Table 5.7-2 | Information here is misleading. Simplify, stating that data from other mines was used, and reference the technical report. Cannot say that analysis used "data from comparable mines". | Based on the technical report, although data from 11 mines was reviewed, the only 'comparing' done was that they used the "coal type with the highest near-field deposition" for this DEIS. |
| S | **5.7 Coal Dust**<br>Page 5.7-5, Direct Impacts, last paragraph | Remove paragraph.<br>"*The U.S. Geological Survey is preparing a study that identifies methods for determining potential impacts on aquatic resources from coal dust exposure. The study, not yet published, uses two locations along rail lines in the Columbia River in Washington State as examples. The study will consider diet and other pathways of exposure and also compare results to levels of concern determined in previous studies. While not available for consideration for this Draft EIS, it is anticipated that the published study will be considered for the Final EIS."* | This information is not relevant to air quality. If there is an impact, it should be discussed within the appropriate element such as water quality or vegetation. If methods from this study are relevant to air quality evaluations, that would be only consideration for using it in the coal dust assessment, but citing this study here only adds unnecessary public concern and adds nothing to this section of the DEIS. |
| T | **5.7 Coal Dust**<br>Page 5.7-6, Indirect Impacts, fourth paragraph, first sentence | Remove *"…., provided a representative sample"*, or provide more detail that this is representative of worst-case conditions. | This data is only representative of specific climate condition (dry season; at the end of approximately 4 months with little precipitation); the study was purposefully done to collect coal dust, not to measure whether it occurs or not, or under varying (normal) conditions. |
| U | **5.7 Coal Dust**<br>Page 5.7-8, Indirect Impacts | Summarize these paragraphs, and make clear that 2014 coal train dust study was used along with conservative Australian coal data to develop emissions for analysis of impacts. | Details of the study (and the study itself) are included in the Technical Report. In this chapter, author should just state how this study was used to ground-truth and adjust emission factors. Showing various equations and random |

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| | | | justifications for rail car assumptions is misleading and leads to misinformation when readers do not understand the technical background. |
| V | **5.7 Coal Dust**<br>Page 5.7-9, Section 5.7.4.1 Introduction to *Coal Dust,* first paragraph | Add agricultural and ground work (construction) to sources of particulates. Note that these examples are not exhaustive lists of natural or anthropogenic sources. Replace *"smoke from power plants and factories"* to *"industrial emissions"*. | The authors have listed anthropogenic sources that have negative imagery. Agriculture and construction are important contributors to particulate in the atmosphere. "Smoke" from power plants and factories also conjures a purely negative image; many emissions are due to fuel combustion, while there are many other non-smoke particulate emission sources, such as cooling towers and sanding/cutting/grinding activities. |
| W | **5.7 Coal Dust**<br>Page 5.7-9, Section 5.7.4.1 Introduction to *Coal Dust,* second paragraph | Rewrite to be less definitive: "Coal dust ~~would~~ <u>may</u> also be generated and dispersed by wind~~s and air currents~~ during coal stockpiling …." | This is not necessarily fact, as controls, including natural controls (rain and coal moisture), would prevent this. No need to use "air current" in here as anything different from wind; the use of "air current" suggests coal dust moving long distances with large air masses, and could imply that a light current could move coal dust around, which is, in fact, highly unlikely. |
| X | **5.7 Coal Dust**<br>Page 5.7-9, Section 5.7.4.1 Introduction to *Coal Dust,* Coal Dust and Human Health | This section belongs in Air Quality. Refer to it in that section. | As described up front, the Coal Dust chapter is focused on nuisance issues. Federal and State air quality regulations include health-based standards. |
| Y | **5.7 Coal Dust**<br>Page 5.7-10-11, Section 5.7.4.1 Introduction to *Coal Dust,* Coal Dust and Human Health | Remove paragraph discussing of Tongue River DEIS. | This information doesn't have anything to do with discussion on health effects. The modeling results shown here are not representative of the proposed Project; would need to show more relevance (similar operations and meteorological conditions) to be useful in this assessment. In addition, the discussion of modeled receptors has not yet been introduced and can be misleading to a reader, confusing receptors "placed" for modeling with |

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| | | | physical monitoring. The last sentence (regarding study conclusions) in this section is the only one that is appropriate here. |
| Z | **5.7 Coal Dust**<br>Page 5.7-11, Section 5.7.4.1 Introduction to *Coal Dust,* Emissions, Dispersion, and Deposition of *Coal Dust,* first paragraph | Add bullets for "transfer or handling process", "enclosures or other physical barriers", "additional controls, such as spraying/fogging", and "shape (profile) of coal pile". | This list is for "rail cars and coal handling facilities", but seems to focus on rail cars only. Either add additional bullets or categorize properly. |
| AA | **5.7 Coal Dust**<br>Page 5.7-11, Section 5.7.4.1 Introduction to *Coal Dust,* Emissions, Dispersion, and Deposition of *Coal Dust,* first paragraph after bullets | Delete second half of paragraph, starting with "Human exposure to deposited…." | This does not belong in this section. Section is for emissions, dispersion, and deposition. This is leading into impacts and effects again. |
| BB | **5.7 Coal Dust**<br>Page 5.7-12-14, Section 5.7.4.1 Introduction to Coal Dust | Condense these three sections with the previous one under the composite title (Emissions, Dispersion, and Deposition of Coal Dust). | Confusing and repetitive. This is all part of "Introduction to Coal Dust" which is already 6 pages long. Detailed treatise of coal dust should be in tech report and references. |
| CC | **5.7 Coal Dust**<br>Page 5.7-13, Section 5.7.4.1 Introduction to *Coal Dust,* Airborne Coal Dust Dispersion | Remove all references to specific modeling impacts from other projects (paragraphs 2, 3, and 4). | The modeling results shown here are not representative of the proposed Project; would need to show more relevance (similar operations and meteorological conditions) to be useful in this assessment. |
| DD | **5.7 Coal Dust**<br>Page 5.7-14-15, Section 5.7.4.1 Introduction to Coal Dust | Ecological Impacts and Safety Impacts sections should be referred to other Chapters of the DEIS for those specific topics. | Although these issues are relevant to coal dust, this chapter of the DEIS does not include any assessment of potential ecological or safety impacts from this Project. Both topics are very complex. Besides being irrelevant, including descriptions of findings from other studies adds unnecessary negative and misleading information. |
| EE | **5.7 Coal Dust**<br>Page 5.7-15, Section 5.7.4.2 Existing Conditions in the Study Area, Applicants Leased Area | Note that the existing facility has an air permit through SWCAA, and that all operations are in compliance. | This only mentions that "coal dust emissions are estimated to be small". State permitted levels to give more definitive sense of emissions at the facility. |
| FF | **5.7 Coal Dust**<br>Page 5.7-15, Section 5.7.4.2 Existing Conditions in the Study Area, Cowlitz County | Instead of second and third paragraphs, just state attainment status and refer to Air Quality chapter/section. | The information regarding PM2.5 monitoring is related to wood smoke, not coal dust. The national toxics assessment and cancer risk discussion is not relevant to coal dust. |

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| GG | **5.7 Coal Dust**<br>Page 5.7-15, Section 5.7.4.2 Existing Conditions in the Study Area, Washington State | Confirm this coal train count beyond Cowlitz County (seems like it was just copied over). Combine this section with previous one (Cowlitz County) if possible. | The two sections are almost identical. No need to separate. |
| HH | **5.7 Coal Dust**<br>Page 5.7-17, Section 5.7.5 Impacts, Operations – Direct Impacts | Replace "would result in" with "has the potential to result in" | These modeled values are worst-case predictions (based on a combination of worst-case emissions aligned with worst-case meteorology). There is potential, but there is no certainty that this worst-case event would occur. |
| II | **5.7 Coal Dust**<br>Page 5.7-17, Section 5.7.5 Impacts, Operations – Direct Impacts | Add discussion describing how this was modeled. Specifically describe receptors/locations, and note why they are 'sensitive'. Remove label of "Trigger Level for Sensitive Areas". If referencing the NZ level at all, need to define sensitive areas vs. their other level(s). | Although some details are provided in Technical Report, there is NO discussion here of how it was done. There should be some basic description if results are provided (this is more than Summary section). The NZ "trigger" level is not an appropriate reference. Make it very clear that this is NOT a regulatory threshold. Discuss why both annual and monthly depositions rates were modeled; annual values are not referenced against anything. |
| JJ | **5.7 Coal Dust**<br>Page 5.7-20, Section 5.7.5 Impacts, Operations – Indirect Impacts, Reynolds Lead and BNSF Spur | Add discussion describing how this was modeled. In addition, add discussion for first paragraph and Table 5.7-4 explaining how this is different from analysis performed in Air Quality report (coal only; describe sources removed). | Same comments as above. Why wasn't impact analysis for Direct sources of coal (facility sources) performed in previous section? (Inconsistent analyses.) Refer to Air Quality Technical report for modeling set up for impact analysis. Why does Table 5.7-5 have an average and a maximum monthly deposition rate, while Table 5.7-4 has maximum annual and maximum monthly? (Inconsistent analyses.) Provide explanation of 'receptors', and make it clear that these are modeling locations. They should not be identified as 'sensitive', but rather as ambient (beyond facility boundary); there is no regulatory qualification for sensitive receptor associated with nuisance, and the maximum deposition location is not even in a residential area. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
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| KK | **5.7 Coal Dust**<br>Page 5.7-20-23, Section 5.7.5 Impacts, Operations – Indirect Impacts, BNSF Main Line | Add discussion describing how this was modeled. Remove Table 5.7-8 and associated text. | Same explanations as above. Table 5.7-8 is a toxics analysis that has had no introduction (until after the table). This does not belong here. Discussion of toxics belongs in Air Quality section; breaking out coal-only TAPs has no meaning, as the regulatory driver is ALL toxics from the proposed project. Additionally, the first tier of TAP analysis is review of the emission rates, which are not even mentioned here. |
| LL | **5.7 Coal Dust**<br>Page 5.7-23, Section 5.7.5 Impacts, Operations – Indirect Impacts, Washington State (Outside Cowlitz County) | Add discussion describing how this was modeled. | Same explanations as above. How was the whole state modeled (meteorology, terrain background concentrations, model)? The results do not make sense. If the BNSF Main Line has higher deposition rates due to increased train speeds, as suggested above, how come these trains do not have similar rates? Why is December the maximum month? This should be a wet month, with lower coal dust emission rates. |
| MM | **5.7 Coal Dust**<br>Page 5.7-25, Section 5.7.6 Required Plans and Permits | Remove this section, or refer to Air Quality chapter. | Permitting is addressed in the Air Quality chapter. Coal Dust has no separate permitting requirements. |
| NN | ***SEPA Coal Technical Report*** (Coal Dust Emissions)<br>Technical Report, Page 18, Section 2.2.4 Coal Dust Monitoring | Rewrite/reorganize 1st paragraph. The comparison of the T&B Systems study results to Jaffe report is not correct (2nd bullet). Neither study identifies the makeup of the PM2.5 fraction, it is known to contain diesel combustion emissions, iron oxide particles, general dust and possibly coal particles.<br>Jaffe report also shows "super dusters" which he did not verify to be coal, but has called them coal. This is poor science to base your conclusions on an invalidated assumption.<br>It is my assumption from observation of the Jaffe report and a presentation by him on the matter that the super | This section starts off confusing with "As described in Section 3.1.3, Impact Analysis,…." and then starts discussing results of the T&B Systems study, which hasn't even been introduced yet. The whole section should be rewritten for clarity and organization. |

| ID | DEIS Section and/or Page Number | Text Correction/Revision | Comment |
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| | | dusters are pet coke trains – not even coal. | |
| OO | ***SEPA Coal Technical Report*** (Coal Dust Emissions)<br>Technical Report, Page 21, Paragraph describing Figure 4 | Either remove figure and associated paragraph completely (if there is no reference for it), or at least add caveat that this linear regression is based on very limited data., and delete last sentence citing use of the lower (61%) emissions reduction effectiveness for subsequent modeling of coal trains instead of 85%. | OK to describe T&B Systems study, but do not make additional conclusions about the study within the DEIS Technical Report. This does not explain what 'modeling' is being compared to the study observations. Need a reference for Figure 4, as it does not relate to anything included with this report. The application of 85% control is cited in DEIS chapter (BNSF Coal Loading Rule), but is never mentioned in this Technical Report, and the 61% is never mentioned in the DEIS chapter. And there is no further mention of either control level applied during emission estimation (in Coal Dust OR Air quality sections). |

(3070)

## Response to CD-181

The following describes the changes made to Final EIS Summary, Chapter 5, Section 5.7, *Coal Dust,* and the *SEPA Coal Technical Report*, in response to these comments. Refer to the left-most column of the above table for lettering used to identify each comment. In cases where requested, edits were not made to the Final EIS; the response explains the rationale.

- **Comment A.** The text identified by the commenter has been revised in the Final EIS *Summary*.
- **Comment B, C, D, E, F, G, H.** The requested revisions have been made.
- **Comment I.** The level of detail requested by the commenter is not commensurate with an EIS summary.
- **Comment J.** The requested revision has been made.
- **Comment K.** This potential mitigation measure was included in the Draft EIS to reduce impacts from coal dust related to the Proposed Action and has been retained in the Final EIS as a proposed mitigation measure.
- **Comment L, M, N, O.** The requested revision has been made.
- **Comment P.** The assumptions included in the *Environmental Report Air Quality Analysis* prepared by URS were reviewed and verified during the preparation of the Draft EIS. In some cases, assumptions were revised, refined, or updated based on available information, consistent with regulatory guidance, or to develop more detailed assumptions necessary for the analysis of air quality impacts for the EIS. Although the commenter does not cite specific examples where they found references to be unclear or incorrect in their comment, a number of clarifications and revisions have been made in the Final EIS

- **Comment Q.** The *Environmental Report Air Quality Analysis* was reviewed along with the description of the Proposed Action to understand how the onsite coal transfers would be operated at the coal export terminal. These documents identified some of the coal transfers would occur in enclosed areas (rotary coal car dump, approximately one-third of the conveyors, etc.) with some of the transfer activities at the unenclosed coal piles. However, the conveyors and stockpiles would have systems for dust control (watering or dry fogging). Watering at the piles would also help to reduce wind erosion. The proposed system design was discussed with the Southwest Clean Air Agency Air Quality Engineer familiar with the Applicant's current and proposed operation and it was concluded that unless the Applicant commits to having every transfer and conveyor operation totally enclosed (all four sides, plus top and bottom) it was recommended that the 95% control efficiency be retained in the Final EIS. This 95% control efficiency for a dry-fogging dust-suppression system only is consistent with what the Applicant has committed to in the *Environmental Report Air Quality Analysis* document and is a reasonably conservative control efficiency.
- **Comment R.** The requested revision has been made.
- **Comment S.** The text has been revised in Final EIS, Section 5.7, *Coal Dust*, to reflect recent updates.
- **Comment T.** The requested revision has been made.
- **Comment U.** The level of detail is appropriate for the Final EIS. Readers may refer to the technical report if they require additional information on the technical background.
- **Comment V, W.** The requested revision has been made.
- **Comment X.** This section provides useful background for the discussion of the impacts from coal dust, which, while related to air quality, has been provided with a separate section in the EIS.
- **Comment Y, Z.** The requested revision has been made.
- **Comment AA.** The text identified by the commenter is part of a discussion of possible pathways for coal dust exposure and is not a description of impacts from the Proposed Action or No-Action Alternative.
- **Comment BB.** The content is a useful and necessary introduction to the subject matter that aids the reader in understand the potential impacts of coal dust presented later in the same section.
- **Comment CC.** The other studies and results described in the text identified by the commenter provide useful reference points to the reader and their results. Several commenters have identified the need for the EIS to include studies of other similar projects.
- **Comment DD.** The other studies and results described in the text identified by the commenter provide useful reference points to the reader. Several commenters have identified the need for the EIS to include studies of other, similar projects.
- **Comment EE.** The requested revision has been made.
- **Comment FF.** The requested revision was not made.
- **Comment GG.** The information identified by the commenter was confirmed for the Final EIS, Chapter 5, Section 5.7, *Coal Dust*. The sections are separated to provide a parallel and consistent structure to the document.

- **Comment HH.** Impacts throughout the Final EIS are described in similar terms. Information sources and methods used to identify impacts are described in Final EIS Section 5.7, *Coal Dust,* and the *SEPA Coal Technical Report*.
- **Comment II.** Detailed discussions of the modelling methods were not included in Final EIS sections, rather they were provided in appendices. The *SEPA Coal Technical Report*, Chapter 3, (Section 3.1.3), described how the modeling was done for both the terminal and along the various rail line segments. "Trigger Level for Sensitive Areas" was changed to "Benchmark used for Analysis" in the Final EIS, as appropriate. Annual depositions rates were modeled as to identify how deposition levels that would potentially accumulate if the coal dust just accumulated and was not later removed or dispersed.
- **Comment JJ.** See responses to Comment II. Facility-based sources of coal dust emissions were discussed in the previous section, *Operations-Direct Impacts*, and identified coal dust from coal handling and transport activities in the project area. "Receptor" has been removed from the text identified by the commenter.
- **Comment KK.** The introduction of Table 5.7-8 preceded the table in the Draft EIS. As noted in Final EIS Chapter 5, Section 5.7, *Coal Dust,* the table identified by the commenter was provided for comparison purposes.
- **Comment LL.** The coal dust emissions rates for the main line in Cowlitz County and in eastern Washington are the same. The difference in concentrations are due to different meteorology and track orientations. While December is a wet month, it is also a period with frequent stagnation and lower-than-average wind speeds resulting in highest monthly deposition.
- **Comment MM.** Final EIS Chapter 5, Section 5.7, *Coal Dust*, has been revised to indicate that coal dust has no separate permitting requirements.
- **Comment NN.** This section of the *SEPA Coal Technical Report* has been revised for clarity.
- **Comment OO.** The *SEPA Coal Technical Report* has been revised to expand the discussion of the modeling and how the 61% control efficiency was determined.

# Comment CD-182

I am concerned that increase coal transported by train will cause coal dust and its accompanying metals to contaminate Lake Pend Oreille and would like to see that this is mitigated sufficiently. (0370)

## Response to CD-182

The area identified by the commenter is outside the EIS study area for potential coal dust impacts. Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

# Comment CD-183

The city of Livingston [Montana] is also at risk for air quality issues due to blowing coal dust, and I would like to see more study done on coal trains traveling through exceptionally windy areas. (1924)

### Response to CD-183

The area identified by the commenter is outside the EIS study area for potential coal dust impacts. Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-184

Furthermore, coal dust escapes onto the tracks creating additional maintenance concerns for the railroad. The validity of coal dust concerns has been confirmed by the work of Daniel A. Jaffe at the University of Washington, whose 2014 study showed a distinct pattern of coal dust emissions from Powder River coal trains in the Seattle area. We have heard anecdotal evidence that people who live next to the tracks in Hope, Idaho, found coal dust gathering on their windowsills. That dust also settles into ballast of the raillines. This causes maintenance problems for the tracks and can lead to derailments. As coal train traffic increases, we increase our odds of a derailment. Idaho and Montana will not receive any additional funds from this project to mitigate for this lack of scrutiny. (3492)

### Response to CD-184

Refer to the Response to CD-40.

## Comment CD-185

Coal dust is a real problem. Anecdotally, we know people in the Hope, Idaho, area have experienced coal dust build up inside their homes, and recent University of Washington studies confirm that dust escapes from coal cars. We know that coal contains toxic metals such as mercury and lead, and that it causes severe lung problems in miners. We don't have enough studies to determine how serious health effects are when coal dust is combined with diesel fumes in the vicinity of railroads. We are concerned, also, that this Draft EIS was released prior to the completion of the health impact assessment that was commissioned by the state in order to inform this process. There are too many unanswered questions regarding health impacts to approve this facility. (3492)

### Response to CD-185

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-186

It is the opinion of our organization that the DEIS does not adequately address concerns around coal dust.

We have pictures of trains with large quantities of coal dust coming off of them. There are ten river and lake crossings in our jurisdiction alone and coal from existing coal trains is currently being discharged into Lake Pend Oreille and is currently a violation of the Clean Water Act.

So threats of derailment into our water body are significant and it is of tremendous concern. So wrapping up, I'd like to encourage you all to seriously consider the impacts on all the rail communities between mine and port. (TRANS-LV-Q1-00006)

### Response to CD-186

The area identified by the commenter is outside the EIS study area for potential coal dust impacts. Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-187

The EIS showed that the estimated air quality would be above NAAQS standard and coal dust would be above the trigger levels (New Zealand Ministry of Environment 2001) within 100 feet of coal train runs. I assume that the coal dust data in the EIS were derived after considering the coal dust reduction treatment. The New Zealand study emphasized that for the sensitive area (residential area), the trigger level should be lower than that listed in the EIS (EIS, chapter 6, table 6-22).

Coal dust doesn't stop at 100 feet but goes beyond. The Tri-Cities area is known as the windy cities. Accumulated coal dust would be dispersed by the wind. The problem is that the train tracks run through the vicinity of residential and schools zones in Kennewick and Pasco. (TRANS-PASCO-Q2-00001)

### Response to CD-187

Draft EIS Chapter 5, Section 5.7, *Coal Dust,* described how inhalation of coal dust (particulate matter) is the primary exposure pathway of concern. A dispersion model was performed to assess coal dust deposition, and emissions of PM10 and PM2.5 were estimated for the analysis. The results were compared against applicable thresholds. The analysis determined estimated maximum PM10 and PM2.5 concentrations from coal dust emissions plus background would be below applicable NAAQS throughout the study area for coal dust impacts.

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-188

The DEIS fails to adequately consider the amount of coal dust being discharged from the trains, the impacts of this coal dust on the scenic, natural, cultural and recreation resources of the Columbia River Gorge National Scenic Area, and the clear violations of the federal Clean Water Act that would result from the project. (3655)

### Response to CD-188

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of the coal dust analysis completed for the Proposed Action, including updates in the Final EIS specific to the Columbia River Gorge.

## Comment CD-189

While DEIS's modelling states that particulate pollution will be negligible outside of the 50 foot area immediately surrounding the project site, the only way to find out the true extent of particulate pollution is to install monitors at further distances. Since coal dust is deposited on houses up to one mile away near the McDuffie Terminal in Mobile, Alabama (Weis, Barraza, and Brantley 2016), it is probable that microscopic particulate material will also be deposited at long distances in Longview. Monitors should be installed in neighborhoods 100, 500, 1000 and 3000 feet from the project site,

and in all directions, since the terrain is partly hilly and prevailing winds are variable from winter to summer. To protect the health of Longview citizens, we should rely on actual data instead of predictions from models. (3465)

### Response to CD-189

Refer to the Master Response for Particulate Matter and Coal Dust Analyses and Response to CD-12.

## Comment CD-190

The DEIS fails to consider the impacts of the amount of coal dust spilled between the coal mine and the proposed terminal, the amount of coal dust spilled throughout Washington State, the amount of coal dust spilled between the state border and the second surfactant spraying operation in Pasco and onward along the Columbia River to the proposed terminal.

Coal dust and debris discharged from every coal train is deposited in waterways adjacent to or near the BNSF tracks. The list of Washington rivers that would be impacted by coal spills from the project include, but are not limited to, the following: Alder Creek, Ashes Lake, Catherine Creek, Chamberlain Lake, Columbia River, Cowlitz River, Drano Lake, Duncan Creek, Franz Lake, Gibbons Creek, Horsethief Lake, Kalama River, Klickitat River, Lawton Creek, Lewis River, Little White Salmon River, Little Spearfish Lake, Major Creek, Nelson Creek, Rock Creek, Rowland Lake, Snake River, Spokane River, Wind River, White Salmon River, and Woodard Creek. (2508)

### Response to CD-190

Refer to the Master Response for Particulate Matter and Coal Dust Analyses.

## Comment CD-191

Every loaded train that would deliver coal to this facility would pass through the Columbia River Gorge National Scenic Area in uncovered cars. The DEIS fails to adequately consider the impacts of coal train traffic and the associated coal dust on the scenic, natural, cultural and recreation resources of the Columbia River Gorge National Scenic Area. (1434)

### Response to CD-191

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a summary of the coal dust analysis, including updates in the Final EIS specific to the Columbia River Gorge.

## Comment CD-192

A Comparison of the DEIS' Predicted PM Fugitive Emissions to Actual PM Emissions at Australian Coal Ports Reveals that the DEIS' Predictions are Unreasonably Low.

The FEIS should also consider evidence from Australia, which has had a long history of large coal-export terminals with open coal stockpiles, and extensive experience with the pollution that they cause. One analysis for a new terminal in Newcastle, performed as part of the project's license, shows that it would discharge over 300,000 kg/year of coal dust at operations of 66 million ton/year. The analysis breaks down the emissions rate for each stage of the process. The largest source of emissions is from wind erosion of stockpiles.

Another analysis, based on data from Australia's National Pollutant Inventory—that nation's most authoritative data source for pollutant information—shows that coal terminals were the primary sources of particulate air pollution in two areas where major coal terminals operated. The Hay Point coal terminal in MacKay self-reported a release of 160,000 kg of PM10 and 17,000 kg of PM2.5 in 2014-15. A news report from April of this year reported that the three coal export terminals in Newcastle were responsible for 62% of that city's PM10 air pollution. These authoritative figures collide sharply with the DEIS's modeled emissions—which anticipated releases an order of magnitude lower, using the exact same approaches to reduce dust from open stockpiles. Clearly, the real-world experience in Australia has more to offer than the flawed models of the DEIS. (3277)

## Response to CD-192

Refer to Response to CD-17.

# 5.8 Greenhouse Gas Emissions and Climate Change

This section presents responses to substantive comments related to greenhouse gas emissions and climate change, including the coal market assessment.

## 5.8.1 Coal Market Assessment

This section presents responses to substantive comments related to the coal market assessment.

## Comment CMA-1

DEIS assumes that exporting coal will raise the cost of domestic coal and thus discourage coal consumption. (0175)

### Response to CMA-1

Changes in minemouth prices, delivered costs, and consumption of U.S. coal were not assumptions of the analysis but results of the modeling conducted for the assessment. Refer to the Master Response for the Coal Market Assessment for information on the methods, assumptions, and model used in the analysis; sources of data; scenarios considered; and conclusions related to impacts of the Proposed Action on U.S. and international coal markets.

## Comment CMA-2

In your DEIS, you state that the impact of burning fossil fuels, even in Asia, is harmful to the global environment. You also state that this coal COULD replace other coal sources. You are kidding yourself if you think that it will replace anything. If it's dug up out of the ground, it will get used at some point. It only increases the amount of coal available which extends the length of time that coal is being used. (0365)

### Response to CMA-2

Refer to the Master Response for the Coal Market Assessment for information on the methods, assumptions, and model used in the analysis; sources of data; scenarios considered; and conclusions related to impacts of the Proposed Action on U.S. and international coal markets.

## Comment CMA-3

I really don't understand how you can say that this source of coal is going to reduce greenhouse gases by displacing other sources of dirtier energy. Everyone who has the green light to mine and export coal will do so until there is no one left who is willing to buy it. Even if you can find evidence that this coal will displace "dirtier" sources of fossil fuels, what makes you think that those other sources won't be sold elsewhere or sold as new demands for cheap energy arise? We are only increasing our population and industry globally, and demand for energy will only increase. Providing more coal to the global market is sure to increase greenhouse gases. It is a fantasy to think that providing "cleaner" coal is going to keep "dirtier" fuels in the ground. (0371)

## Response to CMA-3

The *SEPA Coal Market Assessment Technical Report* concluded that most of the Proposed Action-related coal would displace other international coal production. The $CO_2$ emissions rate of the displaced coal may be higher or lower than the $CO_2$ emissions rate of the coal exported under the Proposed Action. Chapter 6 of the *SEPA Coal Market Assessment Technical Report* presents the modeling results, including how $CO_2$ emissions from the Proposed Action would change under the different scenarios. Chapter 3 of the *SEPA Greenhouse Gas Emissions Technical Report* presents modeled greenhouse gas emissions by emissions sources and as total net greenhouse gas emissions under each of the scenarios.

Refer to the Master Response for the Coal Market Assessment for information on the methods, assumptions, and model used in the analysis; sources of data; scenarios considered; and conclusions related to impacts of the Proposed Action on U.S. and international coal markets.

# Comment CMA-4

The DEIS does not provide decision makers with an accurate analysis of the financial and market barriers to this proposal. It does not state, as it should, that the coal terminal has a high likelihood of failure. For example, the consensus of investment banks and financial indicators is that domestic and global coal markets are in a state of collapse. The U.S. coal industry is rapidly losing market share for electricity generation within the U.S., where 200 coal-fired plants have been closed in recent years and plans to build 180 new plants have been dropped. The international coal market is oversupplied and global coal producers will continue to face unsustainable low prices and tight margins. J.P. Morgan concluded it is "no longer economical to export coal." This will not change as China's need for coal imports continues to diminish and India implements its new policy of decreasing its coal imports to zero. If Japan and South Korea go forward with controversial plans to increase their reliance on coal fired power plants, coal producers in Australia, Indonesia, Russia, South Africa and even perhaps China will easily meet the demand at lower prices than Millennium. Financially, the coal industry is in a free fall. Forty-two U.S. coal producers have declared bankruptcy since 2012, including Arch Coal. Millennium will likely not have the capital needed to build the terminal, unless the State of Wyoming makes a foolish $600 million investment. If they don't, Millennium will be tying up valuable industrial land with a project that won't have the financial backing to succeed. The broad consensus among investment houses is against investment in coal mines, coal ports, and the coal trade. It is a failure of the DEIS not to explain that the "export or die" strategy embarked upon by Millennium will likely fail. (1188)

## Response to CMA-4

Draft EIS *Summary*, and Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, presented the Applicant's project objectives. As noted in the Master Response for Project Objectives and Alternatives, the Proposed Action is a private project; as such, the objectives and proposal are defined by the Applicant.

Under SEPA (WAC 197-11), an EIS is required to focus on the environmental impacts of a proposal and its alternatives. The EIS does not conduct a business analysis of the Proposed Action. Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used, along with other information, by Cowlitz County, the Washington State Department of Ecology (Ecology), and other agencies for decision-making regarding permits for the Proposed Action.

Refer to the Master Response for Future of the Coal Market for a discussion of demand projections for the international coal market.

Refer to the Master Response for the Coal Market Assessment for a summary of the methods, assumptions, and model used in the analysis; sources of data; scenarios considered; and conclusions related to impacts of the Proposed Action on U.S. and international coal markets.

# Comment CMA-5

Finally, the overall economics of the proposed export facility are outdated. China cut its coal imports by a third in 2015. Coal prices have plummeted 62 percent in the last five years, and U.S. coal production has dropped by more than half since 2008. Some 50 coal companies have declared bankruptcy since 2012. (1189)

## Response to CMA-5

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

# Comment CMA-6

Also, in today's local paper (The Daily News, May 27th), there is an article that Arch Coal is selling its stake in Millennium. It states that in February, a report from a global research firm Wood Mackenzie, concluded that weak demand and plummeting prices made any new coal docks in the NW economically unviable. And in February, Cloud Peak Energy's accountants wrote off its rights to access Millennium's docks as essentially worthless, where it was previously valued at $5 million. What other values are not valid now with this new information? I believe many of the numbers from Millennium are exaggerated. (1431)

## Response to CMA-6

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

# Comment CMA-7

My comments concern the Coal Market Assessment Technical Report and the economic riskiness of MBT's plan. The Coal Market Assessment Technical Report needs to provide more information about the serious decline since 2013 of the Asian coal export market and the seriously reduced economic viability for exporting coal to Asia from Longview in the future. MBT's proposal is based on a miscalculation about the coal export market. This miscalculation is described in a report by Wood MacKenzie, an industry consulting firm ("Planned U.S. coal ports: a swift trip from vital to irrelevant." 2/10/16). The report notes an "astonishing" loss of competitiveness due to a drop in demand. More importantly, however, (considering the time line of the MBT proposal) the report indicates that growth in demand will likely be slow due to the rise of non-coal alternatives, casting doubt on the competitiveness of MBT coal exports in the future.
http://www.woodmac.com/blog/planned-us-coal-ports-a-swift-trip-from-vital-to-irrelevant/
Regarding Wood MacKenzie's projections about non-coal alternatives, it is important to note that the energy forecasts of the IEA and the USEIA – sources for the Coal Market Assessment Technical Report – consistently understate the growth of renewables and the impact of renewables.
https://www.washingtonpost.com/news/energy-environment/wp/2016/05/13/how-weget-

energy-is-changing-rapidly-and-its-sparking-a-huge-fight-over-forecasting-the-future/ and http://blog.aee.net/newseia-me-and-the-art-of-being-wrong Relevant in this context is a report by the Institute for Energy Economics and Financial Analysis on the Japanese coal market excerpted and linked below: "IEEFA Japan Briefing: Japan's Energy Transformation March 2016 Key Points • As Japan's electricity sector evolves, coal dependency will decline • Japanese overall energy demand is declining • Proposed new coal power plants risk becoming stranded assets • Japan was one of the three largest solar installation markets in 2014 and 2015 • 2015 will [most] likely stand as a peak year for Japanese thermal coal imports and coal –fired power generation" http://ieefa.org/wpcontent/uploads/2016/03/Japan-Energy-Brief.pdf Miscalculation about the coal export market caused Portland and Los Angeles to suffer big losses by approving coal export terminals that failed. http://www.sightline.org/2011/09/12/gambling-on-coal-and-losing/ Wood MacKenzie's report cited above states: "Building new Pacific Northwest coal ports, once seen as essential, is now viewed as nothing more than a risky long-term bet." To enable responsible decision-making, the EIS needs to provide more information about the economic riskiness of MBT's proposal. Thank you. (1456)

### Response to CMA-7

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

## Comment CMA-8

Add to this the lack of market in China and the Far East. Is this a case of build it and hope the market will rebound? (1743)

### Response to CMA-8

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

## Comment CMA-9

The DEIS claims that coal can be exported competitively to Asia, but virtually all of the available data shows that at current and anticipated future market conditions, the project is a bust. (1912)

### Response to CMA-9

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

## Comment CMA-10

4) The report makes no mention of the end use of the exported coal. It will be burned as fuel, thereby increasing the concentration of $CO_2$ in the atmosphere, and contributing significantly to global warming. Coal is the dirtiest fossil fuel; burning it releases far more pollutants than either oil or natural gas. The proposed coal export terminal is just a scheme to export massive air pollution and $CO_2$ emissions to other countries, while providing financial profits to just two or three coal mining companies here in the U.S. This is unacceptable. (1916)

### Response to CMA-10

The coal market analysis presented in the *SEPA Coal Market Assessment Technical Report* assumed that Proposed Action-related coal exports would be burned as fuel and predicted associated changes in $CO_2$ emissions.

Refer to the Master Response for the Coal Market Assessment for information on the methods, assumptions, and model used in the analysis; sources of data; scenarios considered; and conclusions related to impacts of the Proposed Action on U.S. and international coal markets and $CO_2$ emissions.

## Comment CMA-11

The very premise of the opening justification for this project is flawed. It states (Point 2.1 of Chapter 2) that 'the growth of Asian market demand for U.S. coal is expected to continue' which is a flawed assessment. Many Asian markets are moving towards renewables, and coal based power plants globally are turning into loss making units. (2235)

### Response to CMA-11

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

## Comment CMA-12

The DEIS includes a simple economic analysis ultimately claiming that an increase in coal supplied to international markets will result in increased international demand for U.S. coal and a reduction in domestic coal demand. This stuck out to me because I was an economics major in college and it very much reminded me of the kind of simple analysis one would put together BEFORE taking into account any outside factors. This fails to take into account the simple facts of our current coal climate and results in understated GHG estimates in the DEIS. Coal stocks are plummeting, the two biggest coal companies (Arch Coal and Peabody Energy) have already declared bankruptcy, our world is actively making moves to set reduction goals, and the need to reduce our global GHG emissions is simply too urgent of a threat to our communities. Not pausing to consider these factors is unacceptable when considering a project of this magnitude. (2498)

### Response to CMA-12

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

## Comment CMA-13

There are disagreements over how exporting large volumes of coal will affect both price and consumption here and abroad: For example the DEIS assumes that exporting coal would drive up domestic coal prices and reduce consumption. Economists don't necessarily agree. (2512)

### Response to CMA-13

Refer to Response to CMA-1 and the Master Response for the Coal Market Assessment.

# Comment CMA-14

With the recent bankruptcy of Arch Coal and its giving up its share of the project to Lighthouse Resources, the financial soundness of this project is highly uncertain, at best. “Arch Coal Backs Out of Longview Export Terminal.” Clark Williams-Derry, Sightline Institute. May 16, 2016. http://www.sightline.org/2016/05/27/arch-coal-backs-out-of-longview-export-terminal/. The questionable financial status of proponents and the fact that coal production and use, and coal markets themselves, are in decline nationally and internationally should be recognized as strong warnings to the permitting agencies that conditions and mitigation measures in permits likely would never be met by applicant. This would result in acute and chronic violations, abandoned coal piles in Longview and significant environmental damage throughout the state. (2532)

## Response to CMA-14

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

# Comment CMA-15

Uncle Sam is currently considering an overhaul of the federal leasing program, which could drastically change the economics of mining coal. The Royalty is calculated as a percentage of the first sale price of the coal they extract (with a bunch of deductions for transportation, preparation, etc.)

The Clean Air Act of 1990 encouraged Coal Companies to ramp up production of Western Low Sulfur Coal and began to sell the coal to middlemen operations which in turn pocketed profits and sold the coal again to another middle man that pocketed profits and another middle man and ultimately to the burner tip.

Western Coal mined on Federal Leases pays Uncle Sam about $1.00 Per Ton based on the “First Sales Price”, a rate that has been in effect for the past several decades. Did you know that coal is cheaper than dirt?

The royalty seems fine to the coal companies and Uncle Sam is happy with the revenue stream of nearly $1 Billion dollars per year for essentially “Unlocking the Gate” and “Counting the Money”.

The EIS should disclose and consider the potential that the future federal leasing royalty formula based on “Burner Tip Pricing” will result in significantly reduced profits for the coal companies and more money for Uncle Sam. (0813)

## Response to CMA-15

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

# Comment CMA-16

The DEIS claims that coal can be exported competitively to Asia, but virtually all of the available data shows that at current and anticipated future market conditions, the project is a bust. They should be required to demonstrate that this isn't another boom-and-bust project that won’t leave Longview with another useless piece of infrastructure, and an even bigger mess to clean up that holds back longer term, sustainable development at this site. (0813)

### Response to CMA-16

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

## Comment CMA-17

China cut its coal imports by a third in 2015, and the economics of this proposal are riddled with questions. Coal prices have plummeted 62 percent in the last five years, and U.S. coal production has dropped by more than half since 2008. Some 50 coal companies have declared bankruptcy since 2012.

Specifically, Arch Coal filed for bankruptcy in January. Peabody, the largest coal miner in the country, did the same in April. Australian-based Ambre Energy, a former backer of the Millennium project in Longview, got out of North American coal in 2014, because it, too, became insolvent. Cloud Peak Energy, a minority partner in the Millennium proposal, is paying millions of dollars not to ship coal through a British Columbia port, since any coal exported would have to be sold at a loss in foreign markets. (1162)

### Response to CMA-17

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

## Comment CMA-18

The Millennium Coal Export Plant in Longview will be the world's largest coal plant with 44 million tons a year going through Longview. We need to ask what Happens if China stops buying coal from the United States. (1177)

### Response to CMA-18

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

## Comment CMA-19

Additionally, since 2012, the international coal export markets in Asia, especially China, have been in decline. Benchmark prices for thermal coal are the lowest they have been since 2007. At its peak in January 2011, the price was $141.94/ton; by December 2015, the price was $43/ton. Prices are predicted to stay at or below $60/ton through 2021. This is below the profitability level that existing coal mines in the PRB have stated they need to participate in the export market (e.g., in 2010/2011, both Peabody Energy and Arch Coal said they needed the price of coal to be in the $90/ton range to make it worthwhile to export coal, and, in 2014, Cloud Peak Energy said it needed the price of coal to be between $80 and $90/ton for it to export coal at a profit).

The global coal market is oversupplied. Even existing PRB exporters have ceased exports due to market conditions. Multiple Montana coal producers that were successfully exporting coal through British Columbia export terminals have renegotiated their contracts with those terminals in order to discontinue the practice. Cloud Peak Energy, a PRB coal producer, renegotiated its contract with Westshore Terminals in order to reduce their tonnage obligation to zero until 2019. Signal Peak Energy, which operates a longwall coal mine in the Bull Mountains north of Billings, Montana, recently did the same.

Many financial institutions and investment analysts are advising that the export market for U.S. coal is oversupplied, under severe stress, and likely to remain in this condition for the foreseeable future. Chinese coal imports drive the U.S. export market. The decline in the international market for coal affects PRB coal company plans for a vibrant export market to make up for the lack of a domestic market for coal. Consequently, there is little likelihood that a major, new, multi-million dollar coal export terminal would ever pay for itself, much less bring any sort of benefit to the people of Longview or Washington State, given the realities of today's – and tomorrow's – coal markets. (2547)

### Response to CMA-19

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

## Comment CMA-20

The Applicant determined there is sufficient Asian market demand for U.S. low-sulfur coal to warrant the development of a coal export terminal in the western United States for shipping Powder River Basin and Uinta Basin coal to Asian markets.

The BTU Heating Value of Western Coal is 8,000 BTU/# and the Local High Sulfur Coal Currently in use in Asian Countries is 12,000 BTU/#. To provide the same amount of energy to a power plant or other industrial uses requires +50 % more volume by weight of coal.

Typical process equipment is sized between 50 and 110 % of design capacity and therefore to change to Western Coal requires significant increase (+50%) in Labor, Unloading, Stockpiling, Conveying, and Burner and Ash Disposal equipment.

Therefore any Western Coal will not be used to offset current operations and will only be used in new capital projects with sufficiently sized process equipment. Page 1-3. (2572)

### Response to CMA-20

Section 4.2.13 in the *SEPA Coal Market Assessment Technical Report* shows the heat content levels of coal from various producing regions. The heat content of Powder River Basin coal ranges from 17.08 million British thermal units (MMBtu)/ton (8,500 Btu/pound [lb]) to 18.64 MMBtu/ton (9,300 Btu/lb), and the Colorado Uinta coal has a heat content of 22.22 MMBtu/ton (11,110 Btu/lb). These values are similar in range to lower heat content subbituminous coal that has been exported for years from Indonesia to Pacific Basin countries and consumed in coal plants in those countries.

As noted in the Master Response for Project Objectives and Alternatives, the Proposed Action is a private project; as such, the objectives and proposal are defined by the Applicant. An analysis of the viability of the Proposed Action is outside the scope of the EIS.

## Comment CMA-21

Detail the markets to which American coal exports are destined to be shipped and consumed. (2980)

### Response to CMA-21

The coal market analysis presented in the *SEPA Coal Market Assessment Technical Report* examined the movement of coal from the Powder River Basin in Montana and Wyoming, and coal from the

Uinta Basin in Colorado and Utah, through the proposed coal export terminal to China, Japan, South Korea, and Taiwan. Chapter 3 of the analysis provides a detailed discussion of these markets.

# Comment CMA-22

The Draft EIS attempts to make long-term predictions of commodities market behavior, and projections of what are in reality planned-economy choices made by sovereign foreign governments. As a result, the Draft EIS ignores SEPA's rule of reason and ventures into an arena where little or no certainty can be found, no matter the degree of rigor applied to the analysis.

SEPA requires an assessment of significant impacts caused by a proposed project -- i.e., impacts having a reasonable likelihood of more than a moderate adverse impact on environmental quality. Regulators cannot exercise SEPA substantive authority absent a clear demonstration that the Project is the proximate cause of an adverse impact that would not otherwise occur in its absence. These statutory constraints cannot be met in the context of a commodity and energy forecast covering an enormous geographic area over a 20 year period. And -- as discussed below -- when many of the assumptions used in the Draft EIS analysis are demonstrably false, or otherwise ignore the fundamentals of Asian and U.S. commodities and energy markets, the conclusions reached are not only unreliable, they are no more than ill-informed guesses.

Because the Draft EIS already brackets its analysis with extreme outliers -- the upper and lower bound scenarios -- the potential universe of future conditions are reflected in the document. Refining assumptions, updating information, or increasing technical rigor may add more precision to the analysis; but it will not add any more reliability or confidence to the analytical outputs. Because there is no reliable way to discern within a reasonable range of certainty whether permitting the Project would result in changes in market demand -- and therefore increases or decreases overall net GHG emissions from coal combustion over a 20 year period -- there is no reason to conduct additional coal markets and GHG emissions analyses to further refine the guesses provided in the Draft EIS.

The Final EIS should limit its GHG analysis to emissions from the Project itself and related nearby operations, as Cowlitz County and the U.S. Army Corps of Engineers both determined was appropriate for the scope of their analyses. To the extent the Ecology determines that information on GHG emissions from the use of the exported coal should be included in the Final EIS, the analysis should be provided solely for the purpose of disclosing a range of potential outcomes. This information has been amply studied and detailed in the Draft EIS; therefore, no further analysis is required for purposes of disclosure. Therefore, the Final EIS should affirmatively acknowledge that commodity and energy forecasts are predictions, which are inherently speculative and unreliable over long timeframes and not the basis for exercising SEPA substantive authority.

Long term energy and commodities market forecasting is inherently speculative. (3070)

## Response to CMA-22

The SEPA Rules are broadly worded to require consideration of environmental impacts, and directs agencies to act "to the fullest extent possible" when assessing the environmental impact of a proposal. Assessment of greenhouse gas emissions under SEPA is appropriate because they are pollutants and have a potential environmental impact. An analysis of the coal market is used to assess potential greenhouse gas emissions. The analysis uses best available science and information to analyze potential impacts.

The coal market analysis presented in the *SEPA Coal Market Assessment Technical Report* examined U.S. and Asian coal market changes with the Proposed Action under scenarios representing a wide range of possible future market states. While modeling results do change as inputs and assumptions change, this in itself provides compelling support for examining a wide range of cases and future outcomes.

The commenter's general assertions of the analysis's failings are addressed in response to specific comments below.

# Comment CMA-23

Long-term commodities projections simply cannot be made with certainty as even short-term commodity prices are subject to major gyrations in major commodities trading exchanges. These markets are speculative precisely because commodity prices are unpredictably variable. The recent rapid decline in gas prices from the time the Draft EIS analysis was completed to the time the Draft EIS was published provides a perfect illustration. The "most probable" GHG emissions scenario identified by the EIS depends on gas prices increasing over time so that gas will not displace coal when coal prices increase. This scenario predicted a gas price of $4.4/MMBTU in 2016, with prices rising from there. Instead, prices have dropped, with the 2016 average price to date being $2.0/MMBTU. Despite its own commodity price projection being clearly inaccurate before the Draft EIS was even published, the Draft EIS concludes that its 20- year commodity forecast was sufficiently precise to support a GHG mitigation requirement.

As addressed in the Comment Letter, any GHG emission analysis, including that provided in the Draft EIS, is not capable of demonstrating with any degree of certainty that the Project will result in greater GHG emissions than would otherwise occur. Ecology's GHG analysis does not and cannot establish a causal link between the Project and increased GHG emissions from the use overseas of a product that is abundantly available from other global sources. Notably, a different conclusion was reached by a federal agency conducting a similar environmental review using the same econometric techniques, underscoring the speculative and inconsistent nature of this analysis.[17]

The Final EIS must recognize that forecasting global commodity and energy markets is fundamentally speculative, and based upon uncertain futures. The Final EIS should not attempt to predict what is inherently unpredictable, and, at a minimum, must disclose the unpredictable nature of commodity and energy market forecasting. The final EIS should limit its GHG analysis to emissions from the Project itself and related nearby operations as Cowlitz County and the U.S. Army Corps of Engineers have both determined was appropriate for the scope of their analyses. To the extent Ecology determines that information on GHG emissions from the use of the exported coal should be included in the Draft EIS that analysis should be provided solely for the purpose of disclosing a range of potential, yet uncertain outcomes. There is no need to re- do the analysis with alternative assumptions, as the Draft EIS already brackets and discloses a very wide range of potential outcomes. Because there is no reliable way to even discern within a reasonable range of certainty whether permitting the Project will result in increased or decreased overall net GHG emissions from coal combustion, there is no basis for conducting additional coal-market and GHG emissions analyses to further refine the guesses provided in the Draft EIS. (3070)

## Response to CMA-23

Refer to Response to CMA-22.

# Comment CMA-24

Lower Bound minimum elasticity identified by the Draft EIS of .1 is most appropriate and reasonable for the Project. This is due to the following reasons:

1. The substantial government planning role in South Korea, Japan, Taiwan, and China determines the extent that coal-fired power plants will be built and is not likely to change as a result of the Project. Also, economic decision-making for building new coal-fired power plants in South Korea, Japan, and Taiwan is not materially changed as a result of the Project.

2. The coal fleets in South Korea, Japan, and Taiwan are largely baseload power plants and therefore can be expected to operate continuously, regardless of a small change in coal fuel costs.

3. The economics of the short run marginal cost (SRMC) demonstrates that coal-fired power plants do not compete with natural gas-fired power plants in South Korea, Japan, and Taiwan.

4. The average retail electricity rate of each country's customers would be negligibly impacted by a small change in coal fuel costs and, as such, any decrease in rates would be negligible and would not likely lead to increased electricity consumption (e.g., turn on more lights, run more appliances, etc.) in South Korea and Japan.

5. Efficiencies of coal-fired power plants in Japan, South Korea, and Taiwan are superior to the U.S. power plants and they therefore consume less coal to generate one unit of electricity.

Based on the totality of evidence and analysis completed, the Draft EIS assumed elasticity of .4 for the 2015 Energy Policy scenario is substantially overstated. Further, the Lower Bound minimum elasticity identified as .1 is more likely to be a reasonably appropriate elasticity estimate for the Pacific Basin countries that will likely receive deliveries of subbituminous coal from the Project (South Korea, Japan, and Taiwan).

The Draft EIS GHG analysis was based on assumptions of demand elasticity that are themselves chosen from uncited and untested studies. (3070)

## Response to CMA-24

The coal elasticity of demand (-0.11) used in the *SEPA Coal Market Assessment Technical Report* presented in the Draft EIS[1] and Final EIS (Section 4.2.12) for India, Japan, South Korea, and Taiwan is based on the U.S. Energy Information Administration's (2012) U.S. elasticity of demand,[2] and is used for all of the scenarios analyzed. The analysis presented in the Final EIS reflects the consideration of China as a potential destination of Proposed Action-related coal. The analysis uses coal elasticity of demand for China based on Burke and Hua (2015) as follows: -0.44 for the No Clean Power Plan and Cumulative scenarios, -0.68 for the Upper Bound scenario, and -0.32 for the Lower Bound and 2015 U.S. and International Energy Policy scenarios.

[1] A coal elasticity of demand of -0.11 was used for the Lower Bound Scenario in the Draft EIS.

[2] U.S. is a useful benchmark for coal elasticity estimates because: 1) the vast majority of coal consumed in the U.S. is used in power generation; 2) the U.S. electricity markets are relatively deregulated and efficient; 3) the U.S. has good access to public data. Prior to the large increase in natural gas supply, the U.S. relied on imported coal as intermediate goods in power generation and to a lesser extent steel production, which is similar to countries like India, Japan, South Korea, and Taiwan. Therefore, the assumption of -0.11 for price elasticity of coal demand is used in these countries in all scenarios.

# Comment CMA-25

ICF erroneously assumes (without any supporting documentation) that the heat content of subbituminous coal exported from Indonesia (which is the only source of subbituminous coal in ICF's model other than the PRB coal exported through MBT-Longview) has a much higher heat content than PRB coal. As a result of this erroneous assumption, ICF projects that it will require greater quantities of coal shipped through MBT-Longview to replace the same heat content of Indonesian coal. This assumption results in higher GHG emissions for the same amount of electricity generated from coal, from both coal combustion and transportation via rail, truck, and ocean vessels. (3070)

## Response to CMA-25

Indonesia is not the only source of subbituminous coal, besides the Powder River Basin, considered in the model. However, subbituminous coal is more likely to be imported from Indonesia than other countries producing subbituminous coal due to its proximity to Asian consumers. Subbituminous coal in the model is produced in nine international coal supply regions. The heat content of the Indonesian coal types modeled in the Draft EIS were used because they represented typical heat content values for coal types exported to Asia at the time the analysis was initiated. To provide additional granularity to the analysis presented in the Final EIS, and to reflect a trend toward greater export of lower heat content coals, two additional Indonesian subbituminous coal types have been added to the analysis, and the heat content has been updated for all of the Indonesian coals modeled.

# Comment CMA-26

ICF's coal market model projected that coal exports through MBT-Longview would shift from 100% PRB subbituminous coal in the early years (through 2030) to both PRB and bituminous coal from the Uinta Basin (in the 2040 model year), with no explanation of why this change would happen. (3070)

## Response to CMA-26

The model solves for the system-wide least-cost solution based on the assumptions provided. Assumptions do not specify a shift in the sources of coal being exported via the proposed export terminal. However, assumptions cover cost, annual production capacity, reserves, and performance characteristics of different types of coal. The projection that Uinta Basin coal would be shipped through MBTL in 2040 is determined internal to the IPM model, as opposed to being an assumption or input. The model provides a least-cost forecast for a given set of current and future conditions that determines how the industry will function. The optimization routine that IPM uses has dynamic effects—it looks ahead at future years with perfect foresight and simultaneously evaluates decisions over an entire specified time horizon. This means that IPM will make decisions based on a small marginal benefit. As Powder River Basin coal resources are gradually depleted and production costs increase, bituminous coal exports increase and coal from the Uinta Basin becomes economic to export. The model balances the available mix of coal export types to keep coal prices as low as possible and system costs to a minimum.

# Comment CMA-27

ICF's coal market model assumed that subbituminous coal exports from MBT-Longview would displace both subbituminous and bituminous coal consumption in Asian markets, with no analysis supporting this assumption. ICF did not address the ability or inability of Asian customers to switch from bituminous to subbituminous coal. (3070)

## Response to CMA-27

The coal market assessment did not assume that subbituminous coal exports under the Proposed Action would displace both subbituminous and bituminous coal consumption in Asian markets. The analysis includes the possibility for both subbituminous coal from the Powder River Basin and bituminous coal from the Uinta Basin to be exported under the Proposed Action. Likewise, the analysis includes the possibility that the exported coal can displace either subbituminous or bituminous coal, or both. The Asian market was the only market outlet for the exported coal, as per input received from the Applicant. Which coal is actually displaced in a scenario is determined within the model and is not an assumption. The model forecasts generation, transmission, compliance with environmental regulations, and fuel consumption on a least-cost basis using the input assumptions. However, it is not unreasonable that the exported coal displaces both bituminous and subbituminous coal, as each country is consuming a mix of both subbituminous and bituminous coal. The analysis includes limits on how much subbituminous coal Hong Kong, Japan, South Korea, and Taiwan can consume. The assumptions in the Draft EIS regarding the amount of subbituminous coal that coal plants in Hong Kong, Japan, South Korea, and Taiwan could use without making capital improvements were based on operating assumptions for U.S. coal plants designed for bituminous coal that are consuming mixtures of bituminous and subbituminous coal.

For the analysis presented in the Final EIS, the subbituminous coal consumption limits were reviewed and country-specific targets of subbituminous coal as a percentage of total coal consumption that these countries could consume were developed based on historical consumption of subbituminous coal. The *SEPA Coal Market Assessment Technical Report* presented in the Final EIS reflects these revised assumptions.

# Comment CMA-28

Although ICF was not explicit about all of the coal sources that it considered in its model, it appears ICF only considered coals for the Asian market from the United States (PRB subbituminous and Uinta bituminous), Indonesia (bituminous and subbituminous), Australia (bituminous) and China (bituminous and lignite). (3070)

## Response to CMA-28

As described in the *SEPA Coal Market Assessment Technical Report*, the 26 international coal demand regions are connected to the 34 U.S. and 25 international supply regions via a transportation matrix. The supplemental data to the Final EIS clarifies the supply regions that can provide coal to the Asian market in the model.

# Comment CMA-29

Indonesia has rapidly become the world's largest exporter of thermal (also called "steam") coal (coal burned for its heat content, rather than coal used in steel-making), which is the type of coal that will be exported through MBT-Longview (U.S. metallurgical coals are produced only in Appalachia). ICF understates the importance of Indonesia in its Coal Market Assessment, ranking countries by their total coal exports in 2012, not just their thermal coal.5 Because Australia exports large amounts of metallurgical coal, it is not nearly as important as ICF represents in the analysis of

MBT-Longview's coal exports. A more accurate ranking of thermal coal exporters is shown below.

**Major Steam Coal Exporters – 2012-2014 (million metric tons)**

| Country | 2012 | 2013 | 2014 |
|---|---|---|---|
| Indonesia | 384.3 | 424.3 | 408.2 |
| Australia | 159.2 | 182.1 | 194.6 |
| Russia | 112.5 | 117.5 | 132.0 |
| Colombia | 81.7 | 79.0 | 78.8 |
| South Africa | 75.3 | 74.0 | 76.0 |

The coals produced and exported from Indonesia cover a wide range of heat content, ranging from high-rank bituminous coals (with high heat content), to very low-rank lignite (with low heat content). The range of quality can be seen from the "marker" price published monthly by the Indonesian Ministry of Energy and Mineral Resources. The government publishes marker prices for every major Indonesian grade of coal exported in order to establish the price on which the payment of government royalties is calculated. The marker price for each coal is known as the HPB ("Harga Patokan Batubara") and is published for 82 separate coal brands marketed by Indonesian coal exporters. The coal quality ranges from a high of 7,000 kcal/kg (12,600 Btu per pound) to a low of 2,995 kcal/kg (5,391 Btu). The government lists nine coals classified as lignite (2,995–4,200 kcal/kg), 17 coals classified as subbituminous (4,400–5,400 kcal/kg), 16 coals classified as lower-rank bituminous (5,500–5,765 kcal/kg), and 41 coals classified as higher-rank bituminous (5,900–7,000 kcal/kg).

Given this range of Indonesian coal quality, it is difficult to select a single specification as the "typical" heat content for the exports of Indonesian subbituminous and bituminous coals as the reference coal for calculating changes in coal burn and GHG emissions. However, it is clear that the quality selected by ICF is at the very top of the range for subbituminous coal (5,400 kcal/kg, or 9,720 Btu/pound) and near the top of the range for bituminous coal (6,583 kcal/kg, or 11,850 Btu/pound). The effect of this assumption is to overstate the size of any GHG impact in the Pacific basin, from both coal combustion and coal transportation.

In order to determine a reasonable estimate of the heat content of Indonesian coal exports, EVA has performed a study of the largest Indonesian coal mines and exporting coal companies to calculate the average heat content of Indonesian coal. EVA identified the nine largest Indonesian coal producers, including all companies that produced or sold at least 10 million metric tons in any year from 2013 to 2015. All of these producers operate on the island of Kalimantan, the major source of Indonesian coal. The data sources included company financial and marketing reports available on their websites, with data on sales by brand or production by mine, where applicable (some companies blend coal from different mines to meet the quality specification for a brand that is sold

in the export market). At this time, not all companies have reported their sales and production for the full year of 2015. The data was supplemented by information from the Indonesian Coal Book, published by Petromindo.com, where necessary.

The largest Indonesian coal producers covered by this analysis sold and produced a total of 261 million tonnes in 2013, compared to total Indonesian coal production of 421.5 million tonnes.

**Largest Indonesian Coal Producers**

| | **Sales/Production (mm tonnes)** | | |
|---|---|---|---|
| Adaro Energy | 52.2 | 55.7 | 50.8 |
| Kaltim Prima Coal | 53.4 | 52.3 | |
| Kideco | 37.3 | 40.4 | 39.0 |
| Arutmin | 28.9 | 32.3 | |
| ITM | 29.4 | 29.1 | 28.5 |
| Berau Coal | 23.5 | 24.2 | |
| Sakari Resources | 11.2 | 9.8 | |
| Bayan Resources | 13.7 | 9.6 | |
| Harum Energy | 11.6 | 7.0 | 3.6 |
| | **261.2** | **260.4** | **121.9** |

The list of coal sales and production for each company by mine and brand is shown below. The heat content is stated in kcal/kg on a gross, as-received ("GAR") basis, which is the standard used for U.S. coals as well.

**Heat Content and Sales of Indonesian Coal by Mine and Brand**

| Company | Mine/Brand | Coal Type | Heat | Sales/Production (mm | | |
|---|---|---|---|---|---|---|
| | | | kcal/kg | 2013 | 2014 | 2015 |
| Adaro Energy | E4000 | Subbituminous | 4,000 | 9.6 | 6.6 | 2.5 |
| Adaro Energy | E4900 | Subbituminous | 4,900 | 8.4 | 30.8 | 34.1 |
| Adaro Energy | E5000 | Subbituminous | 5,000 | 34.1 | 18.3 | 14.3 |
| Arutmin | Asam Asam | Subbituminous | 4,750 | 8.4 | 7.6 | |
| Arutmin | Batulicin | Bituminous | 6,200 | 5.9 | 7.3 | |
| Arutmin | Kintap | Subbituminous | 4,750 | 7.8 | 8.6 | |
| Arutmin | Mulia | Subbituminous | 4,750 | 3.7 | 8.1 | |
| Arutmin | Satui | Bituminous | 6,400 | 2.0 | 0.2 | |
| Arutmin | Senakin | Bituminous | 6,300 | 1.1 | 0.5 | |
| Bayan Resources | GBP | Bituminous | 7,000 | 3.5 | 2.6 | |
| Bayan Resources | PIK | Subbituminous | 4,650 | 2.1 | 0.8 | |
| Bayan Resources | Tabang | Subbituminous | 4,100 | 2.2 | 1.9 | |
| Bayan Resources | TSA/FKP | Bituminous | 5,950 | 2.7 | 2.2 | |
| Bayan Resources | WBM | Bituminous | 6,400 | 3.2 | 2.1 | |
| Berau Coal | Binungan | Subbituminous | 4,740 | 8.0 | 9.3 | |
| Berau Coal | Lati | Subbituminous | 4,960 | 10.4 | 9.9 | |
| Berau Coal | Sambarata | Bituminous | 5,780 | 5.1 | 5.0 | |
| Harum Energy | Mahakam Sumber Jaya | Bituminous | 5,750 | 9.9 | 6.6 | 3.6 |
| Harum Energy | Santan Batubara | Bituminous | 5,377 | 1.7 | 0.4 | - |
| Indo Tambangraya | Bharinto | Bituminous | 6,600 | 1.6 | 2.5 | 2.8 |
| Indo Tambangraya | Indominco | Bituminous | 6,150 | 15.1 | 15.0 | 13.3 |
| Indo Tambangraya | Jorong | Subbituminous | 5,300 | 1.3 | 1.3 | 1.3 |
| Indo Tambangraya | Kitadin-Embalut | Bituminous | 5,800 | 1.0 | 1.3 | 1.2 |
| Indo Tambangraya | Kitadin-Tandung- | Bituminous | 6,700 | 2.4 | 1.8 | 2.5 |
| Indo Tambangraya | Trubaindo | Bituminous | 6,900 | 7.8 | 7.2 | 7.3 |
| Kaltim Prima Coal | Bengalon | Bituminous | 5,700 | 7.9 | 8.4 | |
| Kaltim Prima Coal | Sangatta | Bituminous | 6,700 | 45.5 | 43.9 | |
| Kideco | Roto Middle | Subbituminous | 4,730 | 3.8 | 4.3 | 3.0 |
| Kideco | Roto North | Subbituminous | 5,470 | 3.4 | 3.0 | 3.4 |
| Kideco | Roto South | Subbituminous | 4,870 | 15.8 | 15.9 | 13.6 |
| Kideco | Samarangau | Subbituminous | 4,430 | 13.8 | 16.7 | 18.5 |
| Kideco | Susubang | Subbituminous | 5,120 | 0.5 | 0.5 | 0.5 |
| Sakari Resources | Jembayan | Subbituminous | 5,500 | 8.2 | 6.8 | |
| Sakari Resources | Sebuku | Bituminous | 6,000 | 3.0 | 3.1 | |
| | | | | 261.0 | 260.4 | 121.8 |

The average heat content of Indonesian subbituminous and bituminous coal mines listed above is shown below. The average heat content for subbituminous coal is about 4,820 kcal/kg, equal to 8,676 Btu/pound. This heat content is lower than the heat contents for U.S. PRB coals that are likely to be exported through MBT-Longview (Montana – 9,300 Btu; Wyoming – 8,800 Btu). It is much lower than the heat content for Indonesian subbituminous coal assumed by ICF (5,400 kcal/kg, equal to 9,720 Btu/pound). The average heat content for Indonesian bituminous coal is about 6,365 kcal/kg (11,457 Btu/pound), which is similarly much lower than ICF's assumption of 6,583 kcal/kg (11,850 Btu/pound).

**Average Heat Content for Indonesian Coal**

| | 2013 | 2014 | 2015 |
|---|---|---|---|
| **MM Tonnes** | | | |
| Bituminous | 119.4 | 110.1 | 30.7 |
| Subbituminous | 141.6 | 150.4 | 91.1 |
| **Average kcal/kg** | | | |
| Bituminous | 6,364 | 6,377 | 6,354 |
| Subbituminous | 4,820 | 4,813 | 4,813 |

**Other Sources for Typical Indonesian Coal Heat Content**

There are coal industry trade publications that produce price indexes for coals traded in the world market. Each price index is for a country of origin and a coal quality typical of coal exported from that country. While these price indexes do not cover every coal exported from each country, they are intended to be benchmark prices that producers and consumers can use for transactions.

Two of the sources of Pacific Basin coal prices cited by ICF in its analysis are IHS McCloskey and Platts.12 These companies publish regular assessments of coal prices for a variety of coals sold in the international market. Both companies publish marker prices for Indonesian coal exported to the world market. The heat contents for the Indonesian coals published by McCloskey and Platts are shown below:

**Indonesian Coal Market Price Specifications**

| Coal Type | kcal/kg | Basis | GAR | kcal/ kg | Basis | GAR |
|---|---|---|---|---|---|---|
| Bituminous | 6,000 | NAR | 6,300 | 5,900 | GAR | 5,900 |
| Bituminous | 5,500 | NAR | 5,775 | | | |
| Subbit. | 4,700 | NAR | 4,935 | 5,000 | GAR | 5,000 |
| Subbit. | 4,200 | GAR | 4,200 | 4,200 | GAR | 4,200 |
| Subbit. | 3,800 | GAR | 3,800 | 3,800 | GAR | 3,800 |

As shown, the heat content specifications used by both publications for Indonesian subbituminous coal range from 3,800 to 5,000 kcal/kg on a GAR basis (6,840–9,000 Btu/pound). These specifications are much lower than the 5,400 kcal/kg (9,720 Btu/pound) assumed for Indonesian subbituminous coal in the ICF analysis. Similarly, the marker price heat content for Indonesian bituminous coals range from 5,775 to 6,300 kcal/kg, much lower than the 6,583 kcal/kg assumed by ICF.

Other market experts recognize that the recent large growth in coal supply from Indonesia is from low-rank subbituminous coals with heat contents much lower than assumed by ICF. The presentation by Dr. Bart Lucarelli of Stanford University's Institute for International Studies referenced the development of major Indonesian low-rank coal deposits (Adaro – Wara, Kideco – SM, and Arutmin – Ecocoal) with heat contents ranging from 4,000 to 4,221 kcal/kg GAR.14 The U.S. Department of Energy, National Energy Technology Laboratory ("NETL") also considers the heat content of Indonesian subbituminous coal to be comparable or less than the heat content of U.S. PRB coals which it would compete with in the Asian market. (3070)

## Response to CMA-29

The heat content was reviewed and updated for 26 of the 48 international coal types modeled. The heat content updates include coal from Australia, China, India, Indonesia, South Korea, and Thailand and Vietnam, among other countries and regions. To provide additional granularity to the analysis and improve the capturing of the wide range of coal types produced in Indonesia, two more Indonesian subbituminous coal types and one more Indonesian bituminous coal type were added. The heat content of domestic coals were also reviewed and updated. These updates are reflected in the revised *SEPA Coal Market Assessment Technical Report* in the Final EIS.

# Comment CMA-30

ICF erroneously assumed that the coals exported through MBT-Longview would have lower heat content than the coals they would displace in the Pacific Basin, because ICF assumed both that Indonesian subbituminous coal would have heat content at the top of the range for subbituminous coal (thus higher than U.S. PRB coal) and that U.S. PRB coal would displace bituminous coal in the Pacific Basin. Neither of these assumptions was supported by any documentation. These false assumptions are the primary driver of ICF's conclusion that GHG emissions from coal combustion in the Pacific Basin would increase under all scenarios[15] because the assumed lower heat content of coal exported through MBT-Longview requires more coal to be consumed at higher GHG emission rates to generate the same amount of electricity. Further, the mistaken assumption that MBT-Longview coals would have lower heat content also has the effect of overstating ICF's calculation of GHG emissions from coal transportation. (3070)

## Response to CMA-30

All of the items listed by the commenter as assumptions, except for the Indonesian subbituminous coal heat content, are model outputs, not input assumptions. As discussed in Response to CMA-29, the heat content values were updated for both U.S. and international coal types. In making these updates, particular attention was paid to the heat content of coal that could be exported through the proposed terminal and that is used in Asia. The analysis did not assume the displacement of bituminous coal in Asia. The analysis used the IPM model to determine the flow of coal into and within Asia, without needing to make assumptions regarding which coal would displace other coal. See the *SEPA Coal Market Assessment Technical Report* for more information.

# Comment CMA-31

1. ICF assumed that the carbon coefficients of the U.S. subbituminous and bituminous coals which would be exported through MBT-Longview were significantly greater than the coals which it would displace in the Asian market. This assumption results in an increase in GHG emissions due to the proposed action even if there were no induced demand for coal, simply by substituting higher-emitting U.S. coal for lower-emitting Asian coal.

2. ICF did not provide accurate sources for its assumed carbon coefficients. ICF provided only one referenced source for its assumption of the carbon dioxide emission factors for coal, yet this source had lower carbon coefficients for U.S. coals than assumed by ICF and had no carbon coefficients for international coals at all.[2] ICF also referenced itself in its model assumptions used for the EPA Base Case IPM v5.13, yet this also references the same source. There is no documentation of the carbon coefficients for international coals at all.

3. ICF asserts that "[t]he carbon content varies by rank (i.e., bituminous, subbituminous, and lignite) and by the source region of the coal; however, the data by region is incomplete."3 While it is logical that the carbon coefficient varies by rank, because of the ratio of carbon to hydrogen in the coal, there is no reason to believe that it varies by "source region" of the coal. ICF makes no attempt to explain why this would be true and it is counter to the assumptions that the Energy Information Agency ("EIA") and the Environmental Protection Agency ("EPA") make regarding U.S. coals.

4. In fact, this study concludes that ICF assumed carbon coefficients for U.S. coals which are higher than documented by EIA in its sole referenced source. Further, an independent analysis of the carbon coefficients of the producing U.S. coal mines in the Powder River Basin and Uinta Basin (which are the coals that could be exported through MBT-Longview) demonstrates that the actual carbon coefficients are less than assumed by ICF and less than the comparable subbituminous Indonesian coals which this coal would displace.

5. ICF does not make clear that it assumed that U.S. coals would be higher-emitting coal than their Asian counterparts and that this assumption would result in GHG emission impacts due to the proposed action. ICF briefly stated that "GHG emissions from coal combustion include those associated with market effects [and] … also reflect coal substitution, which is driven by the difference in carbon content between Powder River Basin coal, Uinta Basin coal, and coals produced in the Pacific Basin."4

6. ICF's flawed assumption that U.S. coals have higher carbon coefficients than other Asian coals accounted for 42% of the total increase in GHG emissions from coal combustion under the 2015 Energy Policy Scenario. (3070)

## Response to CMA-31

The coal market assessment estimated the $CO_2$ emissions rate from each coal type used in the analysis, and the model determined the optimal mix of coal to be consumed in each demand region. Thus, depending on the mix of coals consumed in a demand region under the No-Action Alternative and Proposed Action, the greenhouse gas emissions might increase or decrease.

Tables 4-29 through 4-32 in the *SEPA Coal Market Assessment Technical Report* present the $CO_2$ emission rates of the different types of coal from all of the coal producing regions modeled. The carbon coefficients for all of the coal types modeled have been reviewed and updated as necessary and the complete references have been included.

Information from both EPA and EIA show that the $CO_2$ content of coal for a given rank varies considerably from region to region. As presented in Table 9-5 (Coal Quality Characteristics by Supply Region and Coal Grade) of the EPA documentation for IPM v5.13, the $CO_2$ content of bituminous coal ranges from 202.8 to 215.5 lb $CO_2$/MMBtu depending on the regional source of the coal (Environmental Protection Agency 2013). An EIA article from 1994 that includes carbon content information from over 5,000 coal samples from the U.S. shows that the $CO_2$ emissions factor from bituminous coal ranges from 201.3 to 211.6 lb $CO_2$/MMBtu depending on which state the coal was sourced (Hong and Slatick 1994).

The carbon coefficients for Powder River Basin and Uinta Basin coal are less than the Indonesian subbituminous coal that might be displaced. Thus, if an amount of Powder River Basin or Uinta Basin coal displaces the same heating value of Indonesian subbituminous coal, then the greenhouse gas emissions would decrease, all else being equal. However, since there are multiple supply regions

to the Asian market and the carbon content of those coals differs by rank and location, it cannot be concluded in advance that greenhouse gas emissions would decrease with Proposed Action-related coal exports.

The *SEPA Coal Market Assessment Technical Report* in the Final EIS reflects additional information related to assumed coal characteristics for each coal supply region.

# Comment CMA-32

1. While acknowledging that boilers that were designed for bituminous coal may not be able to use subbituminous coal, ICF assumed that subbituminous coal could substitute for bituminous coal up to 30% of the total thermal coal imports by country. ICF provided no basis for this assumption.

2. ICF's model projected that all of the coal exports through MBT-Longview would be shipped to Japan, and that all of these exports would be subbituminous Powder River Basin (PRB) coal through at least 2028.

3. There is already a large market price discount for subbituminous coal from Indonesia compared to bituminous coal, so customers have the economic incentive to maximize their use of subbituminous coal already.

4. The imports of subbituminous coal to Japan are only 7% of the total in 2015 (by weight). This implies that the power plants in Japan are not able to switch to U.S. PRB coal up to 34% of total imports (by weight), as projected by ICF's model.

5. ICF did not disclose sufficient detail on the model results, including coal origin, destination, and prices, for a proper understanding and critique. (3070)

## Response to CMA-32

For the analysis presented in the Final EIS, the subbituminous coal consumption limits were reviewed and country-specific targets of subbituminous coal as a percentage of total coal consumption that these countries could consume were developed based on historical consumption of subbituminous coal. The *SEPA Coal Market Assessment Technical Report* presented in the Final EIS reflects these revised assumptions. Section 4.2.14 discusses the limitations on coal distribution and presents a table of the country-specific percentages.

# Comment CMA-33

The MBTL-DEIS relies on a closed, proprietary model with hidden assumptions and methods. The MBTL-DEIS relies on a complex, propriety model of the US energy system developed by private consulting firm. While the MBTL-DEIS discloses certain inputs to the model, many of key input parameters, methods, and assumptions used in this model remain hidden from view. As a result, the model and its results are untestable, unverifiable and—most importantly—unfalsifiable. This makes it literally impossible to confirm, refute, or even effectively critique the analysis.

Sightline finds it inappropriate for government agencies to rely on closed, proprietary, "black box" models in processes that are designed to inform the public of the consequences of significant public policy decisions. The lack of model transparency clouds key issues, thwarts independent review, and may ultimately undermine public confidence in its results and conclusions. (3411)

## Response to CMA-33

The analysis presented in the *SEPA Coal Market Assessment Technical Report* of the Draft EIS relied on many inputs from EPA's IPM version 5.13, for which extensive documentation can be found online, referenced in Section 4.2 of the Draft EIS. The assumptions obtained from the EPA IPM v5.13 Base Case are well documented in the *Documentation for EPA Base Case v.5.13 using the Integrated Planning Model.* Section 4.2 of the *SEPA Coal Market Assessment Technical Report* presented in the Draft EIS listed the assumptions that were obtained from the EPA IPM v.5.13 Base Case including, but not limited to the coal supply curves (Section 4.2.2.1), natural gas module (Section 4.2.2.2), and regulatory components (Sections 4.2.3 and 4.2.4). In addition, the international coal demand used in the analysis was obtained from the IEA's 2014 World Energy Outlook, which is a well-documented public source.

The *SEPA Coal Market Assessment Technical Report* presented in the Final EIS includes information on the above topics as well as additional information on the U.S. electric demand forecast, reserve margins, firmly planned new capacity and retirements, capital costs for new generating capacity, transmission, coal characteristics, coal distribution limits, and coal reserves.

IPM is widely used and accepted by a range of agencies and companies. In particular, the Environmental Protection Agency has used IPM in many regulatory analyses that are required to inform the public of the consequences of significant public policy decisions.

Chapter 4 of the *SEPA Coal Market Assessment Technical Report* presented in the Final EIS includes additional information on inputs and assumptions to support the public's ability to evaluate the results.

# Comment CMA-34

Because the MBTL-DEIS relies on a closed, proprietary, "black-box" model, there is simply no way to determine the reasons for the model's failure. Perhaps the model simply assumes that PRB coal companies could profitably export coal when international benchmark coal prices remain below $70 per ton. Perhaps the model is broken, and calculated that PRB coal could price into international markets at those low prices. Perhaps the model presumes that US exporters would be willing to export at a significant loss, or that Asian importers would be willing to pay a steep premium for US coal. Since this model failure currently remains a mystery, there is no way to tell if the specific reasons for the model's erroneous results would affect potential market dynamics in Asia.

Regardless of the explanation, the MBTL-DEIS model's failure to match economic reality raises deeply troubling possibilities. At best, the model's failure suggests that the entire modeling exercise is deeply flawed. At worst, it suggests that the modeling exercise was intentionally designed to put the economic viability of the terminal in the most favorable possible light. Either way, the findings raise troubling questions about the utility and reliability of the entire MBTL-DEIS modeling exercise, particularly for the scenarios in which international coal prices remain below $70 per ton. (3411)

## Response to CMA-34

Refer to Response to CMA-33 regarding documentation of inputs and assumptions for the modeling.

As stated in the *SEPA Coal Market Assessment Technical Report* presented in the Draft EIS, the analysis assumed operation of the Proposed Action at full capacity. This assumption is consistent

with the other analyses presented in the Draft EIS. Additionally, the analysis assumed that delivered costs of U.S. coal are similar to but moderately above competing options. Even with this conservative assumption, many of the modeled scenarios show U.S. exports as close to competing in the near-term and more competitive closer to the start of operations.

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market regarding viability of the coal market.

# Comment CMA-35

The MBTL-DEIS finds that all coal exported from MBTL would be shipped to Japan. Tables 33, 49, and 81—which present the modeled flows of US coal to Asian markets under the Lower Bound, Past Conditions, and Energy Policy 2015 scenarios—find that all coal 44 million tons of coal exported via MBTL would be purchased by customers in Japan. The text accompanying the tables explains that Japan is the destination for all US coal because it is "the closest destination and thus would allow for the greatest reduction in system costs when the model calculates a solution."

However, Japan is *already* the closest destination for PRB exports. Yet in both 2013 and 2014 more PRB coal was shipped to South Korea than to Japan.[5] This was because power plants are designed and tuned to burn higher calorie coal from Australia, rather than the lower-calorie coal sub-bituminous coal produced in Indonesia and the PRB. As a result, Japan has imported roughly three times as much coal from Australia as from Indonesia, despite the latter country's proximity advantage.[6] The reverse is true in South Korea, which has many power plants designed to burn sub-bituminous coal; and PRB coal is a good substitute for many grades of Indonesian sub-bituminous thermal coal most commonly consumed in South Korea. At present, then, South Korea is a more fitting destination than Japan for PRB exports.

The fact that the MBTL-DEIS model finds that PRB coal would find eager buyers in Japan but no buyers whatsoever in South Korea, based solely on shipping distance, suggests that the MBTLDEIS model lacks the detail, specificity, and real-world market information needed to analyze US coal exports with accuracy. (3411)

## Response to CMA-35

For the analysis presented in the Final EIS, the subbituminous coal consumption limits were reviewed and country-specific targets of subbituminous coal as a percentage of total coal consumption that these countries could consume were developed based on historical consumption of subbituminous coal. The *SEPA Coal Market Assessment Technical Report* presented in the Final EIS reflects these revised assumptions. Section 4.2.14 discusses the limitations on coal distribution and presents a table of the country-specific percentages.

Based on these updated assumptions, the analysis presented in the Final EIS results in Proposed Action-related coal being shipped to China, Japan, Hong Kong, South Korea, and Taiwan. Shipping distance between a supply region and a demand region is but one factor that determines coal distribution in IPM. The factors that IPM consider when it determines where coal should be sourced for a demand region include the minemouth prices for all coals, the transportation costs associated with moving each coal from each supply region to the demand region, annual coal production capacity for each supply region, and constraints on port capacities and the amount of subbituminous coal that can be consumed.

# Comment CMA-36

China's coal consumption has declined swiftly, but the MBTL-DEIS scenarios all assume that China's coal appetite will continue to grow. Chinese coal consumption fell by 2.9 percent in 2014 and 3.7 percent in 2015. Astonishingly, early data suggests that consumption has fallen by more than 8 percent in the initial months of 2016. Even the International Energy Agency, which has been consistently bullish on coal consumption growth, has begun to speculate that Chinese coal consumption has already peaked.

Nonetheless, all of the scenarios examined in the MBTL-DEIS assume that China's coal consumption will rise steadily through at least 2030. (See CMA-TR, Tables 14, 15, 16, 28, 44, 60, 76, and 92.) It is both troubling and confusing that the MBTL-DEIS did not see fit to include scenario that matches today's reality of rapidly declining coal demand in the world's most coal hungry economy. Even more troublingly, Figure 12 in the CMA-TR portrays China's coal exports only through 2012, even though the Chinese customs agency had published coal import and export data through 2015 by mid-January 2016. (3411)

## Response to CMA-36

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

# Comment CMA-37

The MBTL-DEIS appears to assume that domestic and export coal sales are completely fungible. The MBTL-DEIS seems to assume that all coal that would be exported to Asia would otherwise be available for sale to domestic customers. Yet it's becoming increasingly clear that West Coast exports would draw from mines that may not be viable for domestic markets.

As described above, Cloud Peak Energy's Spring Creek mine is currently the best positioned PRB mine for the export market. But Cloud Peak has admitted that there is only a limited US market for Spring Creek coal. When grilled in an investor conference call about why the company was continuing to export Spring Creek coal at a loss instead of selling the coal domestically, the company's CEO said: "there's a finite market for Spring Creek coal domestically. So we would not obviously be able to sell it." Spring Creek coal finds a limited domestic market in large part because its ash is high in sodium, which can corrode power plant boilers and impair generator performance.[10]

Yet despite the difficulty that Spring Creek and other Northern PRB coals face in domestic markets, Cloud Peak Energy has been pursuing an expanded "export-oriented" mining complex centered on Spring Creek. This suggests that PRB coal companies may be adopting a two pronged production strategy, targeting specific mines to the domestic market and other mines to export markets.

To the extent that markets for domestic and export coal do not overlap and are not fully fungible, boosting PRB exports may have more limited effects on domestic coal markets than the MBTL-DEIS finds—with exports doing less to increase domestic coal prices and prompting more modest reductions in domestic coal emissions. (3411)

## Response to CMA-37

While the coal from particular mines may not be completely fungible, coal from the greater supply regions is expected to be fungible. Coal from the following supply regions have the option to export coal through the proposed terminal: Montana Powder River Basin, Montana Signal Peak, Wyoming 8800 Btu/lb, Wyoming 8400 Btu/lb, Utah, and Colorado Uinta Basin. Increasing the demand for Powder River Basin coal by 44 million metric tons of coal per year would require that coal be sourced from more than just the Spring Creek mine, which has had production at less than 16.5 million metric tons per year over the last 5 years, according to Mine Safety and Health Association Part 50 data. Thus it is likely that the terminal, if operated at full capacity, would have some impact on domestic coal prices. The coal supply curves obtained from EPA and used in the Draft EIS were steeper than the coal supply curves used in the Final EIS, and thus the impact of the proposed terminal on domestic coal prices is less in the Final EIS than in the Draft EIS.

# Comment CMA-38

The Final EIS should provide more information about its model's assumptions and methods.

As it currently stands, the MBTL-DEIS does not contain enough detail to allow for full independent analysis, review, and corroboration of the model's main conclusions. The final version should provide additional information on the model's assumptions, methods, and inputs, including:

- Coal supply cost curves. The MBTL DEIS does not specify—or even describe in general terms—coal supply cost curves in either the US or in Asia. This makes it impossible to gauge whether the model accurately represents the likely market dynamics resulting from changes in coal supply, demand, and prices.
- Price benchmarks. Table 23 describes pricing assumptions for "International Coal Prices" in different market scenarios. But it does not describe the specific international pricing benchmarks to which it refers. The benchmark matters enormously: prices vary widely depending on the grade of coal, the location of at which it is sold, and the basis in which it is quoted. Throughout our comments, Sightline has assumed that the MBTL-DEIS uses the Newcastle, Australia free-on-board 6,300 kcal/kg Gross-As-Received benchmark, which is the most commonly cited Pacific Rim coal pricing yardstick. But since the MBTL-DEIS does not specify what it means by "international coal prices," it is literally impossible for the public to understand or evaluate the precise pricing and market scenarios being discussed.
- Economy-wide energy demand response. The MBTL-DEIS clearly indicates that it considers domestic coal-to-natural gas switching when assessing the effects of coal prices on US electricity markets. However, there is no indication of whether the model explores how changes in US or Asian energy prices alter the overall demand for energy. As a result, it is difficult to discern whether the model finds that changes in coal prices affect total energy demand, of if the model simply "reshuffles the deckchairs" among different fuel sources while keeping aggregate demand fixed. And there is no indication of whether it uses different assumptions and methods about aggregate demand in the US vs. Asia.
- Natural gas fuel switching and cross-elasticities in Asia. Section 4.2.9 describes the methods used in the MBTL-DEIS to estimate own-price elasticities in Asian gas, coal, and electricity consumption. But there is no indication of how, or even whether, the MBTL-DEIS considered cross-elasticities among those commodities in Asia. As a result, it is not clear whether the DEIS considers potential ripple effects of lower coal prices in Asia, such as increased aggregate

demand for electricity, or even decreased demand for natural gas. We are left to wonder, for example, whether gas-to-coal switching in Asian power production is an additional effect. (3411)

## Response to CMA-38

The coal supply cost curves used in the modeling, which were updated from EPA's IPM v5.13 coal supply curves that were used in the Draft EIS, are included as an attachment to *SEPA Coal Market Assessment Technical Report* presented in the Final EIS.

- The *SEPA Coal Market Assessment Technical Report* presented in the Final EIS includes clarification regarding the specific international coal price marker referenced in the report.
- The model does not explore how changes in energy prices alter the overall international demand for energy because international coal demand is an input for the IPM model, and for international energy demand only coal is modeled. The analysis included the possibility that the coal exports related to the Proposed Action could result in a decrease in delivered coal prices and thereby increase coal demand. The assessment presented in the Final EIS provides clarification regarding this topic.
- Section 4.2.9 of the *SEPA Coal Market Assessment Technical Report* presented in the Draft EIS addressed only coal demand elasticity internationally. Consideration of natural gas and electricity demand and related fuel switching and cross-elasticities in Asia are beyond the scope of the analysis.

# Comment CMA-39

In all three of these scenarios (and the Cumulative scenario which is based on the Past Conditions market environment), there is no or very little induced coal energy consumption in the Pacific Basin as a result of the coal exports through the Longview port. Those exports to Asia price into existing markets at almost exactly the same delivered cost as the coal supplies previously serving those markets. The Longview port exports its full capacity each and every year at almost exactly the existing cost of coal in those Asian nations. The result is near perfect substitution of Longview coal for other Pacific Basin coal supplies with almost no impact on coal prices, coal energy consumption, or carbon pollution. Despite adopting the conceptually correct economic framework to evaluate these impacts, the results are almost the same as one would obtain if one assumed that coal energy consumption in Asia was not at all sensitive to the cost of coal.

These near zero carbon pollution impacts associated with three of the scenarios, including the DEIS's preferred scenario, is not an indication that the Longview coal exports would be environmentally benign. Rather, it is an indication that these DEIS scenarios were not consistent with a commercially viable Longview coal port and therefore provide no information as to what the actual impacts would be of a coal port operating in market conditions that actually supported it. We do not have to do any modeling to know that if the Longview coal exports are not competitive, there will be no exports and the port will have no impacts on coal markets. (3277)

## Response to CMA-39

Refer to the Master Response for the Coal Market Assessment for information on the methods, assumptions, and model used in the analysis; sources of data; scenarios considered; and conclusions related to impacts of the Proposed Action on U.S. and international coal markets.

# Comment CMA-40

The DEIS specifically designed one of its scenarios to "*provide for a robust market environment for coal transported through the [Longview coal] terminal*." That is, that scenario sought to assure that market conditions for Western coal in the Pacific Basin would clearly support the full utilization of the Longview coal port's capacity. For that to be certain, significantly improved market conditions were assumed.

What the DEIS labels the Upper Bound scenario is the only scenario that the DEIS models that actually supports a commercially viable Longview coal port. That scenario should be relabeled the "Commercially Feasible Longview Port" scenario and used as the preferred scenario to indicate the likely impact associated with the Longview port operating at full design capacity for its modeled commercial life. (3277)

## Response to CMA-40

As stated in Chapter 5 of the SEPA Coal Market Assessment Technical Report, the Upper Bound scenario was "designed to result in a reasonable upper bound estimate of global $CO_2$ emissions from the combustion of coal and to evaluate the possibility of greater $CO_2$ emissions due to the construction and operation of the proposed terminal." The Upper Bound scenario provides a more robust market environment for Proposed Action-related coal than the other scenarios because the international coal demand is higher and the price differential between the coal exported from the proposed terminal and the international coal prices is greater than in the other scenarios. The definition of the Upper Bound scenario does not preclude the other scenarios from supporting a commercially viable coal export terminal.

Refer to the Master Response for the Coal Market Assessment for information on the scenarios considered in the analysis.

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market regarding viability of the coal market.

# Comment CMA-41

The adjustment in U.S. coal markets that the DEIS makes is significant. On net, the DEIS estimates that 22 percent of the increase in carbon pollution in Asia as a result of Longview coal exports would be offset by the reduction in carbon pollution in the U.S. Although such an offsetting impact is conceptually possible, we do not believe that empirically such an adjustment would be anywhere near as large as the DEIS calculates.

In 2014 PRB coal production was 379 MMtpy, 71 MMtpy below its peak 2008 production level of about 450 MMtpy. The DEIS projects that with the full capacity of the Longview port being utilized, the PRB coal mining levels under the Commercially Feasible Longview Port (upper bound) scenario would be 435 MMtpy, below previous levels of PRB coal production. In that sense the operation of

Longview coal port at full capacity is not projected by the DEIS to push PRB coal mining above its previous levels of operation. Instead, the Longview port would help the PRB to put its existing capacity back into production. We do not believe that this recovery to past levels of operation would significantly increase PRB coal mining costs.

This suggests that the DEIS's net estimate of the combined impact of the changes in Pacific Basin and U.S. domestic coal markets on carbon pollution is underestimated. If the DEIS "offsets" are assumed to be empirically quite small, the total carbon pollution associated with the Commercially Viable Longview Port scenario increases from 29.8 to 37.6 MMtpy of $CO_{2e}$ and the carbon equivalent in terms of additional average U.S. coal-fired generators rises from about to about 11 additional coal-fired generators. As the DEIS concludes, that level of increased carbon pollution would represent a very large, permanent, and adverse impact. (3277)

### Response to CMA-41

The analysis presented in the *SEPA Coal Market Assessment Technical Report* considered the potential impacts of the Proposed Action compared to the No-Action Alternative. The focus of the analysis is the comparison of model results under scenarios with and without the Proposed Action. The comparison does not touch upon historical production levels, but instead focuses on the forecast period between 2025 and 2040. Powder River Basin production could increase by a maximum of 44 million metric tons of coal per year under the Proposed Action; however, all scenarios except the Cumulative scenario show an increase in production that is less than or equal to 44 million metric tons of coal, and greater than 36.0 million metric tons. This is an increase in Powder River Basin production of at least 10% over the No-Action Alternative. This increase would deplete reserves more quickly, and result in higher coal prices in the long run. However, due to the updates to the U.S. coal supply curves between the Draft EIS and the Final EIS, the results for the Final EIS show a smaller decrease in U.S. coal consumption than was observed in the Draft EIS. The change in U.S. coal consumption in the Final EIS is less than 1.0 million metric tons in all scenarios, except for the Lower Bound scenario, which showed a decrease of 3.8 million metric tons.

## Comment CMA-42

In particular, we do not find empirical support for the assumption that a partial recovery of PRB coal mining to levels below recent past mining levels in the PRB, in order to supply the Longview coal port, would cause the cost of mining that coal to rise significantly. For that reason, we reject the DEIS's conclusion that there would be a significant decrease in coal consumption in the U.S. and its replacement with less carbon intensive sources of electricity due to the operation of the Longview coal port. (3277)

### Response to CMA-42

Refer to Response to CMA-41.

## Comment CMA-43

Of course, the demand for coal in Asia and the market prices being paid for imported coal supplies could rise. Pacific Basin coal markets could move back towards the "boom" conditions that existed in the 2008-2013 time period when the Longview and other new and expanded west coast coal ports were first proposed. But that is *not* what the DEIS modeled in four of its five scenarios. In that sense,

the DEIS did not focus its analysis on scenarios that were relevant to the question of what the impact of a commercially viable Longview coal port would be on carbon pollution. (3277)

### Response to CMA-43

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market regarding viability of the coal market.

Refer to the Master Response for the Coal Market Assessment for information on the scenarios considered in the analysis.

## Comment CMA-44

What the DEIS labels the Upper Bound scenario is the only scenario that the DEIS models that actually supports a commercially viable Longview coal port. That scenario should be relabeled the "Commercially Feasible Longview Port" scenario and used to indicate the likely impact associated with the Longview Port operating at full design capacity for its modeled commercial life. This should be the "preferred" scenario because it is the only scenario modeled in the DEIS that unambiguously supports a commercially viable Longview coal port. (3277)

### Response to CMA-44

Refer to Response to CMA-40.

## Comment CMA-45

If serving the Longview coal port does not require an increase in the level of PRB coal mining beyond that which it has experienced in recent years, it is not clear that coal mining costs would rise significantly since production will not have actually increased over recent past levels. This makes the DEIS's significant off-setting declines in U.S. carbon pollution due to reduced use of coal to generate electricity in the U.S. questionable. If those U.S. offsets to increased carbon pollution in Asia are not included in the Commercially Feasible Longview Port scenario, the estimated carbon pollution impact of the Longview port would be higher. (3277)

### Response to CMA-45

Refer to Response to CMA-41.

## Comment CMA-46

The approach to modeling the impact of the Longview coal port that the DEIS used does not provide informative analysis of the likely impacts to energy markets and carbon emissions because the modeling is largely conducted for scenarios that are inconsistent with a commercially viable Longview coal port. For example, in the Lower Bound scenario, the delivered price of coal to the Asian market (Japan) from the proposed port are so high compared to their international competitors that the project would not be viable, and hence would never be built. Such scenarios are irrelevant to an actual evaluation of the impacts of the proposed Longview coal port. Clearly, a commercially non-viable coal port will have no impact because it will not be built or, if it is built, it will not operate.

Useful modeling of the impact of the proposed Longview coal port has to assume economic conditions that make that proposed port commercially feasible. Only one of the DEIS scenarios obviously meets that important criteria, the Upper Bound scenario. That scenario sought to create a market setting that "*would provide for a robust market environment for coal transported through the [Longview] terminal*." It assumes that international coal prices will rise 50 percent, moving them back up towards where they were in 2010-2011 when the Longview and other west coast coal ports were first proposed. To support those higher Asian coal prices the Upper Bound scenario assumes that the rate of growth of coal demand in Asian nations will also increase by 50 percent. (3277))

### Response to CMA-46

Refer to Response to CMA-40.

## Comment CMA-47

In modeling the expected GHG impacts of the proposed Longview coal port, it is crucial that at least one of the scenarios be consistent with that proposed port actually being commercially viable, otherwise we know what the impact of the port will be without doing any modeling: It will have no impact on coal markets because it will export no coal. The appropriate label for such a scenario would be "commercial operation" or "commercially feasible," not "upper bound." Since that was ultimately the purpose of the modeling. If the DEIS intended to show a range of impacts of the Longview port, it should have provided a range of impacts for different market conditions where the proposed Longview coal port would have been competitive within Asian markets. In doing so, it could have described the market conditions that would make the Longview port commercially viable and capable, therefore, of impacting Asian coal markets. The correct modeling of the proposed Longview coal port would have allowed the model to determine when and if and under what circumstances the proposed Longview coal port would have been commercially feasible. Then the plausibility of those conditions occurring could be evaluated and the impact of the commercially viable coal port on other coal markets and GHG emissions could have been calculated.

As a result, we are left with only one scenario that is consistent with a commercially viable Longview port. It should be labeled as such not as an "Upper Bound." We do not know if it is an upper bound since a range of commercially feasible Longview export levels was not modeled. What we do know is that this is the one set of economic conditions modeled by the DEIS where the Longview port is operating on a commercial basis providing the only impact information that is relevant to the DEIS's line of analysis. (3277)

### Response to CMA-47

Refer to Response to CMA-40.

## Comment CMA-48

In the DEIS, in all of the different scenarios, the same volume of coal goes out of the proposed port: 44 million metric tonnes. This would seem to suggest that the port must be competitive in each of the different scenarios presented by the DEIS. This is not the case, the export of 44 million metric tonnes of coal through the proposed Longview coal port is a model constraint in all of the scenarios. That is, the same amount of coal is shipped through the proposed port and into the Asian market whether or not that coal is competitive. Although we strongly believe that it would have been far

more instructive to model a port under the different scenarios and have the model choose when and how much coal should be shipped out of the proposed port, that is not what was modeled. As a result, we are left with a port that may ship uneconomic coal to Asia in multiple different scenarios. (Power Consulting (3277)

## Response to CMA-48

The Proposed Action would export a maximum of 44 million metric tons of coal per year. The modeling was not intended to determine the viable volume of coal exports under the Proposed Action, but to evaluate the Proposed Action under a range of possible future market conditions. As stated in the *SEPA Coal Market Assessment Technical Report* presented in the Draft EIS, the analysis assumed operation of the Proposed Action at full capacity in 2028. This assumption is consistent with the other analyses presented in the Draft EIS, and results in greater greenhouse gas emissions than if the terminal exported less coal.

Greenhouse gas emissions are higher under the assumption of full capacity utilization because of higher emissions from vessel transport of coal and due to changes in the mix of coal consumed. Finally, having more coal exported from the proposed terminal is more likely to cause lower coal prices in Asia and thus induce more demand. Thus, the assumption of maximum export of coal from the proposed terminal is the most conservative assumption that could be made.

# Comment CMA-49

What is potentially worse and why we bring up the economics associated with each scenario is that all of these scenarios are presented as if they are a possibility. The implications are that a coal port could be built that ships 44 million metric tonnes of U.S. coal to Asia *and* reduces the GHG of the world. This is a contrived result because, in most of the scenarios that were modeled in the DEIS, the impact on Asian coal consumption and GHG emission are, implicitly, those associated with a Longview coal port that does not operate because it is not commercially viable. We assume that Asia will make rational economic decisions when it comes to the coal that they will use. This means that *if* U.S. coal is shipped out of the proposed port and it is delivered to Asia at a higher cost (in energy terms) than the coal that Asian countries were previously using, the Asian countries would choose not to import that coal. If we view the different scenarios under this lens, we are able to reject as non-feasible or self-contradictory all but one of the scenarios. In other words, the only economic scenario developed in the DEIS that provides useful information is the "Upper Bound." (3277)

## Response to CMA-49

Refer to the Master Response for the Coal Market Assessment for information on the scenarios considered in the analysis.

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market regarding viability of the coal market.

# Comment CMA-50

In a similar manner in which the IPM builds and retires electric generators, the DEIS could have linked the demand for coal in Asia to coal mines and coal ports in the U.S. and let the model add west coast coal ports and export coal volumes as market conditions in the U.S. and Asia supported them.

That however was not what the DEIS did. Instead it simply assumed that the Longview coal port would be constructed and come on line by 2025 and that under all of its scenarios the full capacity of that proposed port would be consistently used. It did the same thing in its Cumulative Scenario in which it assumed another 56 MMtpy of coal port capacity available to U.S. coal mines would come on line by 2030 in addition to the 44 MMtpy capacity of the Longview coal port. All of that additional coal port capacity was also assumed to be fully utilized each year. The IPM model did not choose those levels of coal purchases by Pacific Basin nations from the U.S. west coast on the basis of market conditions but simply assumed that both the Longview coal port and other proposed ports could always profitably sell their full port capacity each year into Pacific Basin coal markets. In that sense, the IPM was *not* implemented as an integrated international model capable of modeling coal exports. (3277)

### Response to CMA-50

Refer to Response to CMA-48.

## Comment CMA-51

As we have argued in the past, the perfect substitution of one coal for another is an economic anomaly in which supply and demand do not interact to determine the level of consumption. The perfect substitution in the DEIS requires that, over the entire modeling period, the exported U.S. coal prices in at exactly the same price as other Asian coal suppliers. It is the economic equivalent of balancing on the edge of a razor as the delivered cost of the Longview coal is always the same as the market price of coal without the Longview coal. The Longview coal is not a lower cost source of coal nor is it a higher cost source of coal. Yet, in the DEIS modeling, there is a demand in Asia for exactly 44 MMtpy of Longview coal each and every year. As we have successfully argued before the District Court in Colorado, the assumption of this type of "perfect substitution" within coal markets should be rejected. (3277)

### Response to CMA-51

Refer to Response to CMA-48 regarding assumption of maximum throughput.

The analysis did not make the assumptions asserted by the commenter regarding the price of exported coal, nor did it conclude that there is "perfect substitution." This analysis is different from the analysis in the referenced court decision, as it takes into account the changes in $CO_2$ emission due to the substitution of one coal for another and the changes in the domestic energy market due to changes in the demand for coal, and because it includes the possibility of induced demand in Asia.

## Comment CMA-52

Because there is not a large change in the price of coal in Asia and almost no induced demand, the Past Conditions scenario comes to the conclusion that there would be a small *decrease* in GHG by shipping 44 million metric tonnes of coal a year to Asia. This is a contrived result that is based on a time frame that should not have been chosen.

The time frame that is chosen for the Past Conditions scenario is suspect since it is a time frame that allows for the coal to price in at, or slightly below, the benchmark prices for Asian coal. As we show in appendix A, if the Past Conditions were based on current prices that coal would not price into

Asian markets. If the Past Conditions were based on 2015 that coal also would not price into Asian markets. Choosing a time frame where the coal prices in at exactly the same or at a fractionally lower price as other Asian benchmark prices simply allows the coal to be perfectly substituted for another coal type which we have shown to be an economic fallacy that cannot last. (3277)

### Response to CMA-52

As stated in the *SEPA Coal Market Assessment Technical Report*, the timeframe of the analysis was chosen as 2018 through 2038 because it reflects the start of construction through the period of reasonably foreseeable coal export by the proposed terminal. The coal market analysis assumed the coal export terminal as fully operational in 2025. Refer to Section 2.2.2.1 in the *SEPA Greenhouse Gas Emissions Technical Report* for additional information.

## Comment CMA-53

In other words, there would be almost perfect substitution of coal exported through Longview in the Proposed Alternative for coal consumption modeled in the No-Action alternative. This perfect substitution occurs even though the delivered price per Btu in Japan (the only country that coal is delivered to in the Lower Bound scenario) increases by 4%-7% in the Proposed Alternative ($0.17 to $0.32 per MMBtu, depending on the model year): "…*in the Lower Bound Scenario there is no change in the heating value of the coal consumed in the Pacific Basin; however, there is an increase of 12.1 million metric tons due to switching to consuming more coal that has a lower heat content*." This shows conclusively that the coal is forced in the modeling of the ports. If it was not forced both Japan and Asia as a whole would not choose to accept the higher cost coal from the proposed port.

Because this scenario is uneconomic and contrived, this scenario has to be rejected as inconsistent with a commercially viable Longview coal port. (3277)

### Response to CMA-53

Refer to Response to CMA-48.

## Comment CMA-54

This scenario was presented as the "preferred scenario". However, presenting this scenario as the preferred scenario is misleading since the IPM forces PRB coal onto the international market through the proposed Longview coal port without showing that the port would be economically operable. (3277)

### Response to CMA-54

Refer to Response to CMA-4, the Master Response for Future of the Coal Market, and Response to CMA-48.

## Comment CMA-55

In 2014 PRB coal production was 379 MMtpy, 71 MMtpy below its peak 2008 production level of about 450 MMtpy. The DEIS projects that with the full capacity of the Longview port being utilized, the PRB coal mining levels under the Commercially Feasible Longview Port (upper bound) scenario

would be 435 MMtpy, below previous levels of PRB coal production. In that sense the operation of Longview coal port at full capacity is not projected by the DEIS to push PRB coal mining above its previous levels of operation. Instead, the Longview port would help the PRB to put its existing capacity back into production. We do not believe that this recovery to past levels of operation would significantly increase PRB coal mining costs.

As the quote immediately above from the DEIS Coal Market Assessment makes clear, whether the mining of an additional 44 MMtpy of coal to serve the proposed Longview port would cause a significant increase in the cost of mining PRB coal that then would discourage consumption of coal in the U.S. depends on how flat or steep the PRB coal supply curve is. In fact, that PRB supply curve is quite flat in the production range that the DEIS models and for that reason one would expect a significant increase in the cost of PRB coal because of the increased mining to supply the proposed Longview port. As we pointed out in section III.3 above, the PRB has already increased and now subsequently decreased its output by more than the proposed action (44MMtpy) without a corresponding price change. (3277)

## Response to CMA-55

Refer to Response to CMA-41.

Combining the PRB coal supply curves from all PRB supply regions into one meta supply curve is analytically incorrect and leads to the inaccurate conclusion that the PRB coal supply curve is flat over the production amounts estimated in the analysis. The coal supply curves used for the analysis presented in the Draft EIS were obtained from EPA's IPM v5.13. Updated coal supply curves were used in the revised analysis presented in the Final EIS; these curves do not increase as quickly over time as the EPA's IPM v5.13 curves. The process for developing the new coal curves is described in Section 4.2.2.1 and the coal reserves are discussed in Section 4.2.15 of the *SEPA Coal Market Assessment Technical Report* presented in the Final EIS.

# Comment CMA-56

Put differently, the DEIS's modeling projects PRB coal supply costs to rise much more rapidly than the EPA coal supply curves support. As a result, the DEIS projects larger substitutions of lower carbon sources of electricity than coal-fired generation and lower overall $CO_2$ emissions than is appropriate given the flatness of the PRB coal supply curves.

The DEIS seems to be aware of the fact that the PRB coal supply curves are very flat in the range of PRB coal mining that is relevant to the analysis of the proposed Longview coal port. For three of the five scenarios that it analyzes it describes that change in PRB coal prices due to the increased mining to serve the Longview port as "slightly higher." (3277)

## Response to CMA-56

Refer to Response to CMA-55.

# Comment CMA-57

Our conclusion is that there likely would not be as large of a price impact on the PRB as a whole if the coal for export through PNW coal ports comes from the Montana portion of the PRB (as it does in the DEIS in all circumstances when sourced from the PRB). These continuing low PRB coal prices

would support less fuel substitution as coal prices rise relative to the price of natural gas if the coal comes from Montana rather than the southern PRB. As our discussion above shows, if the coal was to come from the PRB in general, then the price increase that is predicted in the DEIS, that drives domestic coal consumption down and encourages fuel substitution which drives GHG down in the U.S., would not happen as a result of exporting 44 million metric tonnes. The last important piece is that like the delivered price of PRB coal to Asian markets, the delivered price of PRB coal to domestic markets is predominately made up of shipping costs and not mine mouth prices. This would indicate that there would be less of a chance of fuel substitution within the domestic market even if Montana PRB coal being exported to Asia caused a modest rise in the Montana PRB coal price because of the historically limited market for Montana coal. (3277)

### Response to CMA-57

The analysis assumes that Proposed Action-related coal would be exported to Asia. This was information provided by the applicant as part of the Proposed Action.

## Comment CMA-58

Since the reduction in U.S. coal is overstated in the DEIS, the emissions impacts for the modeled scenarios is understated in the DEIS. When the reduction of emissions from the U.S. are removed from the DEIS results, a more accurate portrayal of the true impact of the proposed Longview coal port are apparent. Table 4, below, summarizes this more accurate accounting of the emissions directly from the combustion of induced international coal as it was modeled in the DEIS. From this Table, we consider the 37.59 MMtons of annual emissions associated solely with the combustion of induced international coal in the DEIS Upper Bound scenario to be indicative of a scenario which would more aptly represent the upper bound. (3277)

### Response to CMA-58

Refer to Response to CMA-55 regarding combining supply curves.

The coal curves used in the analysis presented in the Draft EIS were obtained from EPA's IPM v5.13 modeling, including all domestic coal supply curves. The Documentation for EPA Base Case v.5.13 using the IPM describes the derivation of the coal supply curves as such:

> In keeping with IPM's data-driven bottom-up modeling framework, a bottom-up approach (relying heavily on detailed economic and resource geology data and assessments) was used to prepare the coal supply curves for EPA Base Case v.5.13. Wood Mackenzie was chosen to develop the curves based on their extensive experience in preparing mine-by-mine estimates of cash operating costs for operating mines in the U.S., their access to both public and proprietary data sources, and their active updating of the data both through research and interviews.

The updated coal supply curves used in the Final EIS, in addition to numerous other modeling inputs, such as natural gas prices and renewable and environmental policy, indicate that U.S. emissions would increase with the Proposed Action operating at maximum throughput in the Upper Bound scenario, and remain flat or decrease in the other scenarios.

## Comment CMA-59

Unlike the DEIS's assumptions for Asia, a zero price elasticity of demand for coal and electricity is assumed for the U.S. coal markets. Only the cross-elasticity with natural gas/renewables is assumed

to operate in the U.S. On the other hand, no cross-elasticity with natural gas/renewables is assumed in Asian nations. This leads to an underestimate of the increase in GHG in Asia and an underestimate of the GHG *declines*, in the U.S. Without explicit modeling of these impact, we do not know in what the magnitude of this bias in the DEIS estimates of net GHG impacts is but we do know the direction.

Since the cross elasticity of gas and coal is included in the DEIS modeling of the U.S., it should also be included in Asia. At this point this is a conceptual argument because to our knowledge[146] the DEIS did not consider the cross elasticity of coal and natural gas/renewables in Asia. However, as we have laid out above in our discussion of the four largest coal consuming nations in Asia (China, Japan, South Korea, and Taiwan) that are close enough to receive coal from the proposed Longview coal port, there is both installed capacity to burn natural gas (often LNG) and government policies being enacted to encourage the use of natural gas to lower each country's emissions.

If these same Asian countries are receiving coal that reduces the cost of generating electricity, then those Asian countries will see the opposite effect that is modeled here in the U.S. in the DEIS: Asian emissions will increase as coal becomes cheaper relative to natural gas. Not only will they burn more coal than they otherwise would have (induced demand associated with the elasticity of demand for coal), but they will burn less natural gas than they otherwise would have.

We are not suggesting that the modeling is fatally flawed because of this omission. We are suggesting that the highest emissions that are forecasted in the model should be viewed as conservative estimates because there are likely more emissions than were modeled in the DEIS. If they had considered the cross elasticity of demand for coal and natural gas/renewables, then more coal and less gas/renewables would be consumed to create electricity in Asia.

What is missing is the same demand response here in the U.S. If the price of coal goes up in the U.S. and we are forced to rely on more costly energy sources for our electricity, then we would expect that we would use less electricity than we otherwise would have without the proposed exports through the Longview port. Again, this is the opposite effect that we see from the modeling in Asia. Exports through the proposed Longview coal port are assumed to drive U.S. coal mining costs up, making the generation of electricity in the U.S. more costly. This should induce a drop in the demand for electricity. If there is less electricity generated then there should be less fossil fuels burned and less GHG associated with the production of electricity. This demand reduction should be included in the DEIS modeling of the market adjustments just as it was used in Asia. Of course, as we have emphasized above, the impact of the proposed Longview coal port on PRB coal mining costs will be much lower than the DEIS estimated or non-existent if the lower cost coal in Montana is the source of the coal that services the proposed coal port as it currently is in the IPM modeling. (3277)

## Response to CMA-59

The electric demand elasticity was not included in the modeling in this analysis, because the change in delivered coal costs was small and thus the change in electric prices and the subsequent change in electric demand would each be smaller. While miles driven can increase when gasoline prices are low, the relationship between fuel prices for electric generators and the retail rate of electricity is more complex, and the latter would have to change to affect electric demand.

The increase in demand for Powder River Basin coal under the Proposed Action would cause an increase in Powder River Basin minemouth coal prices. Since the minemouth price of Powder River Basin coal is typically only 30 to 50% of the total delivered cost, a change in the minemouth price would be a smaller portion of the delivered cost. For example, a 5% change in a $10/short ton

minemouth price, would be $0.5/short ton. The $0.5/short ton change would be 1.7% of a total delivered cost of $30/short ton. Since coal typically only makes up a portion of a utility's generation portfolio, the increase in coal costs is further diluted by all the other generating costs at a utility. Therefore, the impact on retail electric rates would be much less than the change in coal prices.

An increase in Powder River Basin coal production is likely to lead to an increase in the coal prices of Powder River Basin coal. However, changes in one type of coal are unlikely to lead to significant changes in coal costs overall in the U.S., and the impact on power prices would be limited. Changes in retail rates would be further limited, as recent evidence shows that fuel price changes have no impact on average national electric retail rates. Therefore, an increase in Powder River Basin coal costs would not lead to changes in electric demand.

The recent evidence of the impact of fuel prices on electric rates is with respect to natural gas and not coal. However, since 2012 natural gas fired power plants have generated similar quantities of electricity as coal-fired power plants, and thus the impact of lower natural gas prices should have a similar impact on electric rates than lower or higher coal prices. Also, the decrease in natural gas prices applies to all natural gas fired plants and not just a small percentage of them, as would be the case in the Proposed Action. Given these two factors, one would conclude from general economic principles that a decrease in natural gas prices would result in lower electric prices and thus an increase in demand. The historical natural gas price, electric retail price, and electric demand data show that is not the case.

For the four year period between November 22, 2004 and January 16, 2009, natural gas prices were above $5/MMBtu for all but 24 days. The average natural gas price for this period is well above $5/MMBtu at $7.76/MMBtu. By March 6, 2009, natural gas prices had fallen below $4/MMBtu and have generally stayed below $4.5/MMBtu, except for two short periods in 2009 and 2014. Between January 17, 2009 and July 28, 2015, the average Henry Hub natural gas price has been $3.75/MMBtu. Thus there has been a 51.6% decrease in the average natural gas price during these two periods, with each period lasting at least four years, which should be enough time to see an impact on electric rates. Based on the commenter's assertions, such a large decrease in fuel prices would lead to a decrease in electric prices and thus an increase in demand. In fact, average U.S. retail electric prices obtained from EIA show that retail electric rates between 2009 and 2014 increased at an average of 1.25% per year. Over the period from 2009 to 2013, the percentage of generation from natural gas was increasing from 23.3% to 27.5%, while the percentage of generation from coal was generally decreasing from 44.4% to 39.1%. This historical evidence refutes the commenter's assertion that the analysis for the DEIS must include electric demand elasticity or else be rejected as inadequate.

# Comment CMA-60

Without basic information on the specific inputs or outputs of the model, the black box nature of the IPM makes independent review of the modeling and resultant analysis of the model results impossible. Although the volume of information given in the DEIS is substantial, the content of the information included within the DEIS is insufficient for the careful, independent analysis of the DEIS and its conclusions. (3277)

## Response to CMA-60

Refer to Response to CMA-33 regarding documentation of inputs and assumptions for the modeling.

# Comment CMA-61

Unfortunately, the data and input assumptions that the ICF use in their modeling of the Longview coal terminal are not well defined in the DEIS. Instead ICF states that:

*"Although this documentation provides insight into EPA's assumptions, the data and assumptions used by ICF in this analysis are not necessarily the same as used by EPA. However, ICF did use many of the EPA assumptions as described in more detail in Section 4.2."* [158]

In Section 4.2 of the DEIS states that:

*"To the extent possible, assumptions from publicly available sources, such as the EIA, IEA, and EPA were used. The majority of assumptions were obtained from EPA's v5.13 IPM Base Case (2013)."* [159]

Within this section, the DEIS describes assumptions including coal supply curves, international coal demand, domestic natural gas price versus demand relationships, as well as the volume, timing, and source of proposed coal exports through the Longview coal port. Unfortunately, some of the most important assumptions and data that are included in the IPM scenarios presented in the DEIS are neither publically available nor are they given in the DEIS. Since the IPM documentation and the DEIS do not thoroughly describe (1) the exact assumptions of the model, (2) the data input to the model, (3) the equations involved in calculating the results, (4) the methods by which the equations are implemented in the model, or (5) the results of the model, the model is a "black box". (3277)

## Response to CMA-61

Refer to Response to CMA-33 regarding documentation of inputs and assumptions for the modeling.

# Comment CMA-62

The information within the DEIS is insufficient for independent review of the results

In order to independently assess either the economic viability or the emissions impact of the proposed Longview port, the following information is needed for each scenario for each model year:

1. The source and amount of coal delivered to each demand region as well as the Btu content of the coal from each supply region.

2. The delivered price ($/Btu) of the coal for each supply region to demand region combination.

3. The induced demand (in Btu) for each demand region.

4. The distance estimate from each supply region to each demand region. (3277)

## Response to CMA-62

1. All requests for information were provided within the 45-day Draft EIS comment period.
2. All requests for information were provided within the 45-day Draft EIS comment period.
3. This information was included in Chapter 6 of the *SEPA Coal Market Assessment Technical Report* presented in the Draft EIS.
4. Some of the key distances were included in the Draft EIS analysis; however, since this information is easily obtained from public sources and the volume of data is large, it was not

included in full. The transportation costs between each supply and demand region were included in the supplementary information.

# Comment CMA-63

Results in the DEIS are presented in units that are ambiguous; the results need to be presented in terms of Btu.

Almost all of the IPM results presented in the DEIS are provided in terms of millions of metric tons of coal per year (MMTons/year). This is an ambiguous unit to describe the induced demand for energy, even where the demand is expected to be derived solely from coal. Recall, that the most comprehensive documentation for the IPM is the EPA documentation. Within the EPA documentation, there are 58 coal supply region/coal grade classifications that are either sub-bituminous or bituminous, the heat content of these defined coal region/grades ranges from 15.00 MMBtu/ton to 25.90 MMBtu/ton. If we assume that this is representative of the variation in international heat content, to meet the projected 2018 thermal demand of Japan (3,182 Trillion Btu) in the Past Conditions (2014) scenario referred to in the DEIS, Japan would have to burn between 122.9 million tons to 212.1 million tons of coal. The DEIS lists Japan's 2018 thermal coal demand as 136 million tons.

Without the volume and specific coal heat content from each source coal type delivered to Japan, this thermal coal demand given in millions of tons cannot be verified or reproduced with an assumed error less than 44.6 million tons of delivered coal. Therefore, the units that the results are presented in are completely ambiguous in relation to the problem. Similarly, the thermal coal demand for any other demand region (i.e. China, India, South Korea, every domestic coal-fired power plant, etc.) cannot be verified for any given model year. Moreover, neither the economic viability of the Longview coal port, nor the emissions impact of the Longview coal port, nor the induced thermal coal demand can be assessed or independently verified without the specific coal source, region/type, heat content, and volumes delivered to each demand region. The fact that the DEIS does not include the IPM results makes the verification of most of the DEIS tables impossible. (3277)

## Response to CMA-63

The IPM results in the *SEPA Coal Market Assessment Technical Report* of the Draft EIS are presented in millions of metric tons to be consistent with the capacity of the Proposed Action. The Final EIS has been updated to also reference Btus and to include more detail on all of the coal types modeled.

# Comment CMA-64

The DEIS also had to inform the reader that some of the increase in the MMTons/year of coal consumed by Japan and South Korea represented actual induced demand for energy. These examples of how the DEIS explains that the apparent increase in energy production is not real in the model results, are exceptions; most of the DEIS model results are not discussed. Since the DEIS withholds almost all of the IPM results, and provides the results that they do give in terms of MMTons/year, the total energy derived from any one source is indeterminable. If the DEIS had provided tables showing the consumption of coal in Btu terms rather than MMTons/year, the reader would have been able to determine when there was induced demand that represented actual

increased use of energy and therefore, increased GHG emissions. As the DEIS was written the actual information of induced demand and how it was calculated is never provided. (3277)

## Response to CMA-64

Section 4.2.12 of the *SEPA Coal Market Assessment Technical Report* presented in the Final EIS has been updated to describe the process through which induced demand is determined and calculated.

Refer to Response to CMA-63 regarding units of measure.

# Comment CMA-65

The relative delivered price of Longview exported coal vs. international coal is the driving force for the economic viability of the Longview coal port, yet delivered price of coal is not provided in the DEIS

The delivered price of coal is not given in the Draft EIS; neither is there sufficient data within the DEIS to independently determine and/or verify the delivered price of coal. This is a problem since the economic viability of the Longview coal terminal and the emissions impact from the induced energy consumption from the proposed terminal are directly related to the delivered price of coal from international and domestic sources. If Longview exported coal is not price competitive with international coal, there will be no market for the coal that is assumed to be shipped through the Longview coal port.

Here we detail the coal price data given in the DEIS as well as the inconsistencies in the data which serves to confuse the reader. We also suggest the appropriate data that should be supplied in the DEIS in order to allow a thorough, independent review of the IPM results which are qualitatively discussed in the DEIS. (3277)

## Response to CMA-65

Tables 2-7 and 2-8 in the *SEPA Coal Market Assessment Technical Report* provide cost information for delivery of different coal types from Montana and Wyoming to Japan. The delivered cost of coal comprises the transportation costs to deliver the coal and the minemouth price of the coal being delivered. The transportation costs are an assumption in the model, while the minemouth prices are solved during each model run based on the coal supply curves and the coal demand in the particular run. In general, the delivered cost of U.S. coal to the Asia Pacific market are similar to and sometimes moderately above competing options, and thus the impacts on Asia Pacific coal demand will tend to be modest. The companies selling coal into the Asia Pacific market actually maximize their profits when they can sell their coal at just below the next available option, so there is no incentive for them to deeply discount their coal.

# Comment CMA-66

Within the IPM, the Uinta coal basin is divided into three modeled supply regions, the Powder River Basin is also divided into three modeled supply regions. These six regions have a total of 9 coal types associated with them. In Table 12 of the Coal Market Technical Report, the projected results for the coal prices in the Past Conditions (2014) Scenario – No-Action Alternative are given for 4 of these 9 domestic coal types that are allowed to be exported via the Longview coal port, meaning that most of the domestic coal that is modeled has no price at all given in the DEIS. The coal supply curves

from which these coal prices are derived are publically available. However, the price of each coal source region/type is dependent on the volume of coal sourced from that region, thus, without the volume and price of coal delivered from each source region to each demand region, the domestic coal FOB and delivered prices cannot be determined or verified. (3277)

## Response to CMA-66

The number of coals modeled for the Uinta and Powder River Basin regions were described in Sections 2.2 and 2.3 of the *SEPA Coal Market Assessment Technical Report* presented in the Draft EIS. For the Powder River Basin, three coals were modeled: Montana coal, Wyoming 8400 coal, and Wyoming 8800 coal. For the Uinta Basin, three coals were also modeled: Colorado coal, Utah 11500 coal, and Utah 11950 coal. Thus, six coals were modeled for these two regions. Prices were provided in Table 12, Coal Prices in the Past Conditions (2014) scenario—No-Action Alternative (2012$/short ton), for four of these six coals: one from each state covering these two coal producing regions. Section 4.2.2.1 of the *SEPA Coal Market Assessment Technical Report* for the Final EIS discusses coal supply curves and presents coal prices for each scenario for 14 coal types (six for Australia and Indonesia, and eight for the Powder River Basin and Uinta Basin).

# Comment CMA-67

Table 31 of the Greenhouse Gas Emissions Technical Report (page 2-32) *"summarizes the differences in carbon and heat contents among the coals assessed in the coal market assessment."* It is unclear if this means that these are the only coals assessed in the market assessment or if these are among the coals assessed in the market assessment. If these are the only coals assessed in the market assessment, then, according to the DEIS, the FOB price given for one of the Powder River Basin coals and both of the Uinta Basin coals are not modeled. If they are not the only coals assessed in the market assessment, then the domestic price data provided in the Market Assessment is incomplete. Either way, there is a discrepancy between the EPA Base Case v.5.13 Supply Curve heat content data and the information provided in Table 31 of the Greenhouse Gas Emissions Technical Report. This discrepancy, in conjunction with the fact that almost no price data is given for U.S. coal, is disconcerting at best. The meaning of this is that either (1) the IPM is calculating the incorrect heat content for the coal types, (2) the IPM is using incorrect emissions factors for the coals, or (3) that the DEIS is incorrectly reporting the results of their modeling efforts. Because the IPM is a black box model and the results of that model are proprietary, we cannot determine which of these three explanations is correct. (3277)

## Response to CMA-67

As stated in the title of Table 31, Heat Content and Carbon Coefficients for U.S. and Pacific Basin Reference Coals, of the *SEPA Greenhouse Gas Emissions Technical Report* presented in the Draft EIS, the coals listed in the table are "reference coals"; in other words they provide reference points for the full suite of coal types modeled. The text introducing the table has been clarified for the Final EIS. Similarly, the *SEPA Coal Market Assessment Technical Report* presented in the Draft EIS provided coal pricing for a representative set of the coals modeled to assess the Proposed Action.

Both the heat content and the emission factors are input as characteristics for each coal type, consistent with EPA's v.5.13 IPM Base Case, as shown in Table 9-5 of Chapter 9, *Coal*, in EPA's IPM model documentation.

# Comment CMA-68

The DEIS has even less information on the price of international coal modeled in the IPM than price information for U.S. coal. International coal supply curves *"were developed for each of the international supply regions used in the model, except for Canada."* This means that the input data for all of the supply regions were constructed by ICF, yet none of the data for the international supply curves is provided in the DEIS. Again, the black box nature of the IPM as well as the proprietary nature of the results of the IPM means that these supply curves could be almost anything. All that we know about the international supply curves is that they *"were adjusted over time at the average rate that the EPA domestic supply curves were adjusted."* (3277)

## Response to CMA-68

The *SEPA Coal Market Assessment Technical Report* presented in the Final EIS has been updated to include additional description and discussion of the international coal supply curves.

# Comment CMA-69

The driving force behind adjustments in the consumption of coal is changes in the delivered price of coal in the analysis of both Asian and U.S. coal markets. In Asia, exports from the Longview coal port are assumed to lower Asian delivered coal prices and induce additional consumption of coal energy. In the U.S., increased mining levels are assumed to cause the cost and price of coal to rise, discouraging the use of coal energy. Since the DEIS never reports what the delivered coal price changes are, it is not possible to evaluate the reasonableness of the reported changes in actual coal energy use both domestically and internationally. (3277)

## Response to CMA-69

Refer to Response to CMA-1 and the Master Response for the Coal Market Assessment.

# Comment CMA-70

Within the DEIS, delivered coal for each country is given in millions of tons. However, energy consumption is not directly related to the weight of coal; it is related to the energy that is available to be released from the coal. Because each demand region gets coal from multiple supply regions and each coal type from those demand regions has a different average heat content, the total weight of the coal delivered is not indicative of the total energy content of that coal. There is a large difference in the energy content per ton of coal between Newcastle coal and Richards Bay coal, yet there is no differentiation between these coals in the reported quantity of tons of coal delivered in the DEIS. Within the IPM framework described in the DEIS and EPA documentation, there are 885 potential coal source/type combinations. It is apparent that the number of coal source/type combinations in the IPM is less than this since not all 15 coal types are found in each supply region. However, without Btu content information for all coal delivered to each demand region, it is impossible to determine the total energy of the coal delivered to the demand regions and therefore it is impossible to independently verify the economic viability of the Longview coal port or changes in energy consumption and emissions under any scenario. (3277)

### Response to CMA-70

Refer to Response to CMA-63 regarding units of measure.

## Comment CMA-71

The DEIS claims that price elasticity of demand (PEoD) is accounted for with a simple coefficient. It is unclear, however, how they implement the PEoD. The IPM is designed to solve for the mixture of energy sources that meets a certain, fixed energy or electricity demand. However, under the assumption of a fixed PEoD, when the demand for a commodity (in this case energy derived from coal) is increased, the price of that commodity increases. However, as the price of that commodity increases, the quantity of that commodity consumed decreases. A full energy economy model would iterate between the price of the commodity and the quantity demanded for that commodity until the change in either is very small. Thus, IPM must be run multiple times to converge on the final induced demand and in each iteration the delivered price of coal must be adjusted to converge on the delivered price of coal that is associated with the new level of demand, otherwise the IPM solution is incorrect.

Induced demand is reported in the DEIS as tons of coal. Recall that the energy content of coal is not uniform across coal types. However, the emissions associated with the combustion of coal is closely tied to the heat content of the coal. Therefore, to independently verify the emissions impacts associated with the induced demand, the induced demand must be given in terms of induced Btu consumption. As Tables 33-47 in the SEPA Greenhouse Gas Emissions Technical Report show, the emissions associated with the induced coal demand are at least an order of magnitude greater than any other source analyzed in the DEIS. For this reason, independent verification of this source of emissions is crucial. (3277)

### Response to CMA-71

Refer to Response to CMA-59 regarding electric demand elasticity.

Refer to Response to CMA-63 regarding units of measure.

## Comment CMA-72

The 45 day comment window for any DEIS is a very short time window to allow a reasonable analysis and comment on the merits of the DEIS. Data imperative for the thoughtful analysis and review of the DEIS was only provided to us after multiple requests and only 12 days before the comments were due. We have reviewed this data which has led to a clearer understanding of the modeling that was done with the IPM. However, this data should have been presented to all of the potential commenters when the DEIS was released. Initially when we asked the Department of Ecology for this data our request was denied as detailed above. Eventually, our request was accepted, but the delays in receiving the data were significant. (3277)

### Response to CMA-72

The co-lead agencies responded to all formal public disclosure requests as quickly as possible. All requests for information were provided within the 45-day Draft EIS comment period.

Pursuant to WAC 197-11-455, the lead agency for a SEPA proceeding shall provide 30 days for review of and comment on a Draft EIS. A lead agency may extend the comment period by up to 15 days upon request. The co-lead agencies provided an extended 45-day comment period for review of the Draft EIS. The comment period can be extended beyond these regulatory requirements with agreement from the Applicant. A request was made to the Applicant to extend the comment period to 60 days but the Applicant declined.

# Comment CMA-73

Only the "Upper Bound" scenario is consistent with a commercially viable Longview coal port. It should be labeled the "Commercially Viable Longview" scenario and used as an indication of what the impacts of a commercially viable Longview coal port would be on carbon pollution. As the only commercially viable scenario, it should be considered the most likely and hence replace the 2015 Energy Policy scenario in the DEIS's conclusions about GHG impacts. (3277)

## Response to CMA-73

Refer to Response to CMA-40.

# Comment CMA-74

The cost curve for the PRB is extremely flat at current and projected levels of consumption in the DEIS. Because it is so flat the addition of 44 million metric tonnes a year should not cause as large of an increase in the cost domestic coal as is projected in the DEIS. Because there is not as large of an increase in cost there should not be as large of a switch to less carbon intensive sources of fuel domestically which would not offset the increased consumption in Asia as much. (3277)

## Response to CMA-74

Refer to Response to CMA-55.

# Comment CMA-75

The DEIS's analysis of market adjustments to the Longview coal port successfully competing for a share of the Pacific Basin coal demand is incomplete and asymmetric in a way that likely leads to an underestimate of the net change in carbon pollution. Specifically, in the analysis of market adjustments in the U.S., the relative price of coal and natural gas/renewables is the sole market adjustment. The full price elasticity of demand for electricity that would include a change in electricity consumption in response to the change in the cost of fuel for electric generation is not included in the analysis. In the analysis of the market adjustments in Asia, the price elasticity of demand for coal is the focus with no consideration of the impact of the change in the cost of coal on the use of natural gas and or renewables to generate electricity. Asia and the U.S. should be treated in the same manner in modeling completed for the DEIS. (3277)

## Response to CMA-75

Refer to Response to CMA-59 regarding electric demand elasticity

# Comment CMA-76

Since the IPM documentation and the DEIS do not thoroughly describe (1) the exact assumptions of the model including the constraints imposed, (2) the data input to the model, (3) the equations involved in calculating the results, (4) the methods by which the equations are implemented in the model, or (5) the results of the model, the model is a "black box" that public decision-makers and citizens cannot evaluate for appropriateness, accuracy, or bias. Although ICF did supply Power Consulting with the detailed results that we asked for, those results were not provided early enough for the careful review that should have happened. The detailed results should be provided to everyone at the beginning of the comment period so that a careful and thorough review of the results can be conducted by all interested parties. (3277)

## Response to CMA-76

Refer to Response to CMA-33 regarding documentation of inputs and assumptions for the modeling.

# Comment CMA-77

The Coalition has commissioned an expert review of the market analysis contained in the DEIS and technical report by Dr. Tom Powers et al., which is attached.[18] We incorporate that analysis into these comments. Dr. Powers explains several fundamental problems with the GHG analysis related to coal markets and combustion that, collectively, greatly understate the total GHG impact of this project. **As Dr. Powers explains, the market impact of exporting 44 million metric tons of coal a year is far greater than revealed in the DEIS.** As Dr. Powers shows, the true GHG impact of this project is totally unacceptable and an independent basis for denial.

The DEIS and market analysis shortcomings include the following:

• The analysis mistakenly assumes that the project is economic under most scenarios, but it is not. The only scenario under which the project could even conceivably be built is the mis-named "Upper Bound" scenario, which should be the preferred choice for drawing conclusions. Any scenario in which delivered coal prices from the proposed port are not competitive so that the project is not viable should be eliminated from the analysis, and a new "true" upper bound scenario should be developed.

• The DEIS mistakenly assumes that increasing production of coal in the PRB to meet export demand will increase domestic prices and hence lead to fuel switching to less-GHG intensive fuels, thereby offsetting a significant portion of the increased GHG caused by additional combustion in Asia. While this relationship between price and consumption is generally accurate, the DEIS is incorrect that production increases at the scale involved here would result in price increases for coal. To the contrary, there is abundant capacity of PRB coal (the production of which has been in decline for years) to increase production without any effect on price. Accordingly, the offsets described in the DEIS are illusory.

• The analytical model treats Asian and U.S. responses to changes in coal prices asymmetrically, in a way that understates potential increases in GHGs. In the analysis of market adjustments in the U.S., changes in consumption are only assumed to take place due to shifting from coal to gas and other lower-carbon sources. It does not include any potential reductions in total energy consumption associated with higher prices. In Asia, the problem is reversed: the only impact that is considered is reduced total energy consumption, not any switching to lower carbon energy sources. But the lower

prices in Asia that would result from this project would not just increase total demand for electricity, they would also result in switching from lower-GHG fuels to coal. Indeed, the nations that the project purports to export to (including Japan, South Korea, and Taiwan) all have the capacity to shift from coal to natural gas. Similarly, China is in the process of converting to a greater share of natural gas: availability of cheap coal could encourage them to temper that shift. The failure of the model to include this understates the potential for increased GHG emissions.

• The proprietary IPM model used as the basis for the analysis is a closed "black box" model that makes it all but impossible for the public and decisionmakers to replicate. While the Coalition appreciates the Co-leads' efforts to provide our consultants with additional information, it doesn't solve the fundamental problem. Moreover, the information was provided just a short time before the close of the comment period. The Co-leads should not rely on this tool without requiring disclosure of all data, assumptions, and inputs. Alternatively, the Co-leads should re-run the analysis using the open-source NEMS model, which would provide the public with the ability to scrutinize the inputs and assumptions, and to provide much more useful comment. (3277)

## Response to CMA-77

Refer to Response to CMA-48 regarding assumption of maximum throughput. Refer to Response to CMA-1 regarding assumptions versus conclusions of the coal market assessment.

Refer to Response to CMA-55 regarding combining supply curves.

The model determined the increase in coal prices based on the assumptions used in the analysis; the exclusion of decreases in electric demand due to higher coal prices does not skew the results of the analysis. Refer to Response to CMA-59 regarding electric demand elasticity.

Refer to Response to CMA-33 regarding documentation of inputs and assumptions for the modeling.

# Comment CMA-78

A related concern is the economic health of the proponent. Will it be able to follow through on its commitments, or will the community be left with another piece of useless infrastructure? Will it be able to comply with its mitigation obligations? As the Co-leads understand, the MBT project is being promoted by a coal company that recently declared bankruptcy and a private capital investor firm that does not actually operate anything. Recently, one of the co-owners of the project, Arch Coal, sold its 38% share of the terminal in exchange for exactly zero dollars. Also as the Co-leads understand, the economic climate that would make this project even modestly profitable does not exist and is not anticipated to exist in the foreseeable future. Indeed, the fundamental premise of the DEIS—that U.S. coal can "compete in Asian energy markets" due to an "anticipated growth in demand for the export of U.S. coal"—is fundamentally flawed. DEIS at 2-2. As described above, and in the accompanying expert report of Dr. Powers et al., U.S. coal cannot compete in Asian markets and the "anticipated growth" in coal demand evaporated years ago. The entire justification for the project is illusory.

The proponent has continually shifted the claimed need for the project: at first it was China, but then coal imports to China plummeted and disappeared. The case for India disappeared soon thereafter. The DEIS claims that need exists in South Korea and Japan but this is likely a chimera as well. Massive coal investment in Japan is unlikely for numerous reasons. If Japan were to follow through on its uncertain plans to build significant new coal capacity, it would be double what could be

acceptable under that nation's existing coal commitments. Most likely, the hoped-for coal boom in East Asia will follow the same fate as the speculative bubbles in other parts of Asia. This information is relevant to the Co-leads ultimate choices as to whether or not to authorize the project, and whether any financial assurances would be imposed to ensure that the project doesn't end up with more unfunded liabilities for the community. (3277)

### Response to CMA-78

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

## Comment CMA-79

S6 of the DEIS says Millennium will be good for the local economy because it will cause increased jobs and increased taxes. This is based on false assumptions.

The coal industry is dying thanks to natural gas, environmental regulation and shrinking global demand. A string of coal companies have filed for bankruptcies in recent months, including Peabody Energy, the world's largest coal company and Arch Coal, the world's second largest coal company and former Millennium partner. Over 26 companies have filed for Chapter 11 bankruptcy in the past two years leaving workers and retirees penniless. Faced with collapsing price of thermal coal and export markets caused by slumping demand and too much supply, Wall Street has no appetite to finance new infrastructure. Arch Coal, which is restructuring itself after filing for bankruptcy, saw Millennium as a financial drain rather than cash-making investment and pulled out.

DEIS was wrong to just blindly take Millennium's numbers without further investigation. (1910)

### Response to CMA-79

SEPA Rules do not require that an EIS analyze the economic or social policy impacts of an action (WAC 197-11-448) or contain a cost-benefit analysis (WAC 197-11-450 and 197-11-762). Final EIS Chapter 3, Section 3.2, *Social and Community Resources,* has been revised to remove the analysis of potential impacts to the local economy. Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used, along with other information, by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market regarding viability of the coal market.

## Comment CMA-80

The MBTL applicant's financial backers continue to shift, bringing into question the stability of the applicant and its long-term ability to build, maintain, and manage the consequences of the project. When the DEIS for the terminal was released on April 29, 2016, the project was owned jointly by Arch Coal and Lighthouse Resources, both of which were facing questionable financial situations at the time. Since that time, Arch Coal has sold its share of MBTL to Lighthouse.

However, based on the recent management decisions of these two companies as well as recent statements made by them concerning the coal export market, one has ample reason to believe that the applicant may not be able meet all of the fiscal obligations this project would entail, if permitted. For example:

• Arch Coal, which until very recently owned 38% of MBTL, filed for bankruptcy on January 11, 2016. Arch Coal is currently in Chapter 11 bankruptcy proceedings. In a filing[1] from that proceeding, Arch Coal has sought to reject an existing contract for coal loading and unloading with Ridley Terminals, Inc. in British Columbia. Under that contract, Arch Coal is obligated to pay annual shortfall fees if shipments fall below a certain minimum amount. In the bankruptcy filing papers, Arch Coal stated " . . . given the continued weakness in demand for international seaborne coal, the shortfall fees in future periods would continue to be substantial."[2]

• The owner of the other 62% of the project was, originally, Ambre Energy North America. In order to avoid its own bankruptcy, Ambre Energy North America was purchased by Resource Capital Funds (RCF), a Cayman Islands hedge fund. RCF obtained a controlling interest in the company in November 2014 and rebranded it Lighthouse Resources. In the notice and explanatory statements for the directors and general shareholders meeting concerning the 2014 sale, Ambre Energy cited "what industry analyst firm Wood Mackenzie has described as a substantial oversupply of thermal coal in the seaborne market. . . ."[3]

Numerous professional economic analyses and projections point to a continuing decline in coal production and the use of coal as an energy source as well as weak coal export markets (see below for details). The financial and market analysis presented in the MBTL DEIS does not adequately examine the fiscal viability of the applicant or the strength of the Asian export market that the terminal is planned to serve. (2504)

### Response to CMA-80

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

## Comment CMA-81

Much of the coal that U.S. producers intend to export in order to expand their share of the international coal market has been leased from the U.S. Government via the Bureau of Land Management's (BLM) federal coal leasing program. Recently, that program has come under fire from taxpayer advocates, environmental non-profits, and the federal government itself. Both the Government Accountability Office (GAO) and the Department of the Interior's Office of Inspector General (OIG) released scathing critiques of the BLM's federal coal leasing program in 2013. These reports prompted Interior Secretary Sally Jewell to initiate a review of the federal coal leasing program in January 2016 through a Programmatic Environmental Impact Statement (PEIS). The PEIS will review and make appropriate changes to the entire federal coal leasing program. In the Secretarial Order that initiated the PEIS, Secretary Jewell writes that the PEIS must specifically consider the export of federal coal: "The PEIS should address whether leasing decisions should consider whether the coal to be produced from a given tract would be for domestic use or export."[5]

The primary area where coal to be mined for the market for the proposed terminal is the PRB, where approximately 80% of coal produced is from a federal lease. Yet the MBTL DEIS does not consider the PEIS and its review of the role of export in the federal coal leasing program. Outcomes of the PEIS may create significantly different alternative scenarios for filling export capacity at the proposed terminal. These outcomes should be considered in the MBTL DEIS. (2504)

## Response to CMA-81

The EIS did not consider the referenced PEIS because it has not been released for comment. Section 4.2.16 of the *SEPA Coal Market Assessment Technical Report* for the Final EIS includes information on this topic.

# Comment CMA-82

While coal companies want to believe that coal markets will improve, that appears highly unlikely for both domestic and export markets. This negative outlook for the coal industry is shared by the world's leading investment banks and coal consultants. Since 2013 major U.S. financial institutions from Goldman Sachs[7] to Bank of America[8] as well as the World Bank have been pulling back from and entirely divesting from coal. Additionally, non-profits such as the Rockefeller Brothers Fund and public institutions like Stanford University have also removed coal from their portfolios, as has the Norwegian government's pension fund.[9] Other financial institutions and analysts, including Deutsche Bank[10], Sanford Bernstein & Co., Morningstar, Goldman Sachs, and others, are predicting that the coal market bubble has burst and production numbers and prices will remain low and even decline for many years to come.

It is particularly notable that Goldman Sachs went from being a significant investor in the proposed Gateway Pacific Terminal coal export facility near Bellingham, Washington, to divesting all of its shares in that project in January 2014. The investment company later stated that "we believe that new investment in large-scale projects requiring new infrastructure is unlikely to earn a return; the window for profitable investment in new mining and infrastructure capacity has closed." [NOTE: On May 9, 2016, the U.S. Army Corps of Engineers denied a permit for the Gateway Pacific Terminal.]

Until recent years, Western U.S. coal was produced almost entirely for domestic consumption. In 2011, as domestic coal sales were beginning to flatten for a variety of reasons (including, but not limited to industry transition to natural gas, increased energy efficiency, increased use of renewable energy sources, and increasingly difficult geologic conditions [the easily mined coal had already been extracted] for all coal producers), the PRB coal companies began to focus on the potential of the Asian coal export market. International coal sales from the PRB had grown from 3.8 million tons in 2009 to 20 million tons in 2011. The MBTL applicants (as well as other coal companies) envisioned a growing and profitable export market for their coal and proposed various coal export facilities, including MBTL. However, by 2012, the international coal export markets in Asia, especially China, were beginning to show signs of decline. While 31 million tons of coal were exported in 2014, this tonnage was below the U.S. Energy Information Administration (EIA) forecast, and EIA downgraded its 2015 and 2016 export outlook by 30% from its 2014 export outlook.

Benchmark prices for thermal coal (which are based on the price of Australia's Newcastle coal) are the lowest they have been since 2007. At its peak in January 2011, the price was $141.94/ton; by mid-March 2015, the price was $59.50/ton; by December 2015 it was $43/ton. Prices are predicted to stay at or below $60/ton through 2021. This is below the profitability level that existing coal mines in the PRB have stated they need to participate in the export market (*e.g.*, in 2010/2011, both Peabody Energy and Arch Coal said they needed the price of coal to be in the $90/ton range to make it worthwhile to export coal, and, in 2014, Cloud Peak Energy said it needed the Newcastle price to be between $80 and $90/ton for it to export coal at a profit).

Chinese thermal coal imports are declining dramatically (Chinese imports peaked in 2013), and its coal consumption fell 3% in 2014 despite an increase in energy demand; that trend continued in 2015 with thermal coal imports down 39.1% in January to July over the same period in 2014. While China is not the only coal consumer in the Pacific Rim, that country is such a comparatively large consumer of coal that it serves as the market indicator for all Asia Pacific coal demand. Simply put, if China is purchasing large quantities of coal, then there is a large demand to fill. If China is reducing its consumption of coal, then the entire Pacific Rim coal market is likely oversupplied. At least five major Chinese coal-fired power plants have or are being shut down as that country deals with dramatic air pollution issues and industrial overproduction—issues that are significantly affecting China's gross domestic product. More than 6,000 coal mines have already been closed in China. The Chinese government has announced plans to limit its annual coal consumption to 4.2 billion tons by the end of this decade – and its current production capacity is beyond 4 billion tons so it is unlikely that coal imports will increase.

While Asian countries are still importing some coal, it is closer and cheaper to import coal from Australia and Indonesia as well as either Russia or South Africa rather than from the PRB of the United States. Indonesia is the world's largest exporter of coal and Australia is second. Australia has plans to increase its port capacity. Should that happen, there would be a significant impact on market prices for coal in Pacific Rim countries. Even if that doesn't happen, there are still problems for the viability and growth in tonnage of PRB coal into the international coal market.

Even the coal industry's own analysts have boldly denounced the financial viability of proposed Pacific Northwest coal export facilities, including the MBTL. Wood MacKenzie, the premier mining industry consulting firm, recently stated on its website that Northwest coal ports are "nothing more than a risky long-term bet" because "future demand in Asia will continue growing less robustly than in the past. Negative netback PRB margins will persist. PRB coal simply will not compete in Asia until well after 2020."

The global coal market is oversupplied. In Europe, coal use (both production and imports) has been declining significantly in recent years. South Korea recently imposed a significant carbon tax on imported coal, which specifically prejudices against certain grades of sub-bituminous coal found in the PRB mines that propose to fill capacity at MBTL. In fact, the tax itself (on a per metric ton basis) is larger than the cost of a metric ton of coal at the mine mouth of some PRB coal mines. As explained above, China's imports of thermal coal fell dramatically from 2014 to 2015, and coal consumption at its electricity-generating power plants fell 10% in the same time period. China has a 6% coal tariff on U.S. coal, but it has no tariff on coal imported from Indonesia, which is closer to China and with which China has a free-trade agreement.

Even existing PRB exporters have ceased exports due to market conditions. Multiple Montana coal producers that were successfully exporting coal through British Columbia export terminals have renegotiated their contracts with those terminals in order to discontinue the practice. Cloud Peak Energy, a PRB coal producer, renegotiated its contract with Westshore Terminals in order to reduce their tonnage obligation to zero until 2019. Signal Peak Energy, which operates a longwall mine in the Bull Mountains north of Billings, Montana, recently did the same.

While it is recognized that coal will not disappear from the energy stream immediately, market forces do indicate that coal is increasingly going to have a smaller and smaller share of the energy market, domestically as well as internationally. There is an explosion of renewable energy options for countries such as China and India. Citizens in these and other countries are demanding that

pollution problems associated with burning of fossil fuels be cleaned up. Major cities in both China and India have experienced severe air pollution problems caused by the burning of fossil fuels, which has led to significant changes to those governments' energy policies and priorities. China is the world's biggest investor in renewable energy sources, spending a total of $400 billion on clean energy in the past 10 years. China has already installed more wind power than any other country in the world (it added an additional 19.8 gigawatts of wind turbines to its grid last year), and it installed more solar capacity than any other nation in 2014.

As noted above, many financial institutions and investment analysts are advising that the export market for U.S. coal is oversupplied, under severe stress, and likely to remain in this condition for the foreseeable future. Chinese coal imports drive the U.S. export market. The decline in the international market for coal affects PRB coal company plans for a vibrant export market to make up for the lack of a domestic market for coal. Consequently, there is little likelihood that a major, new, multi-million dollar coal export terminal would ever pay for itself, much less bring any sort of benefit to the people of Longview or Washington State, given the realities of today's – and tomorrow's – coal markets.

The MBTL coal export facility is, frankly and simply, a risky long-term bet. The State of Washington and Cowlitz County must consider the real possibility that if the MBTL facility is permitted and construction begins, fiscal and market conditions could lead to abandonment of the project. What assurances would the residents of the community have that the area would be cleaned up and not left as an eyesore with possible environmental liabilities to their community? The facts about the viability of coal as shown by the current and future market analyses, including the export market, must be recognized and evaluated in the environmental analysis. Given a declining (some would say, lack of) market for coal that would be processed through MBTL, there is little purpose or need for MBTL. Thus, it is our opinion that these facts provide the Washington State Department of Ecology and Cowlitz County ample reason to recommend the no-action alternative and deny approval for what we believe is a speculative project. (2504)

### Response to CMA-82

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

## Comment CMA-83

The basic assumption on which the project objectives are based," ... demand for U.S. coal is expected to continue ... " is no longer valid and should be reassessed based on current market conditions. According to the Energy Information Administration coal exports from the United States are projected to decline significantly over the next few years. According to the EIA, lower overseas mining costs, cheaper overseas transportation costs, and favorable exchange rates are expected to continue to provide a competitive advantage to mines in other major coal-exporting countries. Coal exports in February 2016 were 31% lower than in February 2015. The EIA forecasts U.S. coal exports to decline by 20% in 2016 and by an additional 4% in 2017. Forecast coal production is expected to decrease by 17% in 2016 alone, which would be the largest decline in terms of both tons and percentage since data collection started in 1949. (EIA Short Term Energy Outlook, May 2016). These factors have had a significant impact on coal production in the United States. In January 2016, Arch Coal Inc. which owns 38% of the proposed Millennium facility, filed for bankruptcy (The Wall Street Journal, January 11, 2016) as a result of a major decline in the demand for coal in the Asian market. Since this time, Peabody Energy, the largest coal company in the U.S. also filed for

bankruptcy. This followed bankruptcy filings by Alpha Natural Resources Inc., Patriot Coal Corporation and Walter Energy Inc. (The Wall Street Journal, April14, 2016). Reuters (January 11, 2016) stated; "Producers accounting for more than 25 percent of US. coal are currently in bankruptcy, based on 2013 government figures of major US. coal companies' production." China and India, both projected to be larger coal consumers of the coal, have lost interest in importing coal and will increase reliance on domestic coal (Crosscut, May 5, 2016). Accordingly, the project objectives should be reassessed based on a realistic evaluation of current and projected future market conditions. (2691)

### Response to CMA-83

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

## Comment CMA-84

Facilitating coal export to Asia will be to reduce prices for coal there and increased usage. We do not agree that the exports will turn significantly upward pressure on domestic coal prices in the United States, [inaudible] the transition away from its use. As we've seen in, for example, closer to Montana where coal is mined and used for electricity, there's a rapid transition away because of the poor economics of those plants. And the federal power plan will further accelerate and make law that transition to other parts of the country. That means the demand for coal is collapsing due to exogenous reasons, and so it would be unresponsive to coal exports out of Washington. This means that while there will be lower prices and stimulate demand elsewhere, we will not see offsetting reductions here. (TRANS-SPOKANE-M2-00062)

### Response to CMA-84

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

## Comment CMA-85

The DEIS is deficient in its use of outdated market data in the SEPA Coal Market Assessment Technical Report. For example, Figure 12 shows China coal imports rapidly rising through 2012, while in fact those imports peaked in 2013 and have declined since then. India was supposed to ramp up its coal imports, but the latest forecasts (and news reports) show both China and India coal exports dropping dramatically [Footnote 1: http://ieefa.org/indias-new-emissions-target-adds-momentum-to-global-energy-transition/(Oct. 2015)]. (3408)

### Response to CMA-85

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

## Comment CMA-86

Due to wrong data inputs, most of sections 4, 5, 6, and 7 in the SEPA Coal Market Assessment Technical Report are grossly in error. The entire report must be redone for the EIS, using updated actual demand and prices, and more realistic assumptions about future demand, especially in light of continued low natural gas prices worldwide and continuously decreasing costs of wind and solar electricity.

The DEIS is deficient in not analyzing how such a terminal could possibly be part of a profitable coal export business model by 2024, or ever. The EIS must include potential environmental impacts of a poor or marginal business model, such as:

1) Inability of the terminal owners to afford the insurance, internal inspections, safeguards, personnel training, or updated equipment necessary to ensure proper operation for minimal environmental effects.

2) Insufficient financial reserves to pay for spill remediation, plant or equipment upgrades, or site cleanup when the terminal closes. (3408)

### Response to CMA-86

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

## Comment CMA-87

We also feel this is a risky investment since demand abroad has declined dramatically, 25% in 2015 and projected 20% in 2016. (Moody's Lights Go Dark on Coal, May, 2016). "If the terminals were already built and in operation, few, if any would be exporting coal as current pricing wouldn't support it." Reported in S&P Global, Oct 2015. So the DEIS projection of using 2013 coal prices is too high. Private investment is disappearing and coal companies are going bust. (3388)

### Response to CMA-87

Refer to Response to CMA-4 and the Master Response for Future of the Coal Market.

## Comment CMA-88

The Draft EIS uses complex modeling to estimate the terminal's impact on Asian coal consumption. This analysis is speculative and can yield wildly varying conclusions depending on the assumptions. Although the modeling is perhaps useful for purposes of discussion, the final EIS should clearly highlight and disclose the one thing we know for certain – the total emissions that will result from the coal shipped through the terminal. It is clear that the coal is only shipped to be burned. It is also clear that, with markets for Powder River Basin coal collapsing, much if not all of this coal would not be mined or burned if the project is not built. (3146)

### Response to CMA-88

Final EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, discloses total downstream combustion emissions from the maximum throughput of Proposed Action coal (approximately 90 million tons of $CO_2e$ per year). However, as explained in the EIS, not all of the emissions are attributable to the Proposed Action because some of the coal being shipped from the coal export terminal could displace other coal shipped from other areas and change transportation pathways. The *SEPA Coal Market Assessment Technical Report* addresses this likelihood by considering the potential effects of the Proposed Action on the global energy market and presents associated emissions under scenarios representing a wide range of possible future market states. Final EIS Section 5.8 and the *SEPA Greenhouse Gas Emissions Technical Report* present greenhouse gas emissions related to these scenarios.

Refer to the Master Response for the Coal Market Assessment for information on the analysis model, data sources, scenarios considered, and conclusions related to impacts of the Proposed Action on U.S. and international coal markets.

Refer to Response to CMA-10.

# Comment CMA-89

Alternative energy sources that do not increase greenhouse gases are increasingly available, inexpensive, and capable of meeting our energy needs. Rapid adoption of these technologies is critical to avoiding climate change devastation here and around the world. ? This project would slow the adoption of these alternative technologies. As noted in the DEIS (Table 5-8-9) this project "would increase in supply" and "decrease international coal prices." Basic economics tells us that these market effects would also slow the transition to clean energy technologies. The DEIS does not, however, provide any analysis of this critical projected market effect, and such analysis should be included in the final EIS. (0677)

## Response to CMA-89

An analysis of how the Proposed Action could affect transition to alternative energy sources is outside the scope of the EIS. However, in the U.S., the analysis includes renewable portfolio standards for states that have issued them and also includes options for building new renewable capacity, such as solar, wind, and geothermal. One of the updates for the Final EIS is the use of EPA's updated renewable energy capital costs from EPA's IPM v5.15, which are significantly lower than the capital costs used in EPA's IPM v5.13 Base Case. The international coal demand uses information from the IEA's World Energy Outlook, which takes into consideration the expansion and use of renewable energy globally. Thus the EIS does include the effects of renewable energy in the analysis, but does not evaluate how the project might impact renewable energy use, as that is outside the scope of the EIS.

# Comment CMA-90

Alternative energy sources that do not increase greenhouse gases are increasingly available, inexpensive, and capable of meeting our energy needs. Rapid adoption of these technologies is critical to avoiding climate change devastation here and around the world. This project would slow the adoption of these alternative technologies. As noted in the DEIS (Table 5-8-9) this project "would increase in supply" and "decrease international coal prices." Basic economics tells us that these market effects would also slow the transition to clean energy technologies. The DEIS does not, however, provide any analysis of this critical projected market effect, and such analysis should be included in the final EIS. (0792)

## Response to CMA-90

An analysis of how the Proposed Action could affect transition to alternative energy sources is outside the scope of the EIS. However, in the U.S., the analysis includes renewable portfolio standards for states that have issued them and also includes options for building new renewable capacity, such as solar, wind, and geothermal. One of the updates for the Final EIS is the use of EPA's updated renewable energy capital costs from EPA's IPM v5.15, which are significantly lower than the capital costs used in EPA's IPM v5.13 Base Case. The international coal demand uses information

from the IEA's World Energy Outlook, which takes into consideration the expansion and use of renewable energy globally. Thus the EIS does include the effects of renewable energy in the analysis, but does not evaluate how the project might impact renewable energy use, as that is outside the scope of the EIS.

# Comment CMA-91

The DEIS also contains flawed methodology with respect to Greenhouse Gas Emissions. The emissions analysis assumes that coal exports from the project will increase U.S. coal consumption, driving up prices and reducing demand. However, economists have noted that increasing coal exports will likely result in expanded production, not reduced consumption. (2537)

## Response to CMA-91

Refer to Response to CMA-1 and the Master Response for the Coal Market Assessment.

# Comment CMA-92

Several revisions are needed for the EIS: 1) Need to revise assumptions about GHG emissions from natural gas operations in light of recent discoveries of widespread leakage during normal handling, as well as at out-of-control wells like Aliso Canyon in California. 2) Need to acknowledge the continuation of GHG emissions from the proposed plant beyond 2038 through the life of the plant. (2519)

## Response to CMA-92

1. The $CO_2$ emission factor for natural gas used in the analysis is based only on the emissions produced when the natural gas is combusted at a power plant. Conducting a full life cycle analysis of emissions from natural gas to include emissions from leaks in the natural gas pipeline infrastructure is outside the scope of this analysis.
2. Final EIS Chapter 5, Section 5.8.1, *Greenhouse Gas Emissions*, presents average annual greenhouse gas emissions during full operations of the Proposed Action. The average annual greenhouse gas emissions are based on 11-year time frame at full operation (i.e., 2028 through 2038), which was selected to provide sufficient assessment of the variability in year-to-year emissions and determine a reasonable annual estimate of greenhouse gas emissions at full capacity. The Final EIS identifies the average annual greenhouse gas emissions and emissions during construction, initial operation, and full operation in Table 68 in the *SEPA Greenhouse Gas Emissions Technical Report*.

# Comment CMA-93

While it may be understandable for the DEIS to assess how markets would react to cheaper coal exported from this project, the method of this assessment and its underlying assumptions must be credible and comprehensible and must not understate or minimize the project's actual contribution to GHG emissions. As written, the DEIS significantly minimizes likely GHG emissions impacts by applying apparently inconsistent premises and using complex models based on speculation about future coal markets and energy policy conditions. The GHG analysis includes an unwarranted hypothesis that the coal exported by MBTL could displace the burning of other types of coal. DEIS

5.8-6. This is inconsistent with the determination that the MBTL would induce greater demand for coal in Asia. DEIS 5.8-6. The complex econometric projections and multi-dimensional models used in the DEIS yield four widely varying scenarios. The explanation and application of these models in the DEIS and GHG Technical Report is presented as a "black box" analysis that resists full comprehension.

Using the "preferred 2015 Energy Policy scenario" (which assumes timely effective implementation and continuation of international agreements and federal and state energy policies – assumptions that may or may not prove reliable), the DEIS ratchets down the annual emissions of $CO_2e$ upon full operation of the MBTL project from 90 MMT annually to an estimated net annual emissions of 3.2 MMT in 2028 (DEIS Table 5.8-8). Thus, the preferred "specialized computer model" dispels nearly 87% of actual annual emissions upon full operation in 2028. And it ratchets down annual net emissions for full operations over a 10-year period (2028-2038) from 900 MMT to 27.855 MMT. (DEIS Table 5.8-.9). Thus, the "specialized computer model" also dispels over 99% of actual emissions over the 10-year period. Then, putting the emissions in "context" the DEIS concludes that the "average annual net missions from the Proposed Action at full operation would be approximately 2.8% (i.e., 2.5 MMT of $CO_2e$ annually) of the downstream combustion emissions from the coal that passes through the coal export terminal." DEIS 5.8-22. This dismisses over 99% of the likely annual emissions at full operation. These results do not make common sense given the fact that the project would produce 90 MMT of $CO_2e$ annually upon full operation. While generation of conflicting market analyses and speculation about future GHG emissions policies may characterize, describe, and depict a scenario for GHG emissions from this project, minimizing the picture of these emissions does nothing to prevent or mitigate the actual emissions. The EIS must present a realistic and credible GHG emissions analysis starting with the fact that at full buildout the project would transport 44 MMT of coal annually burned in Asia to produce over 90 MMT of $CO_2e$ annually. (2712)

## Response to CMA-93

Refer to Response to CMA-33 regarding documentation of inputs and assumptions for the modeling.

Refer to Response to CMA-88 regarding emissions from combustion of maximum throughput coal.

Refer to the Master Response for the Coal Market Assessment for information on the methods, assumptions, and model used in the analysis; sources of data; scenarios considered; and conclusions related to impacts of the Proposed Action on U.S. and international coal markets.

# Comment CMA-94

The Draft EIS GHG analysis does not discuss unique structural constraints and market limitations in Asian economies. Instead, it incorrectly assumes an induced level of additional coal consumption in Asia based on a change in delivered coal prices that it assumes will result from the Project.

While the Draft EIS states that its assumptions concerning induced demand are based on eight academic studies of the elasticity of demand somewhere in Asia, the studies are not identified and there is no supporting documentation concerning the assumptions and analytical methods used in those studies. By simply assuming the new coal consumption will be induced in Asia, the Draft EIS fails to take into account how energy production decisions are actually made in many Asian countries that run on planned economies. Rather than choices being made in a functioning market where dispatch decisions routinely occur based on differences in price between competing commodities (e.g., natural gas vs. coal), power producers in countries like Japan, South Korea and

Taiwan have much more limited options. They rely on coal for baseload power production without being able to switch from one form of baseload power production to another in response to market price fluctuations. Even if the Project results in a small price decrease in coal in Asia, that price difference should not cause additional coal to be consumed because the subbituminous PRB coal that will be exported through the Project would simply substitute for subbituminous coal from Indonesia or other suppliers in the Asian market.

The Draft EIS's induced demand assumptions also ignores the reality of how energy production decisions are made in Asian countries, where new power plants are constructed based on the implementation of long-term national energy plans rather than being the product of electric utility decision-making in a functioning power production market, as in the U.S. For example, Japan, South Korea and Taiwan employ government-directed energy plans that seek to ensure that relatively inexpensive electric power is reliably available for industrial and household use. Decisions concerning how baseload power will be produced are made in those plans, and then implemented. The result is a system where potential small changes in the price of coal are irrelevant.

Moreover, even though the Draft EIS impact analysis extends well beyond the borders of Washington State and the United States, it does not account for international or foreign country requirements and enforcement that would mitigate GHG emissions. By way of analogy, RCW 80.70 mitigates for carbon dioxide emissions for power plants to be located in Washington State. Likewise in Asia, power plant emissions are also regulated. If $CO_2$ mitigation provisions in RCW 80.70 are presumably reasonable for GHG mitigation, then the Final EIS should account for GHG mitigation measures in Asia. For example, mitigation measures have already been implemented in other countries as expressed in their policies and laws, including the countries that will receive our exports: Japan has a carbon tax; Korea has a carbon cap and trade program; and Taiwan has mandated cuts in GHG emissions. In other words, the Draft EIS implementation of GHG commitments is inconsistent across countries.

While the DEIS includes policies for the U.S. and China, the GHG reduction policies of other Pacific Basin countries ae not included. If all of the countries analyzed in the Draft EIS commit to GHG reductions and an effective cap on GHG emissions, then no increase in GHG emissions in the Pacific Basin would result from the Project. The Draft EIS improperly assumes that more coal will be consumed in Asian countries in response to any decrease in price, no matter how small. This means that Asian countries will either use more coal at existing plants by increasing operational levels in response to a small price drop, or will choose to build new coal-fired power plants that they would not have otherwise constructed. Given the planned nature of Asian economies, neither of these outcomes is likely.

In Asia, where coal is used as baseload power and power plants are constructed based on long-term energy plans that take a myriad of factors into account, assuming that additional power plants will be built because a new coal export dock is opened on the Columbia River is patently unrealistic and unreasonable. And unlike in the U.S., where coal competes directly with natural gas in a functioning power production market, there is little or no opportunity for Asian power producers to choose different base load power production methods in the short term in response to a small price decrease -- they are already locked into whatever their national energy plan has provided for them for baseload power generation. The failure to take the reality of how Asian power production choices are made results in an analysis that simply assumes its way to an answer rather than objectively evaluating what can reasonably be foreseen. (3070)

## Response to CMA-94

The historical coal consumption data shows that there is significant variation in year to year historical total coal consumption in the Asian countries noted in the comment. The change in coal consumption due to the induced demand is significantly smaller than the variation in total coal consumption, and thus the fact that the economies are "planned" is not likely to impact the analysis. Section 4.2.12 of the *SEPA Coal Market Assessment Technical Report* examines coal demand elasticity and induced demand due to a change in delivered coal prices.

Refer to Response to CMA-24 regarding elasticity of demand.

Refer to Response to CMA-41 regarding the basis for comparison of the Proposed Action.

# Comment CMA-95

The Draft EIS erroneously assumes (without any supporting documentation) that the heat content of subbituminous coal exported from Indonesia (which is the only source of subbituminous coal in ICF's model other than the PRB coal exported through the Project) has much higher heat content than PRB coal. As a result of this erroneous assumption, the Draft EIS projects that it will require greater quantities of coal shipped through the Project to replace the same heat content of Indonesian coal. This assumption results in higher GHG emissions for the same amount of electricity generated from exported coal, both from coal combustion and transportation and thereby r biases the EIS's prediction of greater GHG emissions when PRB subbituminous coal substitutes for Indonesian subbituminous coal.

On the contrary, the average heat content for Indonesian subbituminous coal is approximately 4,820 kcal/kg, equal to 8,676 Btu/pound. This heat content is lower (rather than higher as asserted in the Draft EIS) than the heat contents for U.S. PRB coals which are likely to be exported through the Project (Montana – 9,300 Btu; Wyoming – 8,800 Btu). And the actual average heat content for Indonesian subbituminous coal is much lower than the heat content for Indonesian subbituminous coal assumed in the Draft EIS (5,400 kcal/kg, equal to 9,720 Btu/pound). The average heat content for Indonesian bituminous coal is approximately 6,365 kcal/kg (11,457 Btu/pound), which is similarly much lower than ICF's assumption of 6,583 kcal/kg (11,850 Btu/pound). (3070)

## Response to CMA-95

Subbituminous coal is more likely to be imported from Indonesia than other countries producing subbituminous coal due to its proximity to Asian consumers. Russia is the third largest exporter of coal behind Indonesia and Australia, and is also a source for subbituminous coal in the Asian market. Subbituminous coal in the model is produced in nine international coal supply regions. The analysis presented in the Final EIS includes documentation for all of the coal types modeled along with updated heat content and $CO_2$ emissions rates.

# Comment CMA-96

The Draft EIS also erroneously assumes that the carbon coefficients of the U.S. subbituminous and bituminous coals that would be exported through the Project are significantly greater than the carbon coefficients of the coal from Asian sources that would be displaced. In other words, the analysis assumes that a ton of exported U.S. coal will produce more GHG emissions when it is burned than a ton of Asian coal. This incorrect assumption results in an increase in GHG emissions

attributed to the Project even without assuming an induced greater demand for coal. As with the inaccurate heat content assumption, this error introduces an unwarranted bias to the analysis. This error alone accounts for 42% of the total increase in GHG emissions that the 2015 Scenario attributes to the Project.

For example, the average $CO_2$ emission factor for Indonesian subbituminous coals is higher than the average emission factor assumed in the Draft EIS (214.6 pounds per mmBtu vs. 212.7 pounds per mmBtu) and is higher than the emission factors for US subbituminous coals (211.3 – 213.1 pounds per mmBtu). As a result of these erroneous assumptions, the Draft EIS shows that U.S. coal has higher carbon coefficients than other Asian coal, accounting for 42% of the total increase in GHG emissions from coal combustion under the 2015 Scenario. (3070)

### Response to CMA-96

Refer Response to CMA-31.

## Comment CMA-97

The operational efficiency of the Asian fleet of coal plants is superior to the U.S. coal plant fleet. The Asian coal fleet has newer supercritical or ultra-supercritical coal plants that require a lower quantity of coal to produce a single unit of power. On average an Asian coal plant that consumes PRB coal produces fewer GHG emissions because it produces more power per unit of coal input. Failing to take this difference into account results in a biased prediction of greater GHG emissions than would actually occur even if one were to assume improperly that the Project would induce greater demand for electric power in Asian economies.

For example, in South Korea and Japan, approximately 73% and 74% of the respective coal fleets are supercritical or ultra-supercritical coal plants. In comparison, approximately 27% of the coal fleet in the U.S. includes supercritical or ultra-supercritical coal plants. On average, the U.S. fleet of coal plants is approximately 15% less efficient than the South Korean and Japanese coal fleets. This means that the South Korea and Japan coal fleet consumes 15% less coal to generate the same level of power, respectively, than U.S. coal plants. Therefore, Japanese and South Korean coal plants will emit approximately 15% less $CO_2$ to generate the same level of power than U.S. coal plants consuming PRB coal. (3070)

### Response to CMA-97

The operational efficiency of the Asian coal plants would not have an effect on the greenhouse gas emission calculations conducted in the analysis. This is because the international coal demand is input into the model as the total heating value required in Btu, and thus already accounts for the higher efficiency of the coal plants referenced by the commenter.

## Comment CMA-98

The Draft EIS erroneously assumes that the Project will result in the substitution of subbituminous coal for bituminous coal, rather than substituting for subbituminous coal from other sources. In particular, the Draft EIS 2015 Scenario assumes that Japanese power plants, which are designed for bituminous coal use but can use a mix that includes a small percentage of the less expensive

subbituminous coal, will increase the percentage of subbituminous coal used in their power plants from the current 7% to 30% in response to the Project being permitted and operating. (3070)

### Response to CMA-98

Refer to Response to CMA-27.

## Comment CMA-99

The Draft EIS states that the 2015 Scenario is intended to reflect "how recent international climate negotiations and perspectives on future climate policies might affect GHG emissions under the Proposed Action"; and to evaluate how "the November 2014 U.S.-China announcement on climate change action goals and implementation of the proposed U.S. EPA Clean Power Plan" could impact coal consumption and energy production on both sides of the Pacific.

The Draft EIS analysis of the 2015 Scenario eliminates any offset from reduced U.S. GHG emissions by assuming that implementation of the Clean Power Plan (CPP) will essentially eliminate the current competition between coal and natural gas in the U.S. (and will do so before any induced increase in price of US coal reduces coal usage and accordingly, GHG generation, in the U.S.). Coal use in the U.S. has dropped substantially in recent years, largely due to the availability of inexpensive natural gas. The 2015 Scenario relies on a projected increase in gas prices and a projected price gap that would allow coalfired power generation to outcompete natural gas power generation when an anticipated massive influx of new power from renewables frees up space below emissions caps.

In the 2015 Scenario, a small increase in U.S. coal prices caused by the Project would not make any difference in the U.S. because slightly more expensive coal will still be significantly cheaper than gas. For this to work, however, gas prices will have to rise significantly in relation to coal. Currently, the short run marginal cost of producing power with natural gas is comparable to or less than producing power with coal in many U.S. markets, so the 2015 Scenario depends on it becoming cheaper to generate power using coal rather than natural gas.

The 2015 Scenario assumes this will happen by inflating the price of natural gas from its average 2014 Henry Hub price of $4.4/MMBTU (presumably the most recent price available when the analysis was done). For the 2015 Scenario to be anything more than an interesting theoretical exercise, the price of gas has to rise significantly above that level, with coal prices remaining at their current historic low levels. For 2016, the 2015 Scenario projects that the price of gas will remain at the 2014 price of $4.4/MMBTU, and then rise to $5.0 in 2018. Instead of remaining stable through 2016, however, natural gas prices dropped to $2.6/MMBTU in 2015 and have declined further to $2.0/MMBTU so far in 2016. Rather than stabilizing prior to beginning the steady upward climb predicted by the 2015 Scenario, natural gas prices unexpectedly dropped by over 50% from the 2014 price.

The fact that the 2015 Scenario analysis was likely inaccurate before the Draft EIS could even be printed highlights the speculative nature of commodity forecasts (see Section I.A above). As of this writing, the Draft EIS's projected gas prices are more than 100% higher than actual gas prices and are clearly off by a very wide margin, and we have not yet even arrived at the 2018 start year for the 20-year Draft EIS analysis.

This error alone should be sufficient to demonstrate that the 2015 Scenario cannot accurately predict gas price movements. At a minimum, it now appears highly unlikely that the well-

documented price elasticity of the demand for coal that has been present in the U.S. power sector for a very long time (and is accounted for in the 2014 and Low Bound Scenarios) will be eliminated by the CPP, even if it survives judicial review and is implemented in its current form.

The Draft EIS also errs in improperly assuming that the CPP will be implemented in a blanket fashion across all states, no matter the differing energy production options and market dynamics that exist across the country. As with the commodity price assumptions embedded in the 2015 Scenario, the effect of this assumption is that states implementing the CPP will have little or no choice concerning the power generation mix used to fit within emissions caps. Options will be limited, choices will be obvious, and a small change in coal prices will therefore make no difference. As with the commodity price assumptions, this assumption requires that longstanding U.S. energy market realities be turned upside down. Cost-based choices that are freely available to electric utilities would have to be extinguished across the entire country. Even if the CPP survives judicial review without any significant changes, is not altered by a future EPA or Congress, and is implemented in its current form through 2038, each state would have the opportunity to customize how it intends to generate electricity and offset GHG emissions. The price of coal will not suddenly become irrelevant in the U.S., as it will be factored into decisions made at the state and regional levels even if the CPP is implemented in its current form.

The Draft EIS choice of this scenario as "most probable" is unsupportable when that scenario depends on sudden and dramatic changes in longstanding U.S. market dynamics and price change projections that have already proven to be far off the mark. (3070)

## Response to CMA-99

The *SEPA Coal Market Assessment Technical Report* presented in the Draft EIS explains the 2015 Energy Policy scenario had two changes compared to the Past Conditions scenario. First, international coal demand was changed to the IEA World Energy Outlook, New Policies Scenario demand forecast. And second, the proposed Clean Power Plan (CPP) was modeled for the U.S. electric power sector.

Any increase in the price of natural gas in the scenario is due to the increase in demand for natural gas resulting from the inclusion of the proposed CPP, which is a policy that seeks to lower $CO_2$ emissions from the U.S. electric power sector. Since coal has a higher $CO_2$ content than natural gas, natural gas is in higher demand in this scenario.

Although it is true that the CPP would not be implemented across the U.S. in a blanket fashion, until each state commits to their chosen path under the CPP, there would be far too many scenarios to realistically model every single one. Modeling the CPP in this fashion was an appropriate simplifying assumption.

# Comment CMA-100

The 2015 Scenario only takes into account international GHG reduction commitments of the U.S. and China. However, the Paris Accord was signed by 175 countries on April 22, 2016. Signatories include South Korea, Taiwan and Japan -- the key target markets for PRB coal. Emissions reductions commitments by those countries will limit the potential for expanded coal use (see discussion in Section I.3.a). These limitations, when implemented, will function as a cap on the use of coal, meaning that customers for PRB coal exported through the Project will be substituting PRB coal for coal from other sources, rather than expanding their use of coal. For the 2015 Scenario to work, the

Project must induce greater coal demand in Asia, with that greater demand most likely coming from Japan, Korea and Taiwan. For that to happen, the national commitments made by those countries in signing the Paris Accord must be violated. There is no basis provided in the Draft EIS for concluding that Japan, Korea and Taiwan will not live up to their commitments. (3070)

### Response to CMA-100

The international coal demand in the 2015 Energy Policy scenario considered in the *SEPA Coal Market Assessment Technical Report* presented in the Draft EIS was based on the IEA World Energy Outlook New Policies Scenario demand forecast and was the best representation of more aggressive climate policy when the case was finalized.

The international coal demand in the 2015 Energy Policy scenario considered in the analysis presented in the Final EIS was based on projections from the IEA World Energy Outlook New Policies Scenario released in December 2015. These projections include a scenario (New Policies Scenario) that incorporates the Paris Accords to lower greenhouse gas emissions. The analysis in the Final EIS also includes EPA's IPM version 5.15 and data from the Energy Information Administration's Annual Energy Outlook 2016, and thus captures additional changes to coal and natural gas prices, environmental programs, and renewable energy trends that occurred between 2013 and 2016.

## Comment CMA-101

For these reasons, the Final EIS need not incorporate any additional analyses. The Draft EIS analysis has bracketed a wide range of potential outcomes, each of which is identified as "plausible," without demonstrating with any degree of certainty whatsoever that any of the alternatives provided represents what will most likely occur through 2038.

Due to the inherent uncertainty and variability involved with all such forecasts, no amount of analysis can ascertain what will occur in energy and commodities markets over the relatively near term, much less over the course of a multi-decade time period. Given this fact, there is no need for Ecology to revisit the coal markets analysis other than to simply identify the scenarios as what they are – "guess estimates" at what may occur in the future that are provided for disclosure purposes. (3070)

### Response to CMA-101

Refer to Response to CMA-22.

## Comment CMA-102

It is important to disclose the uncertainty of primary input assumptions to determine the reliability of the inputs, because the results of the Draft EIS GHG emissions analysis are heavily dependent upon input assumptions. The Draft EIS fails to do so. A close examination of the Draft EIS analysis and the GHG emissions results shows that they are highly sensitive to the assumed input assumptions. The Draft EIS fails to conduct sensitivity analyses on any individual input assumption relied upon for the scenarios presented. Sensitivity analysis on individual input assumptions is one method that can be used to evaluate the reliability and uncertainty of the results with respect to

specific input assumptions and to enable one to ascribe the appropriate evidentiary weight to the results.

While a comprehensive review is not possible due to the lack of supporting data provided with the Draft EIS, some examples of the untested input assumptions in the Draft EIS include:

- **Induced Demand**[5]
    - The Draft EIS assumed induced demand for coal in the Pacific Basin based on assumed elasticity of demand estimates that range from .1 to 1.2.
    - Available evidence and economic analysis demonstrate that the elasticity of demand for subbituminous coal that is expected to be exported from the Project to the Pacific Basin region is likely to be de minimis and is best represented by the low end of the Draft EIS assumed elasticity of demand estimate, i.e., approximately .1.
- **Coal Substitution**[6]
    - The Draft EIS utilizes unreliable GHG emissions rates for coals to evaluate the relative coal quality of PRB and Indonesian subbituminous coal, which overstates GHG emission to the Project.
    - The Draft EIS utilizes unreliable heat content for coals to evaluate the relative coal quality of PRB and Indonesian coal.
- **CPP**[8]
    - The Draft EIS relies on a draft proposal of the CPP for the 2015 Energy Policy scenario that has been revised, is currently stayed while under judicial review, and could be overturned or substantially modified by the courts, Congress, or a future presidential administration.
    - The Draft EIS overstates the impact of GHGs from the Project in the 2015 Energy Policy scenario by modeling inputs and assumptions that cap carbon dioxide ($CO_2$) levels and otherwise inhibit substitution of natural gas-fired power generation for coal-fired power plant generation.
    - The Draft EIS assumes, without explanation, that the GHG emissions commitments of various countries will be restricted accordingly while the emissions of other nations will continue without restriction.

These unrealistic input assumptions impact all of the scenarios, including the Draft EIS preferred scenario. Correcting the untested assumptions shows that there is a strong possibility of negative or de minimis levels of GHG emissions resulting from the Project and limited potential for substantial GHG emission from the Project. (3070)

## Response to CMA-102

Refer to Response to CMA-33 regarding documentation of inputs and assumptions for the modeling.

The analysis for the DEIS evaluated five different scenarios, including four sensitivity cases, to determine how different assumptions would impact the quantity of greenhouse gases resulting from the Proposed Action.

Induced Demand: The Final EIS has been updated to reflect additional research and analysis on the coal demand of elasticity as described in Section 4.2.12 of the *SEPA Coal Market Assessment Technical Report*.

Coal Substitution: The Final EIS includes updated $CO_2$ emissions rates and heat content for the coal types in the Powder River Basin and Uinta Basin as well as from Indonesia. The updated information is described in Section 4.2.13 of the *SEPA Coal Market Assessment Technical Report*.

CPP: The Final EIS includes a representation of the final Clean Power Plan in the 2015 U.S. and International Energy Policy scenario and the Lower Bound scenario. Other scenarios are analyzed to determine the impact of the proposed action if the Clean Power Plan is not implemented. The analysis does not inhibit substitution of natural gas-fired capacity. The analysis includes options for replacing coal-fired generation with natural gas or non-emitting renewable resources. Finally, the analysis used the international greenhouse gas reduction commitments that were announced as of late 2014. The Final EIS uses updated data that includes announced commitments as of mid-2015.

Refer to Response to CMA-94 regarding consideration of planned economies.

Refer Response to CMA-31 regarding carbon coefficient assumptions.

Refer to Response to CMA-100 regarding the New Policy Scenario.

# Comment CMA-103

ICF's assumption that U.S. coals that would be exported through MBT-Longview have higher carbon coefficients than the Pacific Basin coals which they would displace has a major impact on ICF's conclusion that MBT-Longview will result in increased GHG emissions from coal combustion in the Pacific Basin. In the 2015 Energy Policy Scenario, ICF concludes that the increased GHG emissions in the year 2028 from "coal substitution" (U.S. coal replacing the same amount of Pacific Basin coal, in total mmBtu) will be 1,171,889 metric tons, which is greater than the increased GHG emissions from "induced demand" (the increased use of coal in the Pacific Basin due to lower coal prices), which would be only 867,958 metric tons. For the full 20-year period (2018 – 2038), the increased GHG emissions from coal substitution in ICF's flawed analysis are predicted to be 42% of the total increased emissions in the Pacific Basin (8,856,189 out of 21,262,771 total metric tons).[22]

This analysis shows that carbon emission coefficients from subbituminous coal exported through MBT-Longview are likely to be lower than the Indonesian subbituminous coal that it would displace in the Pacific Basin, not higher as erroneously assumed by ICF. Thus, the impact of "coal substitution" due to coal exports through MBT-Longview is likely to reduce GHG emissions in the Pacific Basin, not increase emissions as projected by ICF. (3070)

## Response to CMA-103

Refer Response to CMA-31 regarding carbon coefficient assumptions.

# Comment CMA-104

These presented emissions significantly overestimate the total net emissions attributed to the Project for the following reasons:

The Draft EIS's coal market analysis contains a number of fundamental problems which result in an overestimation of the lifecycle GHG emissions attributable to the Project as follows:

It assumes elasticity of demand which implies additional coal demand in the Pacific basin would be induced by the Project, which in turn would increase the GHG emissions attributable to the Project. This assumption is unsubstantiated and unreliable.

- It incorrectly assumes that heat contents of Asian coals are higher than coal to be imported through the Project, thereby assuming more United States (U.S.) imported coal is required to displace Asian coal.
- It incorrectly assumes that the $CO_2$ content of Asian coals is lower than coal to be exported through the Project, thereby assuming more emissions associated with U.S. coal that displace Asian coal.
- It assumes that a U.S. policy instrument (namely, the Clean Power Plan) eliminates any U.S. coal market dynamics attributable to the Project, such as coal displacement by natural gas.
- The Draft EIS does not account for potential GHG offsets linked to rail transportation attributable to a reduction in current U.S. coal transportation (due to substitution by natural gas) and a reduction in Indonesian land and barge transport (due to displacement). The Draft EIS may overestimate rail emissions by up to 50%.

The level of overestimation of the total net lifecycle emissions attributed to the Project could be as high as an order of magnitude. Correcting the erroneous assumptions in the Draft EIS would likely result in negligible net or negative GHG emissions from Pacific basin coal combustion, potentially as low as a negative 60,000,000 metric tons of $CO_2e$ emissions. Instead, the Draft EIS assumes between 50-55% of the net GHG emissions are due to end-use combustion. In sum, the Draft EIS has not presented a reliable assessment and determination of the GHG emissions attributable to the Project. (3070)

## Response to CMA-104

- Refer to Response to CMA-24 regarding elasticity of demand.
- Refer Response to CMA-31 regarding carbon coefficient assumptions.
- The Final EIS includes a representation of the final Clean Power Plan in the 2015 U.S. and International Energy Policy scenario and the Lower Bound scenario. The No Clean Power Plan scenario is analyzed to determine the impact of the proposed action if the Clean Power Plan is not implemented. The analysis does not inhibit substitution of natural gas-fired capacity. The analysis includes options for replacing coal-fired generation with natural gas or non-emitting renewable resources. The analysis used the international greenhouse gas reduction commitments that were announced as of late 2014. The Final EIS uses updated data that includes announced commitments as of mid-2015.
- Draft EIS Chapter 5, Section 5.8.1, *Greenhouse Gas Emissions*, accounted for potential greenhouse gas emissions attributable to the Proposed Action as a result of changes in coal prices and resulting substitution of natural gas for coal in the United States, the induced demand for imported coal, and the substitution of U.S. coal for other coals in the Asian market. A coal market analysis was conducted to estimate emissions based on the expected conditions in the global coal market. This analysis was intended to capture the interrelated nature of energy markets to provide a reasonable estimate of greenhouse gas emissions. The analysis did not evaluate the

net change in emissions from rail transport. The methods for rail transport emissions and emissions due to changes in vessel transportation (including changes in exports from Indonesia) are described in Section 2.2.2.3 of the *SEPA Greenhouse Gas Emissions Technical Report*.

# Comment CMA-105

Given the uncertainties of modeling forecasts and the wide range of outcomes projected from the different scenarios, it is important to provide a full description of methods and to interpret the results within the context of the limitations of the analysis. Given the wide range of results depending on scenarios, we suggest that the State FEIS include further discussion on the factors that underlie this uncertainty, and provide additional information on the specific assumptions and adjustments for each of the scenarios considered in the Coal Market Assessment. Additional information presenting reasons for the specific assumptions and adjustments in each of the scenarios will help to strengthen confidence that the range of results presented in the State FEIS encompasses the impacts that are reasonably expected. (3306)

## Response to CMA-105

As stated in the *SEPA Coal Market Assessment Technical Report*, publicly available inputs were utilized to the extent possible. These inputs were either documented directly in the Coal Market Assessment Report or were obtained from resources that already described the inputs in full detail, such as the *Documentation for EPA Base Case v.5.13 using the Integrated Planning Model*.

For the Final EIS, additional information is included on the assumptions used in the analysis and the changes made in those assumptions to define the scenarios. In addition, the main drivers for the differences in the scenario results is discussed in more detail.

# Comment CMA-106

U.S. Coal Exports to Asia Would Not Lead to Increased Green House Gas Emissions.

CPE has unparalleled expertise regarding U.S. coal exports to Asian countries that would be served by MBT. No other company has exported as much coal from the PRB to those countries in any given year as CPE. Having said that, export terminal capacity restrictions have meant that in no year since CPE became a publicly traded company in 2009 has it exported more than 5 million metric tonnes. Given that the International Energy Agency predicts global demand for coal will grow to exceed 9 billion metric tonnes, even were MBT exports to reach their full capacity, they would constitute a figurative drop in the bucket in terms of both global and East Asian coal demand. We attach for your information the IEA's 2014 Coal Report, the most recent available.

Asian countries that could conceivably be served by coal exports from MBT could easily meet their coal requirements from a number of sources other than the U.S., including Russia, Colombia, Indonesia, Australia, and China. Therefore, any projection for growth in GHGE or global GHGE levels attributed to U.S. coal exports from MBT is completely baseless and contrary to market realities. Currently, depressed seaborne coal prices as well as a strong U.S. dollar make exports from the PRB temporarily unprofitable. Even in prior periods with more robust seaborne coal prices, PRB coal remained a swing supplier to East Asia based on transportation costs and variations in coal quality and heat content across competing coal basins. There are three key lessons that should be drawn

from this that categorically demonstrate the falsehood of the premise the U.S. coal exports from MBT would lead to *any* increase in GHGE:

1) Despite the fact that there are currently no coal exports from the PRB to those East Asian countries that MBT would supply, seaborne coal prices remain low;

2) Coal-fired power plants are being built throughout Asia to meet growing demand for electricity, yet coal prices remain low;

3) Despite projected demand growth for coal in Asia and despite the fact that numerous coalfired power plants are being built across the region, coal producers in the region from China to Indonesia to Australia are still closing coal mines.

These facts tell the very clear story that sufficient supplies of coal exist within the region to meet Asian demand without any U.S. coal exports and that coal consumers, i.e., Asian electric utilities, are sufficiently confident in long term pricing to see coal as a preferred fuel source for decades to come. Thus, the draft EIS' suggestion that U.S. coal exports from MBT would *add* to global GHGE is false and cannot be supported based on the facts. U.S. coal exports from MBT would replace coal volumes that might otherwise be supplied by other international coal basins when prices rise to the point where U.S. coal exports become competitive. When competitively priced, these countries are expected to purchase coal from the U.S. because of the higher heat content and low sulfur content of PRB coal and to enhance supply diversity and energy security. However, sufficient overall capacity exists to meet demand with or without the relatively small amount of U.S. coal exports that East Asia has witnessed over the last ten years. The fact that governments and utilities across the region are making long term investment decisions based on coal utilization at a time when U.S. coal exports are not supplying their needs underscores this fact.

This brings us to another important point with regards to GHGE where the draft EIS again reflects false and inaccurate information. While U.S. coal exports from MBT would not be incremental coal consumption volume but instead replacement for production from other countries, that replacement would have important positive environmental impacts. PRB coal exported from MBT would, from a cost and quality perspective, compete with Indonesian sub-bituminous coal. At competitive price points, PRB coal provides two important environmental impact benefits versus Indonesian sub-bituminous coal:

In the first place, on a tonne per tonne basis, PRB exports from CPE's Spring Creek Mine, for example, exceed Indonesian heat content by up to several hundred BTU's (British Thermal Units) per tonne in some cases. Coal with higher heat content generally presents lower GHGE than coal with lower heat content. As Asia builds more and more High Efficiency Low Emissions ("HELE") Ultra Supercritical coal plants, the higher thermal value of PRB coal will enhance plant efficiency versus use of competitive Indonesian coal, thus, on a tonne per tonne basis, PRB "replacement" coal will generate lower relative GHGE, thus leading to lower global GHGE levels.

Secondly, on a tonne per tonne basis, PRB coal contains lower sulfur content than competitive Indonesian coal. For example, CPE's main source of export coal is its Spring Creek Mine, coal from which has an average sulfur content of 0.37% vs competitive Indonesian sub-bituminous and lignite coal with as much as 1.0% sulfur, or more than double the content. Lower sulfur content allows for the lower cost operation of scrubbers in coal plants and would allow for lower cost of operations in future plants operating with Carbon Capture equipment for sequestration or utilization. In other

words, PRB "replacement" coal would incentivize GHGE reductions in those countries it supplies, thus making MBT coal exports effectively net GHGE negative.

To summarize, the Draft EIS assumptions that U.S. coal exports from MBT would lead to any increase in Asian coal demand or $CO_2$ or other GHG emissions is false because of the following facts:

1) Asian coal demand is expected to lead global coal demand growth over the coming decades and the decisions driving that growth and the power plant construction that affirms it are being made without regard to the availability of U.S. coal. Thus, U.S. coal exports would replace some existing coal supplied by Russia, China, Indonesia, Australia, and/or Colombia;

2) Sub-bituminous PRB coal is the major coal source that MBT is likely to serve. It is, from a quality and price perspective, likely to compete with Indonesian coal – coal that it would replace not add to;

3) U.S. coal exports offer East Asian power plants additional energy security through supply diversity, additional quality, and higher efficiency of operations versus like competitive coal from Indonesia. Nevertheless, U.S. coal exports must be competitively priced to access East Asian customers and the fact that coal demand is growing while U.S. coal exports are currently not price competitive demonstrates that these exports fulfill the swing supplier needs and represent replacement rather than incremental volume;

4) PRB coal is often possessed of relatively higher BTU content per tonne than Indonesian coal with which it principally competes, thus would likely generate reduced $CO_2$ emissions versus the coal it would replace;

5) PRB coal is often possessed of lower sulfur content versus the coal it would replace allowing increased efficiency in power plant operations vs the coal it would replace, thereby leading to further reductions in $CO_2$ emissions as well as lower Sulfur Dioxide emissions. In effect, MBT coal exports to Asia would be $CO_2$ neutral to negative.

As discussed above, the Draft EIS is flawed in its assumptions with regards to the impact on GHGE from MBT coal exports. Further, there is no statutory authority granted to Cowlitz County, the State of Washington, or the Army Corps of Engineers that would allow them to make any decision with regards to the permitting of the MBT project based on the demonstrably wrong assumption that coal exports from the terminal would lead to increased $CO_2$ emissions in other countries.

Therefore, CPE respectfully submits that the DEIS should be amended either to explicitly recognize the fact that potential coal exports from MBT would not add to global GHG emissions or, to remove any such assessment from the final EIS in light of the fact that it is irrelevant to the decisions facing the permitting authorities. (2447)

## Response to CMA-106

- 1) The analysis agrees with this assessment that the decision to build new coal power plants is irrespective of U.S. coal supplies and that U.S. exports would replace some existing coal supplied by other countries.
- 2) The assumptions used in the analysis and findings agree with the commenter's assertion that the proposed terminal would primarily serve Powder River Basin coal producers and that it would compete with Indonesian coal. However, the terminal may also ship coal from the Uinta Basin and compete with coal from the other countries identified by the commenter, namely Russia, China, Australia, and Colombia. The modeling shows that there are also small shifts in

consumption of coal from other countries. The greenhouse gas emissions associated with changing the mix of coal beyond displacing Indonesian coal depend as much on the $CO_2$ emissions rate of the coals as the heat content.

- 3) The analysis supports the commenter's assertion that the exported coal primarily replaces coal from other sources.
- 4) See response to item 2. The net change in $CO_2$ emissions depends on both the carbon and heat content of the substituted coals. In the Final EIS, the Powder River Basin coals have lower carbon content than the Indonesian subbituminous coals. However, the heat content of the displaced coal is less certain, as Indonesia exports a wide variety of coals.
- 5) The sulfur content of coal and its impact on operating efficiency was outside the scope of this analysis.

# Comment CMA-107

How is consumption correlated to emissions? The Lead Agencies' decision should evaluate how completion of the proposed project would potentially enable other projects to proceed and how these interdependent projects would increase consumption and thus increase emissions. (3387)

## Response to CMA-107

Refer to the Master Response for Connected or Similar Actions.

# Comment CMA-108

The model used by the DEIS for estimating greenhouse gas emissions is flawed. The DEIS does not estimate directly the effects of burning the 44 million tons that would be exported to Asia through the Millennium terminal. Instead, it uses the IPM computer model to estimate the effect of the export of 44 million tons of coal on carbon dioxide emissions in the U.S. and China. The goal of the model is to calculate the effect of higher coal prices in the U.S. (resulting in decreased coal use here) and the effect of lower coal prices in China (resulting in an increase in coal use there). The model incorporates many other factors besides coal price to calculate coal use, such as the lower BTU produced by Powder River Basin sub-bituminous coal, the effect on India's markets, and so on. The model uses four scenarios -low and high global coal use scenarios, a scenario based on coal use history through 2014, and a scenario based on changes predicted by the draft 2015 U.S. Energy rule. The forecasts that result from the four scenarios vary widely- two suggest that from exporting 44 million tons of coal to Asia there will be large net decreases in global coal usage, and two suggest small net increases. For proposing mitigation measures, the DEIS uses the smaller of the two net increases, the one predicted by the draft 2015 U.S. Energy rule.

However, the factors that are used in the computer modelling themselves cannot be accurately predicted. The factors come from estimates of future prices of coal, future use of coal of different types in Asia and the U.S., responses of future U.S. and Asian coal markets to regulation by the Paris Accord, and so on. These are simply not knowable. For example, the scenario that was chosen for proposed mitigation measures, the one based on the draft 2015 U.S. Energy rule, is unpredictable because it depends on politics as well as coal markets. Implementation of the rule could be stopped or delayed by a federal administration that denied the effects of climate change, is not convinced that other nations are doing their part to reduce greenhouse gases, or is simply determined to shield

American businesses from regulation. Similar problems with very muddy estimates for factors exist for the other three scenarios that were modelled.

When computer models of complex situations are based in large part on unknowable factors, they are not reliable. Instead of depending on modelling, mitigation measures should be based on real effects on U.S. and Asian coal use and greenhouse gas emissions after events unfold. The total increase in global greenhouse gas production from exporting 44 million additional tons to Asia can be calculated from actual data that are measures of the factors that are input into the IPM model or perhaps other factors that arise. Millennium should be required to pay mitigation based on the increases in global emissions after they are calculated for each past year, not predictions from a flawed model. (3465)

### Response to CMA-108

Refer to Response to CMA-88 regarding emissions from combustion of maximum throughput coal.

Refer to the Master Response for the Coal Market Assessment for more information.

Refer to Final EIS *Summary* for a consolidated list of proposed mitigation measures.

## Comment CMA-109

It is important to note that the Department of Energy (DOE) 2015 Annual Energy Outlook (AEO2015) used for the SEPA Draft Environmental Impact Statement (DEIS) does not include the greenhouse gas emission reductions and climate change benefits for deploying carbon capture utilization and storage (CCUS) technologies on coal power plants likely to use coal exported from the Proposed Action. Likewise, AEO2015 analyses do not include CCUS technology benefits within the United States. In addition, the DOE 2016 International Energy Outlook (IEO2016) also does not include the greenhouse gas emission reductions and climate change benefits for deploying CCUS technologies on coal power plants likely to use coal exports from the Proposed Action. This important omission in the DOE AEO2015 and IEO2016 results in the DOE overstating the global annual greenhouse gas emissions during the operational time period for the Proposed Action. Furthermore, use of the DOE AEO2015 for the SEPA DEIS also results in overstating the likely greenhouse gas emissions and climate change impacts for the Proposed Action, and therefore incorrectly finds that the Proposed Action constitutes an "Unavoidable and Significant Adverse Environmental Impact". (3352)

### Response to CMA-109

The Draft EIS considered technology currently available without adopting assumptions on future development of generating technologies.

## Comment CMA-110

There are a number of flaws and invalid assumptions in the GHG market analysis that result in significant understatement of the GHG impacts, which are likely much higher than disclosed in the DEIS. (3319)

### Response to CMA-110

The commenter has not identified specific flaws or invalid assumptions in the greenhouse gas analysis or coal market assessment. Final EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, and the *SEPA Coal Market Assessment Technical Report* provide an analysis of impacts related to greenhouse gas emissions and a discussion of projected coal market conditions.

## Comment CMA-111

While it may be understandable for the DEIS to assess how markets would react to cheaper coal exported from this project, the method of this assessment and its underlying assumptions must be credible and comprehensible and must not understate or minimize the project's actual contribution to GHG emissions. As written, the DEIS significantly minimizes likely GHG emissions impacts by applying apparently inconsistent premises and using complex models based on speculation about future coal markets and energy policy conditions. The GHG analysis includes an unwarranted hypothesis that the coal exported by MBTL could displace the burning of other types of coal. DEIS 5.8-6. This is inconsistent with the determination that the MBTL would induce greater demand for coal in Asia. DEIS 5.8-6. The complex econometric projections and multi-dimensional models used in the DEIS yield four widely varying scenarios. The explanation and application of these models in the DEIS and GHG Technical Report is presented as a "black box" analysis that resists full comprehension. (2589)

### Response to CMA-111

Refer to Response to CMA-1 regarding assumptions versus conclusions of the analysis.

Refer to Response to CMA-33 regarding documentation of inputs and assumptions for the modeling.

## Comment CMA-112

We think that the offsetting of vessel transportation emissions based on various market scenarios is needlessly complicated and speculative. The terminal will be the proximate cause of vessel transport to and from Asia, and the GHGs associated with that transport are readily calculated and should be clearly disclosed. Speculative offsets from other changes in transportation can be addressed in a qualitative way. (3277)

### Response to CMA-112

Refer to Response to CMA-88 regarding the volume of coal combustion in the greenhouse gas analysis. The emissions due to changes in vessel transportation are described in the *SEPA Greenhouse Gas Emissions Technical Report*. The net vessel greenhouse gas emissions included vessels that would return empty (in ballast).

## Comment CMA-113

The methods described in Section 5.8.1.4 to evaluate the impact of the Proposed Action do not include scenarios that are ultimately compliant with the regulatory setting outlined in Table 5.8.1.2. No scenario analyzed includes a viable path to meeting the state-specific targets in the 2015 Clean Power Plan, much the Paris goal of ending fossil fuel use for energy by 2100. Aggressive compliance

with this plan is imperative first step for climate stability and national security in the mid- and long-term. Furthermore, the scenarios studied do not account for the leveraged impact on politicians, the populous, and our energy planners, and the cooperation of other nations that a No Action decision would have on what would've been the largest coal terminal in North America and (arguably) the last fossil fuel export proposal on America's West Coast. (3402)

### Response to CMA-113

The coal market analysis presented in the *SEPA Coal Market Assessment Technical Report* examined the U.S. and Asian coal market changes—in terms of coal production, consumption, distribution, and $CO_2$ emissions—associated with the Proposed Action and No-Action Alternative under scenarios representing a wide range of possible future market conditions. Refer to the Master Response for the Coal Market Assessment for additional information on the methods, assumptions, and model used in the analysis. Refer to Response to CMA-100 regarding consideration of the Paris Accords in the Final EIS analysis.

## Comment CMA-114

The scenarios described in 5.8-2 do not account for the leveraged impact on politicians, the populous, energy planners, and the cooperation of other nations that a No Action decision will have on what would've been the largest coal terminal in North America and (arguably) the last major fossil fuel export proposal on America's West Coast. (3404)

### Response to CMA-114

Refer to Response to CMA-113.

## Comment CMA-115

6.3.3.8 Greenhouse Gas Emissions: The GHG analysis in the Draft EIS is highly speculative, and makes use of incorrect outputs, and this approach of using highly speculative information is continued in the discussion of cumulative impacts. On page 6-71: "The coal market assessment found that the operation of the planned coal export terminals in Table 6-27 would increase the domestic coal prices and decrease domestic coal consumption, resulting in a decrease in domestic greenhouse gas emissions. Natural gas consumption would increase as it would be used as a substitute for coal. Therefore, the net domestic greenhouse gas emissions would decrease. However, internationally, Asian coal displacement coupled with induced demand from reduced international coal prices would outweigh any reduction in domestic emissions and would result in an increase in international greenhouse gas emissions. Induced demand under the Cumulative Proposed Action scenario would be higher than the Past Conditions (2014) scenario due to the effects of all coal export terminals." The conclusion that additional coal terminals would result in even greater induced demand in Asia and increased GHG emissions presumes that the Draft EIS coal markets and GHG analysis provides reasonably certain conclusions concerning the effects in Asia of the Project. Because all commodities market and energy use predictions extending out over two decades are inherently speculative, the Draft EIS should conclude that it is not possible to predict with any reasonable degree of certainty the effect in Asia of multiple new coal export terminals being constructed in the U.S. (3070)

### Response to CMA-115

Refer to Response to CMA-22.

## Comment CMA-116

The Cumulative scenario should have been based on the only economic scenario, the Upper Bound, so that the impact of the ports could be viewed in the market conditions that they were proposed in and in which they would be competitive. (3277)

### Response to CMA-116

Refer to Response to CMA-40.

## Comment CMA-117

The DEIS discussion of the impact of the Proposed Action under the Cumulative scenario repeatedly says that under that scenario: "The increase in Pacific Basin demand is due to the induced demand from the lower-priced coal being exported through the [Longview] terminal" or that there will be significant induced demand for additional coal energy because of the "reduction in delivered coal prices under the Proposed Action." The DEIS, however, never explains where the lower delivered coal prices would come from given that the Cumulative scenario is tied to the market conditions associated with the Past Conditions (2014) scenario in which the coal shipped from the proposed port would only induce 1 million metric tonnes of coal in Asia. (3277)

### Response to CMA-117

The induced demand in 2025 in the Past Conditions scenario and the Cumulative scenario is 1.0 million metric tons and 1.5 million metric tons, respectively. The increase in induced demand in the Cumulative scenario is due to the depressive effect of a greater supply of coal coming onto the market from multiple terminals. In addition, in the Past Conditions scenario, the coal exported through the proposed terminal was only coming from the Montana Powder River Basin region. In the Cumulative scenario, coal was also exported from the Wyoming Power River Basin region.

## Comment CMA-118

It seeks to measure the cumulative impacts of the Longview coal port *and* the impacts of the other proposed coal ports. But authorizing the Longview coal ports (the proposed action) has no direct impact on the authorization of the other proposed ports. The impacts estimated under the Cumulative scenario are not primarily the impacts caused by the Longview coal port. In that sense it does not measure the impacts of the proposed action. That does not mean that it cannot contribute information on a separate issue: How might all of these ports together impact the environment? That, however, is typically dealt with in a separate section of an Environmental Impact Statement where it is not only the impact of the proposed action that is at issue. Since the Cumulative scenario is answering a different question that that posed by the other four scenarios, it would be best not to consider it side-by-side with the other scenarios. (3277)

### Response to CMA-118

The cumulative scenario in the coal market assessment is not compared with the other scenarios in the EIS. It is used as an input to develop an estimate of greenhouse gas emissions for the 2038 Cumulative Proposed Action scenario, as presented in Final EIS Chapter 6, *Cumulative Impacts*.

## Comment CMA-119

This makes clear that this Cumulative scenario is not focused primarily on the impacts associated with the Longview port and therefore should not be treated the same way as the other four scenarios that *are* focused exclusively on the impacts caused by the proposed action: The authorization of the Longview coal port. These other proposed coal ports are not in any way dependent on the construction and operation of the Longview coal port. They will come online or not depending on market conditions and regulatory approval separate and apart from whatever decision is made about permitting the Longview coal port. For that reason, if this scenario is to be compared with the other scenarios, the additional 56 MMtpy of coal port capacity that is assumed to come on line in 2030 should have been included in both the No Action and Proposed Action. In that correct modeling setting for comparable scenarios, those other proposed ports would not directly affect the differential impact of the Proposed Action alternative compared to the No Action alternative. As a result the implied impact of the Longview coal port in the Cumulative scenario would be much smaller. (3277)

### Response to CMA-119

The cumulative scenario in the coal market assessment is not compared with the other scenarios in the EIS. It is used as an input to develop an estimate of greenhouse gas emissions for the 2038 Cumulative Proposed Action scenario, as presented in Final EIS Chapter 6, *Cumulative Impacts*.

## Comment CMA-120

If the Cumulative scenario is used in the cumulative impacts section of the EIS, it would be a good idea to provide an update on the status of those other proposed coal ports so that the reader has a better feeling for what the potential of each of these proposals is at the current time. Since then the expansion of the Ridley and Westshore ports in British Columbia have been abandoned because of weak market condition. The Neptune expansion was approved in 2013 but the expansion has not been undertaken. The Gateway Pacific coal port outside of Bellingham, WA, has been denied a permit by the U.S. Army Corps of Engineers and the Oregon Department of State Lands has rejected the Coyote Island port. The Fraser Surrey Dock proposal to add 4 MMtpy of coal shipping capacity has been permitted but faces other legal challenges. Thus five of the 6 proposed coal port developments (other than the Longview proposal) are at least temporarily suspended. (3277)

### Response to CMA-120

The reasonably foreseeable future actions evaluated in Final EIS Chapter 6, *Cumulative Impacts*, have been updated. Refer to Table 6-2 of the Final EIS. Unless a project proponent publicly announces a project is canceled or had permit applications withdrawn or denied, the Final EIS conservatively assumes the projects may move forward by 2038.

## 5.8.2 Greenhouse Gas Emissions and Climate Change

This section presents responses to substantive comments related to greenhouse gas emissions and climate change.

# Comment GHG-1

I am requesting that you do a comprehensive study of the amount of Co2 which burning 44 million tons of coal will add each year to the greenhouse gases already in the atmosphere. Also we must study the cumulative amount of Co2 which will be added to get this coal transported to these locations, listed in the SEPA. I know that this study is difficult. But it must be done. (1470)

### Response to GHG-1

Draft EIS Chapter 5, Section 5.8.1, *Greenhouse Gas Emissions*, included greenhouse gas emissions from coal combustion in Asian power plants, as well as the emissions related to transporting coal from the project area to potential final combustion sites. As discussed in the *SEPA Coal Market Assessment Technical Report*, greenhouse gas emissions from coal combustion are based on an analysis of the coal market and effects on coal consumption, where the 44 million metric tons of coal from the Proposed Action would displace some existing sources of coal. To account for this, the greenhouse gas and coal market assessment analyzed net coal combustion emissions, which takes into consideration coal combusted from Proposed Action exports, as well as reduced combustion from displaced coal.

# Comment GHG-2

The inclusion of alleged greenhouse gas emissions outside of Washington State is both inappropriate and sets a dangerous precedent with respect to any planned expansion of, or newly proposed maritime facility that handles products moving across state and international boundaries (5.8.1.4, pg 5.8-5). The maritime industry that supports Washington state ports continues to make significant investments in improving efficiency and safety with the highest attention to environmental compliance and is concerned about practices that will delay or potentially prevent new maritime terminal developments. (2265)

### Response to GHG-2

Refer to Master Response for Greenhouse Gas Emissions and Climate Change, under *Setting a Precedent*. In accordance with SEPA Rules, the SEPA co-lead agencies defined the geographic study areas for the Draft EIS analyses to encompass the areas where the Proposed Action could result in significant adverse environmental impacts. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS. The rationale for the greenhouse gas emissions study area is described in more detail below.

Unlike most air pollutants (e.g., sulfur dioxide and particulate matter) that have only a local impact on air quality, greenhouse gases affect the atmosphere equally regardless of where they are emitted, thus, they are truly global pollutants. Therefore, a ton of methane emissions in Asia affects the global atmosphere to the same degree as a ton of methane emissions in the United States. Consequently, the geographic study area includes greenhouse gas emissions that would occur within and outside of

the project area. Emissions outside of the project area are included in the estimate because greenhouse gases are a global pollutant as stated in the *SEPA Greenhouse Gas Emissions Technical Report*, and there would be market-related effects from the Proposed Action that result in greenhouse gas emissions outside the project area. Direct emissions from the project area would include those from mobile sources during construction and operation. Additional direct emissions would occur in Cowlitz County from rail and vessel transport of coal. The following indirect emissions would also occur:

- Rail and vessel transport of the coal beyond Cowlitz County and within Washington State.
- Combustion and extraction of the coal in the United States and international coal markets.
- Rail transport of coal from extraction sites to Washington State.
- Transport of coal to Asian markets and the return of vessels with only ballast water in international waters.

Greenhouse gas emissions are also estimated that would result from shifts in coal combustion and demand in Asian markets and from induced natural gas combustion due to the shift from coal as coal prices increase (relative to the No-Action scenario) in the United States. The geographic study area is expanded beyond direct emission sources because the international coal market is a global commodity market, such that changes in supply or demand in one country can affect coal prices and distribution patterns globally. For more information on how these factors were considered in the greenhouse gas analysis, more details are in the *SEPA Coal Market Assessment Technical Report*.

# Comment GHG-3

The technical analysis for GHGs properly includes transportation to and operations at the terminal, as well as some of the impacts of coal combustion. However, it does not include the GHGs of extraction of coal. This is not explained, nor does it meet the standards listed above.

In contrast to “downstream” combustion of coal, increased coal mining is considered an “upstream” impact of the coal terminal decision.30 As noted above, CEQ guidance requires consideration of actions which “may occur as a predicate” to the agency decision under review.31 Recently, EPA commented on proposed NEPA guidance issued by FERC, specifically observing that FERC should consider increased gas production as an indirect effect of its gas pipeline decisions.32 In listing potential sources of GHGs to be considered under SEPA, Ecology’s table of tools specifically mentions “Emissions produced in the mining, harvest, processing, and transportation of materials that will be used as feedstocks by the project when operational.”33

GHG emissions from coal extraction are no small matter. In addition to the significant energy required to move colossal quantities of earth and minerals to mine and prepare coal for transport, it is increasingly well understood that coal mining in the PRB releases significant quantities of methane, a potent GHG.34

It is difficult to see how the extraction of coal for the terminal should be treated any differently than the transportation of that coal to the terminal site. Both are proximately caused by the terminal—the 44 million metric tons of coal that would be shipped out of the terminal would not be mined but for the terminal, as it would be supplementary to any coal mined for other purposes. As discussed in the Powers report, there is abundant supply of coal in the Powder River basin, supply that would remain in the ground if it were not for this project. GHGs should be calculated for this component of

the project and included in the final estimates. We discussed this issue extensively in our scoping comments and are surprised to see the exclusion of extraction from the GHG analysis. See Scoping Comments, at 37.

The GHG technical report states that extraction is excluded because it has already been addressed in "separate GHG analyses" required by NEPA for the coal mines. Technical Report at 2-5. No specific NEPA analyses are identified. In fact, the statement is in many cases incorrect. Historically, BLM did not include GHG estimates from extraction (or anything else) in its coal lease EISs, which can be as old as 20 years.35 Moreover, while recent agency and court decisions have suggested a more thorough approach to GHG emissions for new mines in the future, there remains over 20 years' worth of already-leased coal available. Supply for this terminal can be provided for years before new mines need to be developed. Moreover, there is no reason in either the governing regulations or applicable precedent that states that an impact can be ignored just because it is addressed in another EIS. At issue here is not a GHG "reporting" regimen in which it is critical that a given set of emissions not be counted more than once. Rather, the issue here is an understanding of the results that are caused by this decision, and a given set of effects can have more than one cause. Simply put, exporting 44 tons of coal means mining 44 more tons of coal than would otherwise be the case. It should be included in the FEIS. (3277)

### Response to GHG-3

The *SEPA Greenhouse Gas Emissions Technical Report* has been revised to include coal extraction from surface and underground mining activities from the Powder River Basin, Uinta Basin, and other U.S. sources of surface-mined and underground-mined coal in the greenhouse gas emission estimates. Emissions from extraction processes include methane releases and equipment electricity and fossil fuel consumption. Extraction emissions also include those emissions offset by the anticipated reduced coal production in Australia, Canada, China, India, Pakistan, Indonesia, Russia, and South Africa, and other non-U.S. regions. Estimated emissions from offset extraction processes include methane releases, equipment electricity and fossil fuel consumption, and, for Australian coals, coal cleaning and refuse landfilling.

## Comment GHG-4

The EIS Must Be Limited to GHG Emissions Attributable to the Proposed Action.

In the Draft EIS, the Agencies conduct what is essentially a life cycle analysis of GHG emissions associated with MBTL to include all GHG emissions from facility construction and operation, as well as emissions from the transport and ultimate combustion of coal. As the NAM explained in comments on the scoping document, evaluating all GHG emissions identified in a life cycle analysis is inconsistent with both NEPA and SEPA and would dramatically overstate the actual impact of MBTL.

Further, this expanded analysis creates a very dangerous precedent that could be used to block exports. Not only do virtually all manufactured products have an environmental footprint, but the decision to make the port operator account for the footprint of those goods as a condition to building the port is a dangerous policy manufacturers fear could restrict exports. It could also become a template for other states, and could be easily applied to other goods. Port operators should not be forced to mitigate for the life cycle environmental impact of the goods passing through their terminals, whether those goods are grains, fruits, semiconductors, automobiles, energy or anything else.

The fundamental purpose of an EIS is to inform agency decision making on the issue pending before that decision maker. To do so effectively, it is critical that agencies do not add to the decision-making criteria environmental impacts that are either so far removed from the project, or so speculative that they are not relevant to the discrete project and decision before the agency. Applying appropriate boundaries not only promotes informed agency decision making by ensuring that decisions are based on environmental impacts over which the federal agency has control, but also protect agencies and private entities whose permit or license applications are subject to NEPA and SEPA review against unnecessary litigation over hypothetical, tangential, or de minimis environmental effects. These limits should be strictly applied in the unique context of GHG emissions and climate change where, unlike other environmental impacts, GHG emissions are universally mixed in the atmosphere and bear no specific geographic nexus to the climate impacts they may cause.

The federal standard for reasonably foreseeable environmental impacts under NEPA must be followed if the NEPA process is to retain integrity and meaning. That same standard is also informative with respect to the scope of impacts considered under SEPA. For example, courts have held that indirect effects must only be considered when there is a "reasonably close causal relationship" that would qualify as a "proximate cause" under tort law. Metropolitan Edison Co. v. People Against Nuclear Energy, 460 U.S. 766, 774 (1983); see also Public Citizen, 541 U.S. at 767 (citing W. Keeton, et al., Prosser and Keeton on Law of Torts 264, 274-75 (1983) for proximate cause standard). Thus, for example, under NEPA an agency need not consider environmental effects of actions over which the agency has no control. Public Citizen, 541 U.S. at 770 ("We hold that where an agency has no ability to prevent a certain effect due to its limited statutory authority over the relevant actions, the agency cannot be considered a legally relevant 'cause' of the effect."); National Association of Home Builders v. Defenders of Wildlife, 551 U.S. 644, 667 (2007) (same). Indeed, agency decision-making that rests on factors outside an agency's substantive authority would be deemed arbitrary and capricious.

Application of this proximate cause standard for indirect effects has significant implications for consideration of upstream and downstream GHG emissions for projects such as MBTL. Specifically, under NEPA a federal action cannot be considered a proximate cause of an upstream or downstream impact if such upstream or downstream impact is likely to occur even without the proposed action. Courts have frequently addressed this issue in the context of induced growth, finding that an agency need not consider the environmental effects of third party development when the federal project is responding to development that would occur anyway. See, e.g., Citizens for Smart Growth v. Dep't of Transp., 669 F.3d 1203, 1205 (11th Cir. 2012) (no need to evaluate "the project's stimulation of commercial interests in a previously residential area" when "commercial uses in the study area were already being planned or developed"); City of Carmel-By-The-Sea v. Dep't of Transp., 123 F.3d 1142, 1162 (9th Cir. 1997) ("The construction of Hatton Canyon freeway will not spur on any unintended or, more importantly, unaccounted for, development because local officials have already planned for the future use of the land, under the assumption that the Hatton Canyon Freeway would be completed."); Morongo Band of Mission Indians v. Fed. Aviation Administration, 161 F.3d 569 (9th Cir. 1998) ("[T]he project was implemented in order to deal with existing problems; the fact that it might also facilitate further growth is insufficient to constitute a growth-inducing impact under 40 C.F.R. § 1508(b).").

The same analysis applies to upstream effects. For example, in Sierra Club v. Clinton, 746 F. Supp. 2d 1025, 1045 (D. Minn. 2010), the court held that environmental effects associated with oil production in Canada need not be considered when evaluating a pipeline project because the oil would be

produced and transported regardless of whether the pipeline project would be completed. Thus, a proposed federal action cannot be considered a proximate cause of upstream and downstream action simply because it is part of the same chain of events.

This has important implications for the life cycle analysis of GHG emission included in the draft EIS. For example, the life cycle analysis includes emissions associated with the transportation and combustion of coal. See Draft EIS at 5.8-5, 5.8-14. However, if the Millennium Terminal will not induce additional coal transport or coal combustion, the GHG emissions associated with those activities need not be included when evaluating the potential impacts of the project. Thus, if the coal transported to the terminal would be mined and sold for export through other means if the project were not completed, then the project is responding to existing demand for coal exports and not inducing more use. Likewise, if U.S coal exported from MBTL merely displaces coal from other locations, it is not inducing additional combustion of coal for electricity. Under either of these circumstances emissions associated with those activities cannot be attributed to the terminal and should be excluded from the EIS.

In the Draft EIS, the Agencies appropriately recognize that GHG emission need not be included in the EIS simply because they are associated with the life cycle of the coal that would be transported through the terminal. See Draft EIS at 5.8-22 ("However, not all of the emissions are attributable to MBTL because some of the coal being shipped from the coal export terminal could displace coal shipped from other areas and change transportation."). In fact, the Draft EIS concludes that virtually all of the coal exported from the terminal would displace other sources. Applying the reasoning in Sierra Club v. Clinton, 746 F. Supp. 2d at 1045, NAM urges the Agencies to take the same approach in determining whether GHG emissions associated with the transport of coal should be included when evaluating the potential impacts of the terminal. By excluding GHG emissions that cannot be fairly attributed to the project, the Agencies will be better able to make an informed and transparent decision based on the analysis contained in the final EIS.

From the time of its initial application, agencies have been pressured to widen the scope of NEPA analyses to include all manner of issues and potential impacts that are outside the scope of the proposed major federal action to be addressed in the EIS. Repeatedly, the courts have rejected demands to so broaden the Act's scope. See, e.g., Kleppe v. Sierra Club, 427 U.S. 390 (1976); Weinberger v. Catholic Action of Hawaii, 454 U.S. 139 (1981). Moreover, the Washington Court of Appeals has ruled that SEPA's requirements are "inapplicable" and only NEPA's requirements apply to a joint NEPA/SEPA EIS; therefore, an expanded review by the Agencies for MBTL should not have applied. The Agencies must resist such pressure here and avoid an inappropriate expansion of the GHG emissions attributable to MBTL. (2987)

## Response to GHG-4

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Setting a Precedent*. Also refer to Response to GHG-2.

The Draft EIS was not a joint NEPA/SEPA EIS. Separate NEPA and SEPA EISs were prepared for the Proposed Action. The SEPA co-leads published the SEPA Draft EIS on April 29, 2016. The Corps published the NEPA Draft EIS on September 30, 2016.

# Comment GHG-5

In the DEIS, the Lead Agencies and cooperating agencies have failed to adequately consider the direct, indirect, and cumulative impacts of the proposed project and of alternatives that could reduce or eliminate those environmental impacts. In particular, the Lead Agencies have failed to account for the carbon emission, climate, and ocean acidification impacts to already impaired resources over the lifespan of the project. There is no accounting of the lifespan emissions resulting from the project and all that it facilitates, including construction, operations, and transportation from the Powder River Basin and the Uinta Basin and to Asia. Nor is there any analysis of these cumulative lifespan emissions measured against the Washington's obligation to its citizens to reduce emissions in line with the science to protect life, liberty and property from the lethal threat of fossil fuel emissions to our natural life-sustaining systems and human civilization. (3387)

## Response to GHG-5

The analysis in Final EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, estimates greenhouse gas emissions for the transport of coal via rail, construction of the terminal, coal transportation from the terminal to end-use facilities, and final coal combustion. The *SEPA Climate Change Technical Report* has been revised to briefly discuss the potential for ocean acidification to exacerbate potential impacts on fish and shellfish.

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Climate Change Analysis Approach*.

Draft EIS Chapter 5, Section 5.8.1, *Greenhouse Gas Emissions*, addressed quantifying greenhouse gas emissions associated with the Proposed Action and Draft EIS Chapter 5, Section 5.8.1.8, *Potential Mitigation Measures*, addressed potential mitigation measures from Proposed Action-related greenhouse gas emissions. Draft EIS Chapter 5, Section 5.8.2, *Climate Change*, addressed climate change impacts on the project area. Draft EIS Chapter 5, Section 5.8.2.7, *Potential Mitigation Measures*, indicated that "potential climate change impacts on the Proposed Action in the project area are not considered significant and would not necessitate mitigation."

# Comment GHG-6

In assessing the proposed project's impact on the atmospheric concentration of GHGs, the Lead Agencies and cooperating agencies must consider the GHG emissions from the entire lifecycle of the gas associated with the proposed project, which includes the exploration, extraction, production, transportation, shipment and combustion of the gas. (3387)

## Response to GHG-6

Refer to Response to GHG-3. As noted in the Master Response for Connected or Similar Actions, the Proposed Action is not dependent on new sources of coal. Exploration of coal is outside of the scope of the EIS.

# Comment GHG-7

The Lead Agencies must consider transboundary impacts from the proposed project, including GHG emissions from the construction, operations, transport from transportation from the Powder River Basin and the Uinta Basin, and to end use transport to Asian markets. (3387)

## Response to GHG-7

Final EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, evaluates greenhouse gas emissions for the transport of coal via rail and vessel, construction and operation of the coal export terminal, and coal combustion. Refer to Response to GHG-3.

# Comment GHG-8

NEPA draft guidelines can provide a frame of reference into important issues that should be analyzed in an environmental review process. And although not required under SEPA, doing so in the DEIS would be a good idea and in the best interest of the public. Agencies can incorporate by reference applicable agency emissions targets such as applicable federal, state, tribal, or local goals for GHG emission reductions to provide a frame of reference and make it clear whether the emissions being discussed are consistent with such goals.

For proposed projects emitting more than 25,000 metric tons of carbon dioxide equivalent, federal NEPA greenhouse gas and climate change draft guidance (Dec 2014) supports quantitative assessments of both the potential effects of a proposed action on climate change as indicated by its GHG emissions; and the implications of climate change for the environmental effects of a proposed action. The DEIS estimates that the total net emissions related to the proposed project from 2018 to 2038 would be 37.6 million metric tons ofC02e. This is above the threshold of 25 million metric tons of C02e, indicating that climate change should be considered by the FEIS. Thus, these comments reflect considerations for assessing the proposed project's GHG emissions and the implications of climate change of the proposed action. The FEIS analysis should consider utilizing the following NEPA guidelines when assessing GHG emission impacts:

1. When assessing direct and indirect climate change effects, agencies should take account of the proposed action- including "connected" actions - subject to reasonable limits based on feasibility and practicality. In addition, emissions from activities that have a reasonably close causal relationship to the federal action, such as those that may occur as a predicate for the agency action (often referred to as upstream emissions) and as a consequence of the agency action (often referred to as downstream emissions) should be accounted for in the NEPA analysis.
    a. It is unclear if the DEIS considers the full range of "connected" actions when assessing GHG emissions from construction, operation, and use of the coal in Asia. Please clarify and ensure that the full range of connected actions are considered.
2. Monetizing costs and benefits is appropriate in some cases and is not a new requirement.
    a. For DNR and Washington State, an example of the cost of climate change is it being considered a contributing factor to the 2015 Wildfire season, during which more than 1 million acres burned in Washington and the total firefighting cost was at least $347 million.
    b. Additional climate related costs to the state include losses due to the 2015 drought, losses from flooding due to increased peak flows, and protections from sea level rise.

c. Please consider all of these costs in the FEIS.

3. The "Federal social cost of carbon" offers a harmonized, interagency metric that can provide decision makers and the public with some context for meaningful NEPA review.

   a. The DEIS does not provide an assessment of the social costs of carbon for the proposed project. Please include this in the FEIS. (2691)

### Response to GHG-8

The analysis in Final EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, estimates greenhouse gas emissions from the transport of the coal via rail and vessel, construction and operation of the coal export terminal, and coal combustion. In addition, the greenhouse gas analysis includes an evaluation of the indirect greenhouse gas emissions from electricity use at the terminal. The *SEPA Greenhouse Gas Emissions Technical Report,* provides detailed information on the sources of greenhouse gas emissions evaluated.

The net greenhouse gas emissions across all evaluated sources are described in terms of state goals. Final EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, provides a discussion of emissions in context, including those with respect to Washington State greenhouse gas reduction goals.

Refer to Response to GHG-22 regarding the analysis of social and cost considerations in the EIS.

## Comment GHG-9

The EIS should conduct a full analysis life cycle emissions of this project including an analysis of these points on cumulative greenhouse gas emissions. (TRANS-LV-M2-00125)

### Response to GHG-9

Final EIS Chapter 5, Section 5.8.1, *Greenhouse Gas Emissions*, has been revised to include estimated greenhouse gas emissions from emissions embedded in materials produced for construction of the coal export terminal. The net greenhouse gas emissions across these sources and other evaluated sources are presented in the EIS.

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Climate Change Analysis Approach*.

## Comment GHG-10

We have grave concerns regarding the precedent of imposing such conditions to address greenhouse gas emissions from product origin, all transportation aspects, to consumption and disposal in other nations in order to complete this EIS. By engaging in such commodity partiality, it could open the door to blocking transportation and marketing of any and every commodity anyone might consider objecting to including Boeing Aircraft, automobile parts, even GMO grains or agricultural products; so we urge you to remove such considerations from the final document. (3406)

### Response to GHG-10

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Setting a Precedent*, and Response to GHG-2.

## Comment GHG-11

As a public port, we are interested in how proposals are permitted throughout the State of Washington. We appreciate that projects are required to navigate through some of the strictest of state regulations, as well as federal regulation interpretations, within the United States. This, of course, provides our State with an environmental quality of life envious to others. However, analysis of greenhouse gas and climate change impact on freight infrastructure and operations across state lines will significantly and negatively impact reasonable economic development through the most trade dependent state in the nation. This new evaluation formula sets precedence that the State may not be able to retract from. (3326)

### Response to GHG-11

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Setting a Precedent*, and Response to GHG-2.

## Comment GHG-12

The study's inclusion of recommendations for mitigation of greenhouse gas emissions occurring outside of Washington State sets a concerning precedent for future development. The out of state emissions are not caused by the operation of the terminal, and are not within the Project's control. Should this criteria be included in other project permitting decisions, the resulting mitigation requirements will make the State of Washington uncompetitive with other port systems and threaten commodity movements and investment across the region. We suggest that the study area be limited to the State of Washington as has historically been the case for similar marine terminal developments. (3126)

### Response to GHG-12

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Setting a Precedent*, and Response to GHG-2.

Emissions are analyzed that are attributable to the connected actions of constructing and operating the terminal.

## Comment GHG-13

The DEIS analysis is deficient, however, in that the GHG emissions analysis fails to capture the full life cycle of GHG impacts by omitting emissions from the extraction of coal. The DEIS says that analysis of coal extraction is part of NEPA analysis for coal mines. Since with a few exceptions, a federal emission analysis for mines does not include emissions from transportation (SEPA Greenhouse Gas Emissions Technical Report[ GHG Technical Report], 4.2, Table 60) or analysis of coal combustion, and the MBTL DEIS does not include extraction, there is no disclosure and analysis of the total GHG emissions in the DEIS. The DEIS approach is contrary to letters written by the

Department of Ecology to the Bureau of Land Management in 2011 concerning the need for a supplemental EIS for the Wright Area Coal Lease application and to the US Department of Transportation in 2013 concerning the Tongue River Railroad. See also, Secretary of the Interior. January 15, 2016. Order No. 3338. Discretionary Programmatic Environmental Impact Statement to Modernize the Federal Coal Program. A revised DEIS and the Final EIS must include studies, analysis, and disclosure emissions from extraction of the coal in its calculation of GHG. (2589)

### Response to GHG-13

Refer to Response to GHG-3.

## Comment GHG-14

The models, underlying facts, assumptions, and outcomes should be re-examined carefully and a revised DEIS and Final EIS must add in GHG emissions from coal extraction to ensure all GHG emissions impacts are considered and to make certain that econometric projections will not discount the project's actual emissions to the detriment of the earth's atmosphere. (2589)

### Response to GHG-14

Refer to Response to GHG-3.

## Comment GHG-15

The DEIS analysis is deficient, however, in that the GHG emissions analysis fails to capture the full life cycle of GHG impacts by omitting emissions from the extraction of coal. The DEIS says that analysis of coal extraction is part of NEPA analysis for coal mines. Since with a few exceptions, a federal emission analysis for mines does not include emissions from transportation (SEPA Greenhouse Gas Emissions Technical Report[ GHG Technical Report], 4.2, Table 60) or analysis of coal combustion, and the MBTL DEIS does not include extraction, there is no disclosure and analysis of the total GHG emissions in the DEIS. The DEIS approach is contrary to letters written by the Department of Ecology to the Bureau of Land Management in 2011 concerning the need for a supplemental EIS for the Wright Area Coal Lease application and to the US Department of Transportation in 2013 concerning the Tongue River Railroad. See also, Secretary of the Interior. January 15, 2016. Order No. 3338. Discretionary Programmatic Environmental Impact Statement to Modernize the Federal Coal Program. A revised DEIS and the Final EIS must include studies, analysis, and disclosure emissions from extraction of the coal in its calculation of GHG. (2712)

### Response to GHG-15

Refer to Response to GHG-3.

## Comment GHG-16

The models, underlying facts, assumptions, and outcomes should be re-examined carefully and a revised DEIS and Final EIS must add in GHG emissions from coal extraction to ensure all GHG emissions impacts are considered and to make certain that econometric projections will not discount the project's actual emissions to the detriment of the earth's atmosphere. (2712)

### Response to GHG-16

Refer to Response to GHG-3.

## Comment GHG-17

The EIS should take into account the entire life-cycle impact of the coal that would be shipped, including the overall carbon dioxide emissions produced when used in Asia. (0023)

### Response to GHG-17

Final EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, has been revised to include estimated greenhouse gas emissions from emissions embedded in materials produced for construction of the Proposed Action. The net greenhouse gas emissions across these sources and other evaluated sources are presented in the Final EIS, including those addressed in the Draft EIS such as emissions from rail and vessel transport of the coal and the combustion of the coal in Asia. Final EIS Chapter, 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, discusses the greenhouse gas emissions resulting from the combustion of coal in Asia.

## Comment GHG-18

Please consider the increased carbon pollution from coal transport, export, and burning that is driving dangerous climate-related extreme weather nationally and globally. (0485)

### Response to GHG-18

Refer to Response to GHG-17.

## Comment GHG-19

Overall, it appears that the DEIS does a credible job of calculating GHGs from transportation of fossil fuels. The study reveals that even if the issue of combustion is taken off the table, the project would be one of the state's largest emitters of GHGs. However, there are some shortcomings that should be addressed in the FEIS.

First, the DEIS models marine vessels traveling from the U.S. to Asia, not return trips. The authors assume return trips would be laden with other goods and should therefore not be counted in this analysis. However, the DEIS fails to support this assumption, and there is ample evidence to support the opposite conclusion. While the Millennium DEIS describes the potential for the U.S. to import up to 800,000 tons of pet coke and coal tar pitch from Asia, that's less than two percent of the 44 million metric tons being sent west across the Pacific. In fact, among the major dry bulk commodities, like grains, coal, and iron ore, the U.S. exports far more than it imports from China. Moreover, there is currently a surplus of dry bulk carriers overall and a concentration of those carriers bringing commodities to China – facts that imply competition is fierce for carrying dry bulk cargo outbound from China.

It is therefore likely that some, if not the majority of, international vessels servicing Millennium (80% Panamax and 20% Handymax) would be returning from Asia with ballast water, not cargo as the report assumes. Globally, ballast water voyages for dry bulk carriers are common. A typical Panamax dry bulk vessel takes around eight voyages with cargo and five with only ballast water

each year. Handymax vessels average nine cargo-laden voyages and five only-ballast legs. For coal voyages, the numbers may be even worse: a sailing pattern from Australia to Japan/Korea/China with coal is estimated at six voyages per year with cargo and five (the return trips) with only ballast. With international vessel emissions making up the largest share of emissions in some scenarios, including the return trip would be a significant contributor to the project's greenhouse gas. Accordingly, the GHG calculations should be revised to include both legs of the sea voyage, which would significantly increase the project's GHG footprint.

Finally, the technical report only calculates emissions associated with increased vehicle waiting times within the immediate project area, ignoring the extensive delays throughout the state and beyond. The FEIS should extrapolate these valuates to the entire project.

Adding all these changes together, and disclosing them in a coherent way, would reveal that the GHG impact of the project is startlingly high, even before assessing any combustion of coal or changes to coal markets. This should not necessarily come as a surprise: transporting 44 million metric tons of minerals halfway around the globe would require a significant amount of fossil fuel energy. The high GHG footprint of the project's transportation emissions highlights the absurdity of this project and the stark choice for the Co-leads. (3277)

### Response to GHG-19

Final EIS Chapter 5, Section 5.8.1, *Greenhouse Gas Emissions*, has been revised to include greenhouse gas emissions from a portion of return trips from vessels that return with ballast water only. In addition, the Final EIS estimates greenhouse gas emissions related to additional vehicle delay due to increased rail traffic.

## Comment GHG-20

The DEIS should have focused on actual impacts, and only analyzed those that can be discerned and evaluated using credible analyses. For instance, the emission of carbon dioxide into the atmosphere is not an impact. The impacts would be if altered weather patterns and sea level rise if they resulted from the accumulation of carbon dioxide, and other GHGs, in the atmosphere over the course of long time periods. However, the degree of emissions required to cause those impacts is vastly greater than the emissions that can be attributed to this project, even if you incorrectly assume that exported coal will result in incremental new emissions, rather than simply displacing coal that is already available from other sources. Climate change impacts, such as ocean acidification and temperature increases, cannot be attributed to this project because there will be no discernible climate change effect from this project. Emissions from use of the coal exported across this terminal, even if assumed to be incrementally new emissions, are simply too small in comparison to the emissions over long time periods required to change the global climate in measurable ways. (3838)

### Response to GHG-20

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Climate Change Analysis Approach*.

# Comment GHG-21

In addition, the analysis of greenhouse gas emissions in this DEIS does not include emissions from future coal extraction in the Powder River Basin and the Uinta Basin" as a cumulative impact. SEPA requires an adequate discussion of a project's cumulative impacts. Because the DEIS does not reveal or evaluate the global warming impacts of consuming the energy needed to extract the coal without which this project would have no purpose, the DEIS is inadequate. (3429)

## Response to GHG-21

Refer to Response to GHG-3.

# Comment GHG-22

SOCIAL COSTS DUE TO THE CARBON EMISSIONS ARE OBSCURED Using as an example the 37.6 million tons of carbon dioxide equivalents [CO2e] emitted under the 2015 Energy Policy Scenario*, and the U.S. government's mid-range estimate of the inclusive social costs that will be paid for every ton of CO2e emitted [$70.00**], the unacknowledged costs of this project would be $2.6 Billion. Under different scenarios and cost calculations, this hidden tax could be more than twice as much. (1157)

## Response to GHG-22

SEPA Rules do not require that an EIS analyze the economic or social policy impacts of an action (WAC 197-11-448) or contain a cost-benefit analysis (WAC 197-11-450 and 197-11-762). Refer to the Master Response for Purpose and Focus of the EIS for a list of the resources addressed in the EIS, an explanation of the basis for the EIS scope and focus, and a discussion of how the Final EIS will be used, along with other information, by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

# Comment GHG-23

While the DEIS seeks to calculate the quantity of GHGs associated with this project, it makes little or no effort to discuss the implications of additional GHG pollution. At one time, such an oversight was understandable, because there were few useful tools available to do so. That is no longer the case. The social cost of carbon is a tool for assessing the costs of carbon pollution that was created by an interagency working group in 2010 consisting of scientific and economic experts from a dozen federal agencies and offices, including EPA and the Departments of Agriculture, Commerce, Energy, Transportation, and the Treasury.19 The working group's primary goal was to help federal agencies engaged in rulemaking to quantify the economic benefit of federal actions that reduce CO2 emissions. The result of their efforts was the social cost of carbon – a schedule of estimates of the global economic harm caused by each ton of emissions in a given year, expressed as $/ton.20 These values encompass damages from decreased agricultural productivity as a result of drought, human health effects, and property damage from increased flooding, among other factors.21

In a recent case arising under NEPA, a U.S. District Court rejected an EIS for a coal mine because it failed to incorporate the social cost of carbon into its GHG analysis. The court rejected older cases that upheld agency action without calculation of the economic impacts of GHG pollution because no tool existed at the time of those cases:

I am not persuaded by these cases, or by anything in the record, that it is reasonable completely to ignore a tool in which an interagency group of experts invested time and expertise. Common sense tells me that quantifying the effect of greenhouse gases in dollar terms is difficult at best. The critical importance of the subject, however, tells me that a "hard look" has to include a "hard look" at whether this tool, however imprecise it might be, would contribute to a more informed assessment of the impacts than if it were simply ignored.22

Scientific reviews have concluded that the interagency social cost of carbon estimates do not account for, or poorly quantifies, certain impacts, suggesting that the estimated values are conservative and should be viewed as a lower bound. For example, one study identified that damages such as "increases in forced migration, social and political conflict, and violence; weather variability and extreme weather events; and declining growth rates" are either missing or poorly quantified in SCC models.23 Another concluded that the 2010 Interagency social cost of carbon "omits many of the biggest risks associated with climate change, and downplays the impact of current emissions on future generations," and suggested that the social cost of carbon should be almost $900 per ton of carbon.24 Virtually all commentators have concluded that the current federal guidance understates the true cost of GHG pollution, and any use of the tool should disclose as much.

While acknowledging these factors, the FEIS should calculate the range of potential economic costs of the project's potential GHG emissions using the social cost of carbon. EPA guidance has calculated a range of potential per-ton costs of between $13 and $137, depending on the discount rate used, while also acknowledging that the IPCC has found that it is "very likely" that SCC underestimates the economic damages. Even so, application of these figures to the GHG estimates associated with exporting 44 million metric tons/year of coal reveals the staggering costs associated with this project—even at the low end, the costs are many hundreds of millions of dollars per year, while at the high end, costs are in the multiple billions. While an imperfect tool (mostly because it underestimates costs), it would help the public grasp just how grave the impacts of this project are. We ask that the FEIS include a cost analysis using the social cost of carbon method. (3277)

### Response to GHG-23

Refer to Response to GHG-22.

## Comment GHG-24

In this DEIS, the Washington State Department of Ecology and Cowlitz County fail to take into account the social cost of carbon. Under the leadership of the Office of Management and Budget (OMB), the social cost of carbon was developed by a dozen federal agencies and offices in 2010 (and updated in 2014); it is the best existing tool to help agencies and the public make decisions regarding projects that impact the climate. The social cost of carbon estimates the global financial cost of each ton of extra carbon pollution in the atmosphere and seeks to incorporate impacts as diverse as drought, fire, diminished agricultural productivity, and more. The social cost of carbon is backed by years of peer-reviewed scientific and economic research and has already been used by agencies in both rulemaking and project-level NEPA [National Environmental Policy Act] review.

In June 2014, a U.S. District Court ruled against the federal government in High Country Conservation Advocates, et al. v. U.S. Forest Service, et al. citing, among other things, its failure to analyze the social cost of carbon. After this decision, and in response to a letter from more than two dozen conservation organizations, the U.S. Department of Agriculture affirmed that the social cost of

carbon is an "appropriate tool for measuring and disclosing the social and economic implications" of federal coal leasing decisions. The Washington State Department of Ecology and Cowlitz County's failure to examine the social cost of carbon associated with the Proposed Action is a significant deficiency and makes the GHG analysis of this DEIS inadequate. (2504)

### Response to GHG-24

Refer to Response to GHG-22.

## Comment GHG-25

Second, the social cost of carbon dioxide emissions are obscured. Using, as an example, the carbon dioxide equivalency emitted under the preferred scenario and the U.S. government's midrange estimate of the influence and social cost that will be paid for every ton of carbon dioxide that's emitted. (TRANS-SPOKANE-M1-00048)

### Response to GHG-25

Refer to Response to GHG-22.

## Comment GHG-26

Why isn't the federal government's social cost of carbon being used to evaluate the impact or the greenhouse gas emissions of the proposed Millennium Bulk Terminals? The social cost of carbon has multiple discount rates. The higher the rate, the less value placed on impacts on future generations. Climate instability, sea level rise, and ocean acidification pose a greater threat to future generations than to us. While this places the moral imperative on us to act responsibly, clearly a low discount rate is more appropriate when calculating costs borne by future generations. I ask that the Department of Ecology adopt the social cost of carbon for the project's final environmental impact statement and use a low discount rate to determine the cost of the Millennium Bulk Terminals' greenhouse gas emissions. (TRANS-LV-Q2-00026)

### Response to GHG-26

Refer to Response to GHG-22.

## Comment GHG-27

The GHG analysis includes estimates for GHG emissions on an annual basis, and as "total." However, the analysis is based on a highly unrealistic set of assumptions that understates the true total GHG impact of this project. Specifically, the analysis looks at a time scale of 2018 to 2038, with full operations not occurring (due to a multi-year ramp-up) until 2028. Technical Report at 2-13. In other words, the analysis only assumes that this project will be operating at full capacity for 11 years. This assumption is highly unrealistic—no company would invest $700 million for an infrastructure project with that short a lifetime. A typical lifetime for such a project is closer to 50 years. Annual emissions provide a more than adequate basis to consider and compare the emissions of this project, and "total" emissions should be based either on an expected lifetime of 50 years, or omitted altogether. (3277)

## Response to GHG-27

As stated in the Final EIS Chapter 5, Section 5.0, *Introduction*, the impacts identified for 2028 would be similar to the impacts for the lifetime of the Proposed Action and proposed mitigation measures are intended to apply for the lifetime of the Proposed Action. Final EIS Chapter 5, Section 5.8.1, *Greenhouse Gas Emissions*, has been revised to include estimated greenhouse gas emissions for initial and full operations.

# Comment GHG-28

The FEIS should estimate GHG emissions on the basis of an estimated 50-year lifetime of the project. Specifically, the analysis looks at a time scale of 2018 to 2038, with full operations not occurring (due to a multi-year ramp up) until 2028. (Technical report at 2-13.) In other words, the analysis only assumes that this project will be operating at full capacity for 11 years. (3327)

## Response to GHG-28

Refer to Response to GHG-27.

# Comment GHG-29

In particular, the DEIS does not adequately inform the decision-makers of the project's significant contribution to climate disruption.

Our civilization has acquired a potentially fatal addiction to fossil fuel consumption. The proposed action is designed and intended to enable that addiction. The coal export terminal is designed for a "minimum 30-year period of operation," exporting 44M metric tons of coal per year, to be burned on the far side of the Pacific. Over the course of 30 years, this totals 1.32 billion tons of coal. Even worse, the impacts of this operation will necessarily include the fuel burned by countless coal trains, and the noxious bunker fuel burned by 840 bulk cargo vessels per year, each making a 9,000 nautical mile round-trip.

But the DEIS does not adequately consider the adverse environmental impacts of 30 years of emissions from coal trains, from ocean-crossing vessels, and from burning the exported coal. Instead, the DEIS arbitrarily considers only the transportation and fossil fuel combustion emissions resulting from operations from 2018 through 2038. Worse, during nearly half of the evaluated time period, the facility will be operating at much less than full capacity. As a result, the analysis only considers ten years of full-capacity impacts -well under half of the 30-year total. But even this analysis is flawed: in Chapter 5, the DEIS designates 2028 as 11 the first year of full export capacity operation for the coal export terminal." However, this statement is contradicted twice in the "*SEPA Coal Market Assessment Technical Report*,11 which states on pages 4-4 and 6-1 that the terminal will start exporting 44 MMT bf coal in 2025. (3429)

## Response to GHG-29

Refer to Response to GHG-27.

The coal market assessment modeling was performed in multiple-year increments, including 2016, 2018, 2020, 2025, 2030, and 2040. Therefore, since 2028 is not modeled, 2025 is initially modeled to include all 44 million metric tons of coal in 2025. The coal throughput is then scaled down to 25

million metric tons, and the model outputs, such as greenhouse gas emissions, are also scaled down proportionately. The years between 2025 and 2030 are then interpolated to develop annual results. The Final EIS clarifies these details regarding the time series.

# Comment GHG-30

The DEIS uses misleading and obsolete information. The DEIS (page 5.8-2) states the warming potential of methane to be 25 times that of C02. It cites the Environmental Protection Agency and the International Panel Climate Change as key sources (page 5.8-5). But note: the Environmental Protection Agency's actual language in 2015 is "more than 25X that of C02" [Footnote 1: https://yosemite.epa.gov/opa/admpress.nsf/0/E5F2425E2E668A2B85257EA5005176FA] [This is like saying, "Tucson, Arizona (with a population just over 1 million} and Tokyo, Japan (with a population of about 38 million) both have populations of more than 1 million".] As for the International Panel Climate Change, in 2015, it states that methane is 34 times stronger a heat-trapping gas than C02 over a 100-year time scale. [Footnote 2: http://www.climatechange2013.org/images/uploads/WGIAR5 _ WGl-12Doc2b_Fina1Draft_All.pdf]

The DEIS's 100-year timeframe for impacts of climate change is too long. The International Panel Climate Change states that '"The choice of time horizon is a value judgment." Applying the more relevant 20-year time frame, the International Panel Climate Change states that greenhouse gas impact of methane is 86 times that of C02. This is a far cry from the 25 times figure used in the DEIS. (2246

## Response to GHG-30

The use of 100-year GWP factors is based on the reporting standards set by the United Nations Framework Convention on Climate Change (UNFCCC). The United States and other developed countries of the UNFCCC have agreed to submit annual inventories in 2016, and future years to the UNFCCC using the 100-year GWP values from the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4). EPA follows this guidance in generating the national greenhouse gas inventory (U.S. Environmental Protection Agency 2016). Using the AR4 100-year GWPs in the EIS is consistent with the practice of the UNFCCC, provides greenhouse gas data consistent with other corporate, national, and subnational reporting.

# Comment GHG-31

It is becoming increasingly clear that carbon is not only stored in terrestrial systems but can also be stored in marine and aquatic sediments and associated marine and aquatic ecosystems. The draft EIS considers the impact of "Vegetation and soil removal" in its estimate of greenhouse emissions from construction, operation, and transportation in Cowlitz County in section 5.8.1.5. The EIS should also consider the potential greenhouse emissions that could arise from the proposed removal of 500,000 cubic yards of sediment and proposed annual dredging. (2691)

## Response to GHG-31

According to the Dredged Material Management Program Suitability Determination prepared for the existing bulk product terminal (Dredged Material Management Program 2016), chemical analysis results indicate that total organic carbon makes up 0.271% of the sediment. The *SEPA Greenhouse Gas Emissions Technical Report*, has been revised to discuss that the 500,000 cubic yards of sediment

equates to potential greenhouse gas emissions from the carbon contained in the sediment of 3,838 metric tons of $CO_2e$. In addition, annual maintenance dredging removing up to 100,000 cubic yards of sediment equates to potential greenhouse gas emissions from the carbon contained in the sediment of 768 metric tons of $CO_2e$.

Dredge material disposal would be determined through the permitting process. While the Proposed Action describes flow-lane disposal in the Columbia River for dredged material, it could be used upland for preloading stockpile areas. For the dredge disposal options, it is not known how much of the organic carbon contained in the sediment would be exposed to the air, oxidized, and emitted as carbon dioxide (once the material is deposited in the flow lane, it would not be exposed to air and would not emit carbon dioxide). The estimates assume the total potential loss of sediment carbon. If sediment is managed through flow-lane disposal, the sediment carbon emissions associated with dredging during terminal construction and annual maintenance would be less than estimated above. Additionally, Final EIS Chapter 5, Section 5.8.1, *Greenhouse Gas Emissions*, has been revised to include emissions associated with dredging equipment in the emissions estimate for the Proposed Action.

# Comment GHG-32

I object to the conclusions of this EIS. Specifically: 1. Climate change a. the emissions from rail and ship transport will add dramatically to carbon emissions, with predictable and costly impacts to sea level rise and climate change. (0175)

## Response to GHG-32

Draft EIS Chapter 5, Section 5.8.1, *Greenhouse Gas Emissions*, quantified greenhouse gas emissions associated with the Proposed Action. The analysis included emissions from rail and vessel transport attributable to the Proposed Action. Draft EIS Chapter 5, Section 5.8.2, *Climate Change*, addressed climate change impacts within the project area.

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Climate Change Analysis Approach*.

# Comment GHG-33

The Draft EIS does not identify or sufficiently demonstrate any adverse climate change impacts on Washington State attributable to the Project. In fact, the Draft EIS is largely silent on this issue, and forms its conclusions principally based on the Project's GHG emissions. The Draft EIS concludes that the GHG emissions are significant impacts; however these conclusions are unsubstantiated and unreliable, for the following reasons:

i. The Draft EIS does not identify and describe the nature of the stated impacts, including:

- How the GHG emissions themselves are considered impacts?
- What the actual impacts are – in what shape or form are these impacts manifesting themselves?
- The specific effects these impacts would cause on Washington State.

ii. The Draft EIS offers no evidence or supporting logic as to how it has established the causation link between the Project's GHG emissions and the supposed impacts. The Draft EIS uses inapplicable

regulatory thresholds as a basis for determining the significance of the GHG emissions, but this is unlinked to impacts.

iii. The Draft EIS's conclusions are contradictory. Section 5.8.2.5 of the Draft EIS determines that climate change impacts on the No-Action Alternative would be the same as those on the Project. This implies that climate change effects are the same irrespective of the operation of the Project.

iv. Where future potential climate change effects in Washington State are described in the Draft EIS (in section 5.8.2), there is no linkage of these effects to the Project. The Draft EIS presents this commentary with no specific statement or conclusion that these climate change effects are due to, or in part attributable to, the Project. In fact, section 5.8.2 references publications and information sources that pre-date the Draft EIS and is specifically focused on assessing the future climate change effects on the Project, rather than assessing the effects from the Project. (3070)

## Response to GHG-33

The increase of greenhouse gas emissions in the atmosphere has been determined to pose risks to human and natural systems (Intergovernmental Panel on Climate Change 2014). The 2016 CEQ greenhouse gas guidance stated, "It is now well established that rising global atmospheric greenhouse gas emission concentrations are significantly affecting the Earth's climate." (Council on Environmental Quality 2016). The guidance recommended agencies use projected greenhouse gas emissions as a proxy for assessing potential climate change effects for environmental reviews. It also recommended that agencies quantify projected "direct and indirect greenhouse gas emissions, taking into account available data and greenhouse gas quantification tools that are suitable."

The net increase in greenhouse gas emissions from the Proposed Action identified in Final EIS Chapter 5, Section 5.8.1, *Greenhouse Gas Emissions*, would increase the risk and magnitude of projected climate change impacts. The potential climate change impacts that would affect Cowlitz County and Washington State are described in Final EIS Section 5.8.2, *Climate Change Impacts on the Proposed Action*.

Draft EIS Chapter 5, Section 5.8.1, *Greenhouse Gas Emissions*, addressed quantifying greenhouse gas emissions associated with the Proposed Action and identified potential mitigation measures for Proposed Action-related greenhouse gas emissions. Draft EIS Chapter 5, Section 5.8.2, *Climate Change*, referred to climate change impacts that could affect the project area. Section 5.8.2 addressed climate change impacts within the project area and determined that such impacts are not significant and mitigation was not proposed. The proposed mitigation measures are not contradictory because they address different potential impacts of the Proposed Action.

Final EIS Chapter 5, Section 5.8.2, *Climate Change Impacts on the Proposed Action*, has been revised with additional data to clarify.

- The potential impacts on the Proposed Action as a result of climate change.
- The potential impacts of climate change on other local resource areas (e.g., water quality, air quality, vegetation, wildlife) to determine if climate change could affect resources in the EIS study areas.

Thus, the purpose of the climate change analysis is not to attribute or link particular climate change impacts to the Proposed Action. As the commenter notes, the analysis is intended to identify how climate change would affect the Proposed Action.

# Comment GHG-34

Tools are available to assist in how to disclose and assess the GHG footprint of major fossil fuel infrastructure investments like this one. A discussion brief from the Stockholm Environment Institute discusses three different approaches to analyzing these impacts. One of them—simply disclosing the full impact of combusting the fuel that travels through the infrastructure—is discussed further below. Another framework, which the authors label the "political economics" approach, should receive greater attention in the FEIS:

Finally, none of the approaches address what may be one of the most significant emissions impacts: how the development of further fossil infrastructure might further contribute to social or political norms, risk reduction, or economies of scale for fossil-based infrastructure that further contribute to its lock-in (or other fuels' or technologies' lock-out).

For example, implementation of a major new fossil fuel infrastructure project (such as development of rail infrastructure to enable development of a coal deposit in Mongolia) may create local interests and political forces that lead to further, similar developments in the future (such as development of additional coal deposits). In contrast, decisions not to implement the same project could lead other alternative energy supply industries (e.g., solar energy in the Gobi desert) to flourish and "lock in" or strengthen political momentum in the opposite direction.

Focusing solely on marginal impacts of single investments can disguise larger, systemic changes and path dependencies. Therefore, in addition to those outlined above, a fourth perspective, that of a political economist, is important to consider as well, though it is less likely than the other three to yield a quantifiable result. This political economist might look at the political consequences of proceeding or not proceeding with a fossil fuel infrastructure project – and of the rationale for such a decision – and how climate policies or the investment actions of other major players might be influenced.

The DEIS does little or nothing to disclose these kinds of potential impacts. For example, to what extent does authorizing the Longview coal terminal "lock in" additional coal reliance because it "uses up finite capital," "contributes to social or political norms for fossil fuels," "builds in redundancy of supply that helps to increase investor confidence in the long-term prospects" of coal, or "contributes to economies of scale for fossil fuel processing technologies"? To what extent will providing a secure, low-cost source of PRB coal influence long-term investment decisions in Asia? While difficult to define quantitatively, these may well be the most significant and salient consequences of opening up the West Coast of the United States to exporting coal. However, they are not explored at all in the DEIS. This defect must be remedied. (3277)

## Response to GHG-34

The Final EIS analyzes the greenhouse gas emissions of the Proposed Action consistent with the CEQ 2016 guidance on considering greenhouse gas emissions and the effects of climate change.

Refer to the Master Response for Purpose and Focus of the EIS for a list of the resources addressed in the EIS, an explanation of the basis for the EIS scope and focus, and a discussion of how the Final EIS will be used, along with other information, by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

# Comment GHG-35

Finally, Wyoming strongly disagrees that the DEIS reference to life-cycle carbon emissions is warranted. Further, as highlighted in the DEIS, greenhouse gas emissions outside Cowlitz County, once the project becomes operational, would be driven primarily by coal combustion in Asia and the United States. Within the coming years, as clean coal technology continues to develop, it cannot be said with any certainty how many metric tons of CO2e will be released. The DEIS compares this to the equivalent of adding 672,100 passenger cars on the road each year. The DEIS concludes that projected greenhouse gas emissions would be significant and unavoidable.

Wyoming has several concerns about this analysis. First, this type of analysis should have no bearing on this project itself and in fact, could set a sweeping precedent for other products exported out of the state. Jets and airplanes, for example, have significant lifetime carbon emissions that Washington should analyze under this precedent. Second, the national conversation about climate change ignores potential benefits of a warmer climate, such as increased CO2 and precipitation would increase biomass by 40 percent. Finally, climate change advocates argue that as global warming increases temperatures, more people will die in heat waves. Such arguments never mention how a warmer climate will result in significantly less cold-related deaths. Only mentioning the negative aspects of climate change distorts the DEIS and should the co-lead agencies decide to continue its discussion about potential climate change impacts, it may wish to consider both sides of this already highly politicized argument. Wyoming, by contrast, would recommend only including a discussion about greenhouse gas emissions resulting from the construction and operations of the Proposed Action. (2586)

## Response to GHG-35

Draft EIS Chapter 5, Section 5.8.2, *Climate Change*, analyzed the potential adverse impacts of climate change on the Proposed Action and the potential impacts of climate change on other environmental resources (e.g., water quality, air quality, vegetation, wildlife). Although climate change could result in certain beneficial impacts, these would not adversely affect the Proposed Action; therefore, these impacts are not discussed. Refer to the Master Response for Purpose and Focus of the EIS for additional description of SEPA requirements for environmental reviews.

# Comment GHG-36

Although the Draft EIS identifies this project as a huge source of greenhouse gas emissions, it greatly underestimates the total impact. Emissions from the coal shipped to the terminal would total approximately 90 million tons per year. That's roughly equivalent to the total greenhouse gas emissions from all sources in Washington state, which are approximately two million tons a year. The Draft EIS uses complex econometric modeling to estimate the terminal's impact on Asian coal consumption. This analysis is speculative and can yield wildly varying conclusions depending on the assumptions. The EIS should clear disclose the only thing we know for certain are the actual emissions of the coal shipped through the terminal, 90 million tons. (TRANS-LV-M1-00071)

## Response to GHG-36

Final EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, discloses total downstream combustion emissions from the maximum throughput of Proposed Action coal (approximately 90 million tons of $CO_2e$ per year). However, as explained in the EIS, not all of the

emissions are attributable to the Proposed Action because some of the coal being shipped from the coal export terminal could displace other coal shipped from other areas and change transportation pathways. The *SEPA Coal Market Assessment Technical Report* addresses this likelihood by considering the potential effects of the Proposed Action on the global energy market and presents associated emissions under scenarios representing a wide range of possible future market states. Section 5.8 and the *SEPA Greenhouse Gas Emissions Technical Report* present greenhouse gas emissions related to these scenarios.

Refer to the Master Response for the Coal Market Assessment for information on the analysis model, data sources, scenarios considered, and conclusions related to impacts of the Proposed Action on U.S. and international coal markets.

# Comment GHG-37

Finally I agree with her request of the agencies to "do a rigorous cumulative analysis of CO2 emissions from the GPT as well as the four other coal export terminals that are being proposed in Washington and Oregon. What would be the overall climate change effects due to burning approximately 150 million tons of coal over the life of the proposed export terminals?" (3426)

## Response to GHG-37

Draft EIS Chapter 6, *Cumulative Impacts*, assessed the potential GHG emissions from the Proposed Action and six planned coal export terminal proposals. Final EIS Chapter 6, *Cumulative Impacts*, has been revised to remove the planned Coyote Island/Morrow Point export terminal because this permit application has been withdrawn. The cumulative impact of the other coal export terminals, other than the Proposed Action, was limited to the coal terminals' ability to influence coal supplies and prices, and therefore, GHG emissions. Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Climate Change Analysis Approach*.

# Comment GHG-38

Broadly, in permitting activities, agencies are required to evaluate an activity for the entirety of what it is, not as compared to some imaginary other circumstance that may or may not occur. This particular coal, if shipped to Asia to be burned, will create the pollutants. If not, then those pollutant emissions will not occur at that place and time. Therefore the full effects should be considered. (3426)

## Response to GHG-38

Refer to Response to GHG-37.

# Comment GHG-39

Due to the gross inaccuracies of the modeling in this report, the GHG emissions are also unusable and must be redone. (3408)

## Response to GHG-39

Refer to Response to GHG-37.

# Comment GHG-40

In this Draft EIS, the impact analysis has ventured far beyond the proper limits of SEPA impact analysis. Portions of the Draft EIS evaluate potential impacts that (a) are not proximately caused by the Project; (b) are not "likely or reasonably likely to occur'' or speculative, and may not happen at all; and (c) may happen whether or not the proposed Project goes forward. In these instances, the Draft EIS did not include an adequate disclosure of substantial uncertainty in the studies. The inclusion of potential mitigation measures for impacts that are not proximately caused by the Project invites the agencies to exceed their regulatory authority.

This is particularly evident in the unprecedented scope of Ecology's attempt to review greenhouse gas (GHG) emissions from the use of a commodity, and the use of the statewide rail system to deliver goods, products or a commodity to a port terminal. The Draft EIS makes conclusions about impacts without disclosing the substantial uncertainty that exists in its study of those impacts. For instance, this Draft EIS identifies GHG emissions occurring outside of the State of Washington, on the other side of the Pacific Ocean, as an offsite unavoidable and significant indirect impact. To arrive at this conclusion, Ecology has undertaken a novel and unprecedented analysis of emissions based primarily on speculation and inconsistent assumptions. In the GHG emissions analysis, as well as the vessel, rail transportation, and rail safety sections (all of which are discussed in greater detail in the Comment Letter, as well as in this appendix), the Draft EIS violates the SEPA threshold analytical requirements of causation by attributing impacts to the Project that are not proximately caused by the Project, and that are remote and speculative. The Draft EIS analysis of GHG emissions and climate change impacts is extraordinarily speculative and is based primarily on an analysis that simply stacks a series of assumptions on top of one another to reach a result for each of the four coal market model scenarios that is the basis of the GHG emissions analysis. Each of these scenarios, independently and especially if evaluated together given their divergent predictions, reveal the inability to forecast long-term changes in commodity and energy markets, and, in particular, global commodity markets, with the degree of precision required for impact analysis under SEPA. No amount of coal-market analysis can be done that would discern a level of incremental new-coal combustion emissions caused by the Project with sufficient certainty to justify the imposition of mitigation requirements. (3070)

## Response to GHG-40

The Master Response for Geographic Study Areas of the EIS explains the rationale for assessing potential greenhouse gas emissions from the Proposed Action. Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Setting a Precedent* and *Proposed Mitigation Measures*.

# Comment GHG-41

Using the “preferred 2015 Energy Policy scenario” (which assumes timely effective implementation and continuation of international agreements and federal and state energy policies – assumptions that may or may not prove reliable), the DEIS ratchets down the annual emissions of CO2e upon full operation of the MBTL project from 90 MMT annually to an estimated net annual emissions of 3.2 MMT in 2028 (DEIS Table 5.8-8). Thus, the preferred “specialized computer model” dispels nearly 87% of actual annual emissions upon full operation in 2028. And it ratchets down annual net emissions for full operations over a 10-year period (2028-2038) from 900 MMT to 27.855 MMT.

(DEIS Table 5.8-.9). Thus, the "specialized computer model" also dispels over 99% of actual emissions over the 10-year period. Then, putting the emissions in "context" the DEIS concludes that the "average annual net missions from the Proposed Action at full operation would be approximately 2.8% (i.e., 2.5 MMT of CO2e annually) of the downstream combustion emissions from the coal that passes through the coal export terminal." DEIS 5.8-22. This dismisses over 99% of the likely annual emissions at full operation. These results do not make common sense given the fact that the project would produce 90 MMT of CO2e annually upon full operation. While generation of conflicting market analyses and speculation about future GHG emissions policies may characterize, describe, and depict a scenario for GHG emissions from this project, minimizing the picture of these emissions does nothing to prevent or mitigate the actual emissions. The EIS must present a realistic and credible GHG emissions analysis starting with the fact that at full buildout the project would transport 44 MMT of coal annually burned in Asia to produce over 90 MMT of CO2e annually. (2589)

## Response to GHG-41

Refer to Response to GHG-37.

# Comment GHG-42

Buried in the middle of the DEIS with little emphasis is perhaps the single most significant number in the entire document: 90 million tons of CO2/year, which is the combustion GHG impact of the 44 million metric tons of coal that would come through the facility. DEIS 5.8-22. 90 million tons of CO2 roughly equals Washington State's entire GHG emissions from all sources. While we agree that it may be appropriate to consider how these ultimate downstream emissions are reduced by displacement of other coal sources and the like, these market impacts are subject to a number of assumptions and unknowns that make accurate predictions challenging. While we have endeavored to provide the Co-leads with additional information to make these predictions as accurately as possible, it will be difficult to assess them with certainty.

Accordingly, we feel the appropriate approach is to start with the certain GHG emissions, which include the 90 million tons of CO2 associated with 44 million metric tons of coal, and then offer some different scenarios which could theoretically offset that. This is an approach that has been taken in other EISs for fossil fuel transportation projects. For example, in the Tesoro-Savage DEIS, the full life-cycle emissions are provided and placed in context of the state's total emissions, while the potential reduction in that amount is provided in a more qualitative fashion. While we have concerns about the overall GHG analysis in that DEIS as well, we think that the Co-leads should fully disclose the full life-cycle emissions of this project, in the context of Washington State's total emissions, before embarking on the more uncertain task of assessing international coal market responses. Indeed, the DEIS seems to minimize the impacts of the project by finding that the average net emissions constitute only 2.8% of the total potential emissions. DEIS 5.8-22. What it does not disclose is that the 90 million tons of CO2 is certain—the 44 million metric tons of coal to be moved through that project will serve one and only one purpose, which is combustion in Asian power plants. The 97.2% reduction in that quantity proposed in the DEIS is based on a host of assumptions, speculations, and hopes. The Co-leads should be clearer with the public on the potential impacts. (3277)

## Response to GHG-42

Refer to Response to GHG-37.

# Comment GHG-43

Your Final EIS should identify conflicts with national and international needs and goals to transition off fossil fuels to totally renewable energy resources. It should also include an alternative assessment such as exporting solar, wind or tidal energy generation would compare with that in terms of meeting urgent needs to reduce climate impacts. SEPA legislation stresses need to support international efforts. See: SEPA Legislation RCW 43.21C.030 (Guidelines for state agencies, local governments—Statements—Reports—Advice —Information) states: " (f) Recognize the worldwide and long-range character of environmental problems and, where consistent with state policy, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of the world environment;".

How does this coal export facility proposal fit with goals of last December's International Climate agreement to keep temperatures to no more than 1.5 degrees Celsius? (0364)

## Response to GHG-43

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. The Final EIS has been revised to improve clarity and no longer includes the section on emissions in context. The analysis of an alternative related to solar, wind, or tidal energy generation is outside the scope of the EIS. As noted in the Master Response for Project Objectives, the Proposed Action is a private project; as such, the objectives and proposal are defined by the Applicant. Refer to the Master Response for Alternatives for an explanation of the requirements related to alternatives in a SEPA EIS. Furthermore, an analysis of national and international energy policy is outside the scope of the EIS. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

# Comment GHG-44

Both state and federal governments are developing standards for carbon dioxide emissions to combat climate change. The DEIS needs to address the effect that carbon dioxide emissions from this project will have. (1929)

## Response to GHG-44

Refer to the Master Response for Greenhouse Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. The Final EIS has been revised for clarity and no longer includes the section on emissions in context.

# Comment GHG-45

A consensus is building among climate scientists and policy makers that limiting global warming to 1.5 degrees C. rather than 2 degrees is necessary to prevent rising sea levels from driving millions of refugees off vulnerable sea coasts and islands. The EIS should acknowledge the significance of the 1.5 degree goal and address whether Millennium's emissions and/or mitigations must be adjusted to help the state contribute to reaching that goal. (2518)

### Response to GHG-45

Refer to the Master Response for Greenhouse Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. The Final EIS has been revised for clarity and no longer includes the section on emissions in context.

## Comment GHG-46

Furthermore, approving this project would be inconsistent with Washington State's recently passed clean energy and fossil fuel transition policies. (2537)

### Response to GHG-46

Refer to the Master Response for Greenhouse Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. The Final EIS has been revised for clarity and no longer includes the section on emissions in context.

## Comment GHG-47

Please revise this draft to demonstrate how, if it is possible, this proposal can be reconciled with prompt reduction of global atmospheric greenhouse gases to 350 ppm CO2e, the level climate scientists say would give us a reasonable chance of avoiding catastrophic global effects. Total CO2 in the first half of the 21st century has to be kept below 750 billion metric tons to give us only a 75 percent chance of avoiding global warming of 2 degrees Celsius or more. How can we reconcile this proposal with that requirement? (2559)

### Response to GHG-47

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. The Final EIS has been revised for clarity and no longer includes the section on emissions in context.

## Comment GHG-48

Climate Change. Increases in C02 from burning coal in Asia via the Proposed Action will contribute to climate change globally and locally. According to the DEIS, greenhouse gas emissions from the Proposed Action would exceed various national and state thresholds; the emissions would persist beyond the proposed analysis and would be considered permanent (Summary p.39). The DEIS states that mitigation measures "must achieve emission reductions that are real, permanent, enforceable, verifiable and additional. They may occur... outside of Washington State but must meet all five criteria." Emissions remaining after mitigation measures "would be significant and unavoidable, as described in Section S.7" (Summary, Table S.2, p. 58). Climate change "is global in nature" (Summary p.39}, and Washington and Montana are already experiencing extreme heat and precipitation events, wildfire seasons that start earlier and end later, droughts (Chapter 5, Sec. 6.8, p.9), shorter winters with higher night-time lows, and opportunistic species (pine beetles, leafy spurge, etc.) that thrive and in some cases increase pollen counts. The Proposed Action supports infrastructure for burning coal for another 30 years and is antithetical to the December 2015 Paris agreement made by 195 nations to seriously work to reduce the threats of climate change to the planet by reducing the burning of fossil fuels.

Comments: The DEIS should more thoroughly examine MBTL in light of domestic and international climate goals and evaluate the proposed project in light of the social cost of carbon. In addition to climate impacts, the DEIS should examine the long-term financial viability of the proposal, given economic and energy source changes occurring both within the United States and abroad. It is imprudent to make significant infrastructure investments as markets shift away from coal. (2497)

### Response to GHG-48

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. The Final EIS has been revised for clarity and no longer includes the section on emissions in context.

## Comment GHG-49

The rail and vessel emissions transporting 44 million tons of coal a year makes this project one of the biggest greenhouse gas emitters in the state of Washington. The DEIS shows that exporting significant volumes of coal will influence coal consumption decisions, leading to estimates as high as 27 million tons/year of net additional emissions. That's equivalent to over 7 new coal fired power plants. It would increase the state's existing total GHG emissions by around 30%. This is totally unacceptable. Approving this project would be contrary to clean energy and fossil fuel transition policies recently passed in Washington. (2745)

### Response to GHG-49

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. The Final EIS has been revised for clarity and no longer includes the section on emissions in context.

## Comment GHG-50

The Draft EIS also provides an “Emissions in Context” section. This notes that the emissions associated with the Project within Cowlitz County in 2028 are comparable to adding 8,100 passenger cars to the road each year and would be less than 0.05% of Washington State’s total annual emissions in 2012. Similarly, it also noted that the Project’s annual emissions in 2028 in Washington State would be less than 0.4% of the state’s total annual emissions in 2012. This approach through comparison is not providing any further context for understanding emissions, and may also be misleading in the absence of further discussion and context in relation to the selected comparison numbers. Some examples include:

- The comparison with number of cars in Cowlitz County is just a different surrogate representation of emissions, but it provides no meaning or understanding in terms of significance. No baseline is provided (such as current car levels in the County) or commentary on what threshold is being adopted as the basis for a significance determination.
- Comparing the emissions as a percentage of state emissions is misleading because the boundary conditions as to how state level emissions are determined will be different compared to the Draft EIS analysis.

- It is erroneous to compare projected 2028 emissions values to 2012 benchmarks, given the significant time difference and the fact that the situation and context for 2028 is not currently known.

In conclusion, the "Emissions in Context" section of the Draft EIS offers no substantive conclusions or additional context as to whether the Project will cause adverse environmental impacts. (3070)

### Response to GHG-50

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. The Final EIS has been revised for clarity and no longer includes the section on emissions in context.

## Comment GHG-51

It is also important to note that Washington's greenhouse gas emission reduction goals would be severely compromised, and likely impossible to meet, if the project were to be approved. According to RCW 70.235.020, Washington has set the goals of reducing GHG emissions to 1990 levels by 2020 and fifty percent below 1990 levels by 2050, which co-lead agency Ecology has admitted (in its December 2014 Report) do not reflect the current science and need to be updated. The DEIS does not explain how the project is consistent with these GHG reduction goals, and indeed, it is hard to imagine how Washington would be able to come close to meeting these goals if this export terminal, that would emit a tremendous amount of greenhouse gases (GHGs) (37.6 million metric tons of CO2e over 20 years), were approved. (3387)

### Response to GHG-51

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. The Final EIS has been revised for clarity and no longer includes the section on emissions in context.

## Comment GHG-52

Scientists agree that emission levels this decade will determine our fate and may push us beyond tipping points from which we cannot return. Time is of the essence. The DEIS does not explain how the cumulative GHG emissions from the proposed project, and the related projects that depend on it, will affect the state's response to the urgency of the crisis and the need to reduce emissions at sufficient levels to avoid unsafe levels of heating and further acidification of our oceans. (3387)

### Response to GHG-52

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. The Final EIS has been revised for clarity and no longer includes the section on emissions in context.

## Comment GHG-53

The DEIS states, "Washington State law requires annual greenhouse gas emissions to be reduced to 1990 levels (88.4 million metric tons ofC02e) by 2020 (Revised Code of Washington [RCW]

70.235.050). The Washington State goal represents an annual reduction of 3.6 million metric tons of C02e below the 2012 state emissions levels. The statewide annual emissions associated with the Proposed Action under the 2015 Energy Policy scenario is approximately 0.4 million metric ton of C02e and represents about 11% of the emissions reduction goal."

Please note that the DEIS text only discusses emission reduction obligations for 2020. However, the state is obligated to continue reducing over time, to 25% below 1990 levels by 2035, and to 5 below 1990 levels by 2050.

The DEIS statement that the Proposed Action represents 11% of the emissions goal is incorrect in two ways. First, it represents an increase of 11% at the 2020 mark (not 11% of the reduction goal). Second, because the State's emissions reduction obligation is progressive, the Proposed Action represents an increasing proportion of the state's carbon emissions over time. Please calculate this amount at relevant time steps throughout the life of the Proposed Project. (2691)

### Response to GHG-53

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. The Final EIS has been revised for clarity and no longer includes the section on emissions in context.

## Comment GHG-54

At the Pasco, WA, Millennium hearing, on June 2, 2016, he testified that allowing the terminal to be built and ship coal, it would be harder to meet the goals set by America at the Paris Climate Conference. Thus the coal shipped out would contribute to climate change when it is burned. The effect on climate should be emphasized in the EIS and ultimately the Millennium terminal given the “No Action” alternative. (3380)

### Response to GHG-54

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. The Final EIS has been revised for clarity and no longer includes the section on emissions in context.

## Comment GHG-55

The DEIS states that the proposed Millennium Bulk Terminals will in the emission of 27 million tons of CO2 per year running at full capacity. This could increase the Greenhouse gas footprint of Washington State almost 30%. The combustion of coal across the earth has been shown to have extreme effects on the Pacific Northwest climate by emitting greenhouse gasses. The impacts of this combustion on the Spokane River cannot be denied nor understated. Nor can these impacts be mitigated. The development of the proposed Millennium Bulk Coal Export Terminal will only exacerbate the effects of climate change that are already accelerating. (3280)

### Response to GHG-55

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. The Final EIS has been revised for clarity and no longer includes the section on emissions in context.

# Comment GHG-56

Using GHG emissions as a representation for climate risk is sometimes adopted in recognition of the complexity and uncertainty with trying to determine causation between GHG emissions and climate effects. The Draft Council on Environmental Quality (CEQ) guidance (CEQ 2014) recognizes this challenge and recommends using GHG emissions as a representation. However, the Draft CEQ Guidelines remain in draft form, and have not been legally adopted, and must therefore be acknowledged within this context. Furthermore, it is noted that the guidelines are not consistently applied by agencies on projects, and where they are used, differing interpretations have been applied.

The Draft EIS concludes that the GHG emissions attributable to the Project are significant, based on GHG thresholds from inapplicable regulations as follows:

- Draft Washington State Clean Air Rule.
- Draft CEQ Guidelines.
- United States Environmental Protection Agency's (U.S. EPA) Tailoring Rule (40 Code of Federal Regulations [CFR] Parts 51, 52, 70 et al.).

The Draft EIS states that "(t)hese standards provide guidance on assessing significance of various levels of greenhouse gas emissions" and concludes that the average annual amount of emissions for operations (broken down for initial and full operations)18 "….exceeds various intensity considerations that are proposed in federal and state regulations and guidance."19 In turn, the Draft EIS concludes that the "emissions attributable to operations of the Proposed Action (MBT-Longview) under the Energy Policy Scenario are considered adverse and significant."20

There are four primary concerns with the Draft EIS's approach to determining significance by using GHG emissions as a representation of risk and compared to thresholds, as follows:

1. The projected total net GHG emissions have been significantly overestimated

As noted in Section 4.1, the projected emissions are significantly overestimating the total net emissions attributed to the Project, and this level of overestimation could be as high as an order of magnitude. The scenarios evaluated and assumptions applied by the Draft EIS each provided a very different estimate for GHG values, making clear that there is great uncertainty in predicting a GHG value.

2. Inappropriate emissions thresholds

The Draft EIS assesses significance by comparing the average annual net emissions with the levels established by inapplicable federal and state regulations and guidance. Specifically, the draft Washington State Clean Air Rule establishes a compliance threshold of 100,000 metric tons of CO2e per year, the U.S. EPA's Tailoring Rule applies to facility sources that emit more than 75,000 short tons of CO2e per year, and the Draft CEQ Guidance identifies a threshold of 25,000 metric tons of CO2e per year. Use of these stated thresholds to determine significance is inappropriate because none were established from a risk or significance basis. Rather, they represent thresholds above which regulatory requirements are activated. In the case of the Draft CEQ guidance, the 25,000 metric tons of CO2e per year is provided as a reference point "for purposes of disclosure and not a substitute for an agency's determination of significance under NEPA". The Draft EIS's statement that the threshold standards provide guidance on assessing significance is incorrect.

3. Use of different emissions boundaries and criteria

The Draft EIS assessed the net lifecycle emissions associated with the Project against the regulations and guidance described above. Not only are these thresholds inapplicable, they also apply to different conditions and boundaries. For example, the Draft Washington State Clean Air Rule, which has been withdrawn and now reissued, is intended to apply only to certain sources in Washington State. The Project is not one of these sources. Similarly, the U.S. EPA Tailoring Rule also applies to facility-level emissions rather than lifecycle emissions.

In addition, the boundary conditions also vary. Both regulatory thresholds apply to direct GHG emissions within the facility boundary, whereas the Draft EIS GHG emissions include both direct (within the Project boundary) emissions and indirect emissions from rail and other transportation. This comparison approach is misleading, as it is not using a like-for-like basis.

4. Differing conclusions from other Washington State EISs

Environmental review of other similar projects in Washington State are reaching vastly different climate change conclusions, including project analyses prepared by the same consulting firm, ICF International. For example, both the Tongue River Railroad and Westway Expansion project draft EIS's offer starkly different approaches and conclusions to the GHG and climate change analysis without any evidence as to why.

In the case of Tongue River Railroad project, the determination of significance (using GHG emissions as a representation of risk) compared to the Draft EIS is contradictory when considering the stated order of magnitude of GHG emissions. The Draft EIS concludes that the emissions attributable to the Project are adverse and significant, for approximately 37.6 million metric tons of CO2e for the 2018-2038 period and an average annual net emissions, when fully operational, of 3.2 million metric tons of CO2e.22 Conversely, the Tongue River Draft EIS calculates net GHG emissions to range from a reduction of 1.7 million metric tons of CO2e to an increase of 81 million metric tons of CO2e and concludes that "…impacts from the net annual life-cycle emissions would range from a negligible positive impact to a minor adverse impact."23 The difference in magnitude of GHG emissions between the two projects is starkly different, but accompanied by apparently inverse significance conclusions.

For the Westway Expansion Project (Ecology 2015), a full lifecycle GHG analysis has not been performed because "Determination of the incremental increases in GHG emissions relative to the no-action alternative is complex and depends on numerous relatively unpredictable factors. The relative contribution of the proposed action to the net change in CO2 emissions would depend on whether the proposed action results in increased demand for crude oil or displaces other crude oil consumed by end users (which depends, in part, on the source and final destination for the oil), what type of crude oil is being transported (i.e., which emissions factors are used), and what the end use is (e.g., combustion versus development of other products)." In other words, the complexity and unpredictability of the market forces and lifecycle GHG emissions is used as a reason for not performing a full lifecycle analysis. Performing such an assessment would be too speculative. (3070)

## Response to GHG-56

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach* and *Greenhouse Gas Emissions Attributable to the Proposed Action*.

SEPA reviews are done on case-by-case basis. The co-leads determined the greenhouse gas approach was appropriate for the Proposed Action.

# Comment GHG-57

The Intergovernmental Panel on Climate Change unequivocally states that a substantial and ongoing reduction in greenhouse gas emissions is necessary to prevent further imbalances in earth's climate and subsequent climate-related disease and illnesses (McCoy & Hoskins, 2014). Many medical professionals and public health advocates, including our organizations, firmly invoke The Precautionary Principle in consideration of proposed coal export projects and this specific proposal by MBT.

The Precautionary Principle – a substantial component of public and environmental health practice – states: "should an activity raise threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relations are not fully established scientifically" (Wingspread Conference, 1998).

The proposed increase in mining, transport, storage, export, and burning of coal externalizes massive long-term threats to human, environmental, and economic health in favor of short-term financial incentives. MBT and other fossil fuel export projects in their totality pose significant risks to the health and livelihood of future generations and the viability of our planet. (3327)

## Response to GHG-57

Draft EIS Chapter 5, Section 5.8.1, *Greenhouse Gas Emissions*, estimated the potential greenhouse gas emissions attributable to the Proposed Action and identified potential measures to mitigate Proposed Action-related greenhouse gas emissions. For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

# Comment GHG-58

Beyond this, from Table 5.8-5 (page 5.8-14) of the Draft EIS for SEPA report it is projected that CO2e from Powder River Basin coal combustion in Asia could be as much as 27,047,892 MT (metric tons) per year. This is about.094% of the current annual CO2 increase rate in the atmosphere of about 2 ppm. Hence, burning this coal would increase the annual rate from 2 ppm to 2.0018 ppm. (So in 30 years if the total CO2 is 450 ppm, burning this coal would cause it to be 450.1 ppm.), which is obviously insignificant. This will have absolutely no impact on the climate. weather, or bordering seas of the state of Washington. (3788)

## Response to GHG-58

Draft EIS Chapter 5, Section 5.8.1, *Greenhouse Gas Emissions*, identified greenhouse gas intensity considerations (RCW 80.70, RCW 80.80, and WAC 173-442) and determined that the greenhouse gas emissions attributable to the Proposed Action, which are cumulative in nature, would constitute significant adverse environmental impacts.

# Comment GHG-59

Research showed that we need to leave now over 80% of available fossil fuels unburned for any hope of hitting the 2 degrees C global temperature rise that would be unacceptably disastrous. The International Energy Agency said in 2012 that we must not build ANY new fossil-fuel infrastructure anywhere after 2017 (or earlier, since warming exceeded predictions since 2012) to hope to meet 2 C. They also said Greenhouse Gas Emissions must peak and fall rapidly between 2017 and 2022. Did the DEIS deal with this honestly? No. You must. You must reject all fossil fuel infrastructure increases. Your job is to give us the best future possible and protect us from disaster, so you must continue the work of rejecting these exports that will annihilate us and their harm by rail. (3422)

## Response to GHG-59

An EIS is not permit decision for or against a proposal. Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used along with other information by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

Draft EIS Chapter 5, Section 5.8.1, *Greenhouse Gas Emissions*, estimated the potential greenhouse gas emissions associated with the Proposed Action and identified potential measures to mitigate Proposed Action-related greenhouse gas emissions.

# Comment GHG-60

It is important to put in perspective the projected 3.2 million metric tons of annual carbon dioxide equivalent (CO2eq) emissions in 2028 for the Proposed Action. These CO2eq emissions are nine one-thousandth of a percent (0.009%) of the global 35.6 billion metric tons projected by the Department of Energy (DOE) in the 2026 International Energy Outlook (IEO2016), and seven one-thousandth of a percent (0.007%) of the 2040 global CO2eq emission projection of 43.2 billion metric tons. The finding in the SEPA Draft Environmental Impact Statement (DEIS) that Proposed Action is an "Unavoidable and Significant Adverse Environmental Impact" concerning greenhouse gas emissions and climate change is substantially overstated given the extremely relative low amount of CO2eq emissions for the Proposed Action (0.007% and 0.009%) compared to the DOE projected total global CO2eq emissions. Therefore and based upon the extremely low percentage contribution to total global CO2eq emissions the SEPA DEIS finding of "Unavoidable and Significant Adverse Environmental Impact" is unwarranted. (3335)

## Response to GHG-60

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*.

# Comment GHG-61

In addition, there is no basis provided in the DEIS or the supporting documents to conclude that any net additional emissions from burning of coal in Asia emission during the time period of the project's operation, as a result of the project, would cause specific, adverse environmental effects in the state of Washington, and no basis therefore for requiring mitigation for these emissions in the

State of Washington. This also violates SEPA, as well as the State's Commerce Clause obligations. (3112)

### Response to GHG-61

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Proposed Mitigation Measures* and *Commerce Clause*.

## Comment GHG-62

The Draft EIS is profoundly flawed and limited in that it does not consider the rights of the virility of young people in our state to a healthy and pleasant environment. Any policy or project that fails to reduce emissions in our state betrays this generation. The court agrees, the Department of Ecology has presented no argument otherwise, and the governor and Ecology are under court order to act as quickly as possible to provide relief. Therefore, the Millennium Bulk Terminal must be stopped and the Draft Environmental Impact Statement must be amended to include the fundamental human rights of our youngest and most vulnerable citizens. (TRANS-LV-Q1-00016)

### Response to GHG-62

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, *Greenhouse Gas Emissions Analysis Approach*.

Refer to the Master Response for Purpose and Focus of the EIS for a list of the resources addressed in the EIS, an explanation of the basis for the EIS scope and focus, and a discussion of how the Final EIS will be used, along with other information, by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

## Comment GHG-63

A primary purpose of SEPA and NEPA is to promote informed and transparent decision-making. To do this, it is imperative that EISs and other SEPA documents are clear and free from internal inconsistencies that could confuse rather than inform both decision makers and the public. There are several such inconsistencies in the Draft EIS, and the NAM urges the Agencies to eliminate these inconsistencies and make the necessary revisions to the text.

For example, Section 5.8.2.8 of the Draft EIS states that "[t]here would be no unavoidable or significant adverse impacts" from the Proposed Action. Id. at 5.8-33. In contrast, after calculating the projected GHG emissions attributable to the Proposed Action in the Agencies' models, the Draft EIS states that "emissions attributable to operations of the Proposed Action under the 2015 Energy Policy Scenario are considered adverse and significant." Id. at 5.8-16-17. These two statements cannot be reconciled and the Agencies must revise their conclusions in the Final EIS. (2987)

### Response to GHG-63

The statement in Draft EIS Chapter 5, Section 5.8.2.8, *Unavoidable and Significant Adverse Environmental Impacts* was referring to climate change impacts on the Proposed Action; whereas, Draft EIS Chapter 5, Section 5.8.1.9, *Unavoidable and Significant Adverse Environmental Impacts,* was referring to greenhouse gas emissions under Draft EIS Chapter 5, Section 5.8.1 *Greenhouse Gas Emissions*.

In particular, Draft EIS Chapter 5, Section 5.8.1, *Greenhouse Gas Emissions*, addressed quantifying greenhouse gas emissions associated with the Proposed Action, and Draft EIS Chapter 5, Section 5.8.1.8, *Potential Mitigation Measures*, addressed potential mitigation measures from Proposed Action-related greenhouse gas emissions. Draft EIS Chapter 5, Section 5.8.2, *Climate Change*, addressed climate change impacts on the project area. Draft EIS Chapter 5, Section 5.8.2.7, *Potential Mitigation Measures*, indicated, "potential climate change impacts on the Proposed Action in the project area are not considered significant and would not necessitate mitigation." The conclusion about greenhouse gas emissions and the conclusion about climate change impacts to the Proposed Action were not contradictory because they address different potential impacts of the Proposed Action. Final EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, has been revised to clarify these conclusions.

# Comment GHG-64

From my reading it seems the EIS drastically downplays this impact by making the weak argument that if coal from this terminal is not burned in Asia it will be replaced by other sources. I could find no source to back support this assumption. Rather, it seems that higher cost coal from elsewhere would very likely not be used simply due to economics and other energy sources become more likely. Climate change is accelerating and is obvious to anyone paying attention in the Northwest. It is irresponsible to not make this the number one concern in the EIS. There is absolutely no way to wiggle around the fact that such a facility would greatly contribute to further large increases of CO2 into the atmosphere. (0369)

## Response to GHG-64

Draft EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, assessed the potential greenhouse gas emissions attributable to the Proposed Action. The assessment disclosed a range of potential emissions levels and included both direct and indirect emissions sources. *SEPA Coal Market Assessment Technical Report,* demonstrated Proposed Action-related coal would, in part, replace other sources of coal that would otherwise be burned. For more information on coal displacement assumptions, see the *SEPA Coal Market Assessment Technical Report*.

Refer to Response to GHG-37.

# Comment GHG-65

We believe this facility would risk adding substantially to the global climate footprint, and that this is a risk that must not be permitted. We understand that energy pricing and market elasticity are very complex; short of a functional and enforceable global system of carbon pricing, it is a safe assumption that more fossil fuel extraction, processing and export will worsen the global carbon footprint. (2535)

## Response to GHG-65

Draft EIS Chapter 5, Section 5.8.1, *Greenhouse Gas Emissions*, estimated greenhouse gas emissions attributable to the Proposed Action based on a coal market assessment and identified potential measures to mitigate Proposed Action-related greenhouse gas emissions. Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used, along

with other information, by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

# Comment GHG-66

The Draft EIS fails to establish a causal link between the Project and an identified environmental impact

Causation is a central issue for a SEPA EIS. To establish causation in the context of a GHG analysis under SEPA, Ecology has adopted the use of the "proximate cause" test. Proximate cause requires a showing that the proposal is the cause of the emissions in a direct sequence, unbroken by any superseding cause. The courts have further defined proximate cause as whether the action and the impacts (emissions) are "two links of [the same] chain." If the environmental impact is linked to the action, then it should be considered under SEPA.

Even assuming the Draft EIS' commodity and energy market forecast correctly predicts (which it does not) the incremental new emissions caused by the Project, the analysis does not show how these new emissions are the "proximate cause" of new adverse impacts to the Washington State environment. The 9th Circuit Court of Appeals' discussion in Washington Environmental Council v. Bellon is instructive on the application of the causation requirement to GHG emissions.32 There, the Court concluded that

[I]t is not possible to quantify a causal link, in any generally accepted scientific way, between GHG emissions from any single oil refinery in Washington or the collective emissions of all five oil refineries located in Washington, and direct, indirect or cumulative effects on global climate change in Washington or anywhere else."

The Draft EIS ignores the science that shows the causal chain between project-level GHG emissions and impacts to the environment as being too attenuated, i.e. the disjunction -- or breaking of the causal chain between localized injuries and the environmental effects due to the accumulation of GHG concentrations over the course of many decades. The Draft EIS attempts to bootstrap the analysis by stating that "[t]he climate change impacts resulting from [the Project's] increase to greenhouse gases would persist for a long period of time, beyond the analysis period and are considered permanent and, while global in nature, would affect Washington State." This conclusory statement, however, is entirely unsupported because the Draft EIS does not comment upon or attempt to link specific climate change impacts in Washington State that would not otherwise occur due to emissions associated with the Project, nor does it show how these incremental new GHG emissions rise to the level of "significance."

It may be tempting to assume a relationship between the workings of general circulation models ("GCMs") and the workings of air quality models commonly used to assess the health and other impacts of criteria pollutant emissions. But unlike criteria pollutants, GHGs mix across a "global airshed," which makes it impossible to establish through modeling the kinds of "cause and effect" relationships between GHG emissions and climate change impacts that may be possible when modeling criteria pollutant impacts on human health or the environment. GCMs -- and other methods to downscale emission impacts -- cannot be run to assess environmental impacts attributable to a single project because model assumptions and scale, and the complexity of the climate system itself, do not allow for it.

The Draft EIS appears to conclude as much with respect to climate change impacts to the Project: "[o]ngoing and expanded operations in the project area [under the No Action Alternative] would be affected by climate change as described for the Proposed Action." As a result, the Draft EIS determines that "potential climate change impacts on the Proposed Action in the project area are not considered significant and would not necessitate mitigation." In effect, the Draft EIS concludes that climate change impacts are the same with or without the Project.

The Final EIS should extend this same conclusion to the Project because GHG emissions, which the Draft EIS claims are attributable to the Project, cannot be the proximate cause of detectable environmental impacts in Washington State. (3070)

## Response to GHG-66

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. The EIS does not attribute any specific climate impacts to the greenhouse gas emissions from the Proposed Action.

# Comment GHG-67

Even if GHG emissions are a proxy for an environmental impact, the Draft EIS fails to establish that the emissions constitute a significant impact

Just as it ignored the science about whether a causal link between the Project and an identified environmental impact can be established, the Draft EIS similarly ignores the science related to what level of emissions may be significant under SEPA. A federal district court recently concluded that:

"[G]iven the current state of science it is impossible to determine what effect any given amount of GHG emissions resulting from an activity might have on the phenomena of global warming, climate change, or the environmental effects stemming from it. It is therefore not currently possible to associate any particular action and its specific project-related emissions with the creation or mitigation of any specific climate-related effects at any given time or place. However, it is known that certain actions may contribute in some way to the phenomenon (and therefore the effects of) climate change, even though specific climate-related environmental effects cannot be directly attributed to them."

While NEPA and SEPA guidance describe the use of GHG emissions as a "reasonable proxy" for impacts, there is no legal basis to exempt from the analysis the principles of reasonable foreseeability and proximate causation to identify discernible, non-speculative impacts. In addition, even if emission levels could arguably provide a meaningful proxy for comparing alternatives (which they do not), emission levels are useless for imposing mitigation unless the 'nexus' and proportionality requirements are satisfied.

To properly use GHG emissions as a proxy for a traditional SEPA environmental impact analysis, the analysis must show why those specific emissions are significant -- i.e., there is "a reasonable likelihood of more than a moderate adverse impact on environmental quality." Short of demonstrating how a specific quantity of GHG will actually result in more than a moderate adverse impact on environmental quality, there is no basis to conclude any emissions would be significant impact attributable to the Project.

Given the infirmities identified above, the Draft EIS bootstraps its significance analysis with a comparison to various intensity thresholds proposed in federal and state regulations and guidance, including the draft Washington State Clean Air Rule, the EPA's Tailoring Rule and also the Draft Council on Environmental Quality (CEQ) guidance.

a. The Draft EIS improperly concludes that "[t]hese standards provide guidance on assessing the significance of various levels of greenhouse gas emissions" This statement and approach adopted leads to the Draft EIS conclusion that "…emissions attributable to the operations of the Proposed Action under the 2015 Energy Policy Scenario are considered adverse and significant". This conclusion is misleading and an incorrect basis for determining significance for the following reasons: These federal and state thresholds are not risk-based and were not established with a view to determining significance. For example, the Draft CEQ guidance provides the 25,000 metric tons of CO2e per year as a reference point and states "When using this reference point, agencies should keep in mind that the reference point is for purposes of disclosure and not a substitute for an agency's determination of significance under NEPA."

b. The Washington State Clean Air Rule and the EPA's Tailoring Rule apply to direct facility-level emissions, and not to indirect life-cycle emissions that might occur outside the fence line of a regulated facility; and as such, are intended for comparison to emissions for a different set of boundary conditions than those used in the Draft EIS.

Determining significance by comparing emissions to other laws and guidance is inappropriate because they do not apply to Project permitting decisions. In addition, unlike other proxies developed through legislation and rulemaking -- such as National Ambient Air Quality Standards or state water quality standards -- the Draft EIS provides no basis to conclude that these proxies demonstrate a reasonable likelihood that the Project emissions will cause more than a moderate adverse impact on environmental quality.

Nor do comparisons to other proxies -- such as "an equivalent number of cars" -- offer a more defensible or legally appropriate way to comply with SEPA. These types of proxies simply attempt to make the analysis more intuitive, but they do not provide any greater rational for why project-level emissions will cause impacts to the Washington State environment that would not otherwise happen; nor do they provide a standard against which to measure an impact -- as a matter of changes in global GHG concentration or as a policy matter where a legislative body has created a significance threshold.

For example, the Draft EIS states that under the 2015 Scenario, the level of new net emissions from the Project would be "equivalent to adding about 672,100 passenger cars on the road each year." Yet in 2015, Northwest ports from Portland to Vancouver imported more than 900,000 cars. Each of those ports is "actually importing cars," but none has been asked to study the lifecycle effect in SEPA documents.

As discussed above, current science -- be it GCMs or downscaling methods -- cannot be applied to show environmental impacts attributable to project-level emissions. Because the state of the science precludes meaningful analysis -- or renders the analysis of those impacts speculative -- the Final EIS should expressly conclude that gaps in relevant information or scientific uncertainty concerning significant impacts limit use of the analysis to disclosure purposes only. (3070)

### Response to GHG-67

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach, Greenhouse Gas Emissions Attributable to the Proposed Action,* and *Proposed Mitigation Measures*.

## Comment GHG-68

What are your plans to mitigate the greenhouse gas emissions and health problems resulting from a proposed terminal that is equivalent to five coal-fired power plants? (0044)

### Response to GHG-68

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Proposed Mitigation Measures*.

## Comment GHG-69

The Committee is alarmed that the Draft Environmental Impact Statement proposed a carbon offset requirement on the project to obtain approval. Firstly, the Millennium project may not increase global greenhouse emissions in any significant way because the coal exported through Millennium to foreign markets may displace coal that would have been mined and used in the those foreign markets. Secondly, the Draft Environmental Impact Statement does not show that the maximum amount of possible coal exported from the Millennium project would appreciably increase global warming even if the project does increase global greenhouse emissions. Thirdly, the proponents of this project indicate such a requirement could cost upwards of $25 million to the project. It is unreasonable to force the Millennium project to address cumulative lifecycle greenhouse gas emissions, including the purchase of offset credits for up to 1.3 million tons of carbon dioxide that will be emitted annually halfway across the world when utilized for electricity generation. We are aware of no precedent for such a requirement of studying the carbon impact from the lifecycle of a shipped product. In fact, it is difficult to find a single port facility project that has ever been required to do such an analysis for shipping materials such as heavy machinery, wind turbines, cars, medical equipment, airplanes, technological equipment, microchips, hybrid batteries or agricultural products. Our government should not treat coal differently. (2234)

### Response to GHG-69

Refer to Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach, Proposed Mitigation Measures,* and *Setting a Precedent.*

## Comment GHG-70

The proposed mitigation requirements for greenhouse gas emissions contained in the DEIS would likely kill this project.

We are unaware of any other permitting process that has attempted to impose a mitigation requirement on a facility based on the greenhouse gas emissions generated from the movement of a commodity, or the use of the finished product once shipped. Nor has any manufacturer or transloader been required to mitigate for the end use of the product in another country.

This unworkable requirement will set a terrible precedent that that could affect future exports if retained in the final EIS for Millennium. For example, if this mitigation requirement is applied to exporting Boeing aircraft, which produce tremendous amounts of C02 emissions, it would force Boeing to shut down their Washington operations and build their aircraft elsewhere. It would also adversely affect exports of scrape steel headed to smelters, or agricultural commodities that are grown in a less than stellar manner. The list is endless and really would call Washington's role in future shipping into question.

We believe that a decision by the state of Washington to impose a greenhouse gas mitigation requirement for the movement of goods by rail will have a chilling effect on the development of new projects in the state. This new requirement runs the risk of imposing high additional costs on any products moved through the state by rail, and will discourage needed investment in ports and other projects. This will only serve to jeopardize the jobs that would be created directly and indirectly by these projects.

For the record, we believe in global climate change. That being said, America and the rest of the world will be burning a lot of coal for decades. Since that is the case it makes sense for the health of our planet to bum high quality, low sulfur, low mercury coal that is mined properly with strict reclamation standards, such as Powder River basin coal. If this project is not approved, or if it is approved with this onerous provision, it is likely that poor quality, higher sulfur and mercury coal will be burned in its place and America will lose out on creating some desperately needed good paying jobs.

On behalf of the SMART TD, we respectfully request that you eliminate the proposed mitigation requirements for greenhouse gas emissions contained in the DEIS. It is a troubling precedent that will impose high costs and likely kill this project and future projects that depend on rail transportation. (2445)

## Response to GHG-70

Refer to Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach, Proposed Mitigation Measures,* and *Setting a Precedent*.

# Comment GHG-71

the DEIS requires the applicant to mitigate for carbon emissions occurring from coal burned overseas. These requirements are legally tenable, and put other critical components of our country's economy at risk. For example, the Port of Grays Harbor, Washington, ships nearly 100,000 automobiles to foreign markets each year. Boeing exports are used in roughly 150 countries. Will these companies now have to mitigate for carbon emissions from burning gasoline and jet fuel outside of the United States?

Instead of advancing policies that discourage using coal, leaders should support innovation as the pathway to reducing carbon emissions where coal remains a valuable commodity. Wyoming is leading this innovation effort through a program developed at the Integrated Test Center in Gillette, Wyoming. Here, researchers will compete to identify solutions for reducing carbon emissions, while creating new markets for coal. The Millennium Bulk Terminal project will provide markets for this innovation. (2499)

### Response to GHG-71

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach* and *Proposed Mitigation Measures*.

## Comment GHG-72

The DEIS requires applicant to submit a plan to the Washington Department of Ecology to reduce GHG emissions "inside or outside of Washington State" by 50% using measures that are "real, permanent, enforceable, verifiable and additional." The DEIS calls for a 50% reduction of the computer model's attenuated level of emissions. Thus this plan, that would only require the reduction of 693,723 metric tons of GHG emissions (50% of 1,387,446 MMT) from 2021 to 2027 and 1.27 MMT (50% of 2.53) of GHG emissions each year 2028-2038, would not effectively reduce the project's actual GHG emissions. Additionally, the required GHG emissions reduction plan must cover the entire period of the life of the project. The plan covers 17 years, yet the DEIS says "the terminal would be designed for a minimum 30-year period of operation." DEIS S-6. The plan must also be based on the CO2e emissions that would actually be produced by the project annually, i.e. 90 MMT at full build out, rather than only a small fraction of that amount. (2589)

### Response to GHG-72

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Attributable to the Proposed Action*.

## Comment GHG-73

The DEIS requires applicant to submit a plan to the Washington Department of Ecology to reduce GHG emissions "inside or outside of Washington State" by 50% using measures that are "real, permanent, enforceable, verifiable and additional." The DEIS calls for a 50% reduction of the computer model's attenuated level of emissions. Thus this plan, that would only require the reduction of 693,723 metric tons of GHG emissions (50% of 1,387,446 MMT) from 2021 to 2027 and 1.27 MMT (50% of 2.53) of GHG emissions each year 2028-2038, would not effectively reduce the project's actual GHG emissions. Additionally, the required GHG emissions reduction plan must cover the entire period of the life of the project. The plan covers 17 years, yet the DEIS says "the terminal would be designed for a minimum 30-year period of operation." DEIS S-6. The plan must also be based on the CO2e emissions that would actually be produced by the project annually, i.e. 90 MMT at full build out, rather than only a small fraction of that amount. (2712)

### Response to GHG-73

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Proposed Mitigation Measures* and *Greenhouse Gas Emissions Attributable to the Proposed Action*.

## Comment GHG-74

I am, however, deeply concerned that the draft environmental report recommends that the owners of the terminal mitigate the greenhouse gas (GHG) emissions not only of the project itself but the goods being shipped through the terminal. This is dangerous precedent for manufacturers who export their products, all of which contain an environmental footprint. Federal and state

environmental permitting laws all consistently set the scope of an infrastructure review to local environmental impacts. By forcing the terminal operators to account not only for the local environmental impacts of the port expansion but also the global environmental footprint of the cargo, the Department of Ecology and Cowlitz County are creating a dangerous precedent that could be used to impede exports of all products, not just in Washington but from ports across the country. That is a bad policy for manufacturers, who rely heavily on exports to compete in a global economy. (3840)

### Response to GHG-74

Refer to Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach, Proposed Mitigation Measures,* and *Setting a Precedent*.

## Comment GHG-75

The Final EIS should recognize this limitation and apply SEPA's rule of reason to accord the appropriate weight to the GHG analysis: i.e., given the inherent uncertainty in forecasting how commodity and energy markets will behave over 20 years, no projection of incremental changes in coal use that might be caused by opening an export terminal on the Columbia River can legitimately be considered "reasonably certain" to occur and there is no basis to exercise SEPA substantive authority.

To the extent the Ecology believes that long-term forecasts of incremental GHG emissions are necessary for the Final EIS, the analysis should be provided for disclosure purposes only. And to the extent Ecology feels the need to identify a scenario from the four provided that is more likely to occur, it should select the 2014 Scenario or the Low Bound Scenario as the most probable, for the reasons discussed below. (3070)

### Response to GHG-75

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach* and *Greenhouse Gas Emissions Attributable to the Proposed Action*.

## Comment GHG-76

The Final EIS should abandon any conclusion that the Project would be the proximate cause of (a) environmental impacts in Washington State, or (b) a significant level of emissions. Rather, the Final EIS should adopt the conclusion in the Draft EIS that climate change impacts to Washington State will be the same with or without the Project. This conclusion is supported by scientific evidence and case law that project-level emissions cannot be shown to cause environmental impacts that would not otherwise occur in the No Action Alternative. Furthermore, the Final EIS should abandon its attempt to use laws and guidance having no regulatory bearing on the Project to establish a de facto level of significance for GHG emissions. As discussed in detail below, any exercise of SEPA substantive authority to impose GHG mitigation would violate SEPA and the U.S. Constitution.

The Final EIS should, therefore: acknowledge that it is not possible for GHG emissions related to the Project to be the cause of a discernable and new environmental impact in Washington State that would not otherwise occur; acknowledge that there are no laws or regulations that govern the level

of GHG emissions attributed to the Project that could serve as a basis for a finding of significance; and eliminate any proposed GHG mitigation requirements for the Project. (3070)

### Response to GHG-76

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, *Greenhouse Gas Emissions Analysis Approach* and *Greenhouse Gas Emissions Attributable to the Proposed Action.*

## Comment GHG-77

SEPA substantive authority cannot be exercised because the EIS does not demonstrate an environmental impact in Washington State that would be caused by the Project

Even though the Draft EIS suggests that the Project would result in incremental new GHG emissions, the Draft EIS does not establish a rational basis to conclude that the Project would be the proximate cause of (a) environmental impacts in Washington State, or (b) a significant level of emissions.

To the contrary, the Draft EIS states that climate change impacts in Washington State will be the same with or without the Project. Despite this statement, the Draft EIS concludes -- without any legal basis -- that laws and guidance having no regulatory bearing on the Project to establish a de facto level of significance of GHG emissions.

However, without establishing the causal link between the purported GHG emissions and an environmental impact that would be avoided were the No Action Alternative selected there is no basis to exercise SEPA substantive authority to mitigate for any assumed increase in GHG emissions as a result of the Project. Further, the proposed mitigation in the Draft EIS fails to demonstrate how it has an essential nexus or is roughly proportionate to the impacts.

Nexus and proportionality are essential to the exercise of substantive authority to impose mitigation; and a failure to demonstrate either violates SEPA and the U.S. Constitution. The Final EIS should, therefore:

- disclose that GHG emissions related to the Project are not likely to be the probable cause of a discernable and new environmental impact in Washington State that would not otherwise occur;
- acknowledge candidly that there are not yet applicable laws or regulations that govern the level of GHG emissions attributed to a transloading facility like the Project that could serve as a basis for a finding of significance; and
- eliminate any proposed GHG mitigation requirements for off-site emission. (3070)

### Response to GHG-77

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*.

## Comment GHG-78

Furthermore, there is no foundation under law or policy that SEPA can be applied to use a lifecycle analysis to impose mitigation requirements. If every state through which a commodity or industrial product passed could decide to perform a lifecycle analysis and require mitigation for alleged

impacts, the cost in permitting delay and mitigation expense would virtually stop commerce. This, of course, would lead to Constitutional violations under the Commerce Clause as well as to violations of international trade laws.

The U.S. Constitution vests Congress with the exclusive power to regulate interstate commerce.45 As a corollary, the Commerce Clause "denies the States the power unjustifiably to discriminate against or burden the interstate flow of articles of commerce."46 The clearest example of discrimination or burden on the flow of commerce is a law that overtly blocks the flow of interstate commerce at a State's borders.47 Even laws with legitimate local concern, such as environmental protection and resource conservation, are limited by the Commerce Clause.48 In short, a state may not accomplish even legitimate goals "by the illegitimate means of isolating [itself] from the national economy."49

These basic and well-established principles of federal constitutional law take precedence over Washington's interest in implementing mitigation requirements for the Project. Washington State has few commercially viable coal reserves as compared with reserves of landlocked states like Montana and Wyoming. Washington thus has little interest in regulating companies that own, produce and sell coal nationally or internationally. In addition, Ecology has never to our knowledge studied the life-cycle GHG emissions from other commodities or industries -- such as timber/wood products, commercial vehicle engine manufacturers, or airplane manufacturers -- let alone proposed to regulate life-cycle emissions from end-use of those commodities or industrial products overseas.

The impact of any decision to regulate, limit or prohibit coal exports through the Project -- i.e., by requiring 50% mitigation of end-use emissions or reduction in the volume of coal shipped through the terminal -- would fall entirely on those landlocked states and their industries and economies that have an interest in coal production. It would also burden navigation at Washington's borders in direct contravention of the Commerce Clause. Additionally, there is no demonstrable or verifiable benefit associated with a SEPA imposed mitigation requirement in comparison to the concrete and substantial interference on interstate commerce. In short, the mitigation conditions proposed in the Draft EIS would potentially have the effect of blocking coal exports due to changes in export volumes or increased cost of operation, which would violate the Commerce Clause and would be unconstitutional.

The Commerce Clause also vests Congress with exclusive authority to regulate foreign commerce—a power "greater" than Congress's right to regulate interstate commerce.50 Indeed, "[f]oreign commerce is pre-eminently a matter of national concern."51 The Foreign Commerce Clause is designed to ensure the federal government "speak[s] with one voice when regulating commercial relations with foreign governments."52 Ecology's proposed mitigation requirement on the Project for coal consumed in Asia, based on Ecology's belief that exporting coal will exacerbate GHG emissions, invades Congress's absolute power to regulate foreign commerce. It is not within Ecology's jurisdiction to limit international access to domestic resources that Congress has not deemed protected or limited.

For these reasons alone the review of potential GHG emissions from the use of coal in Asian must be limited to disclosure purposes only, and cannot be the basis of the exercise of SEPA substantive authority. (3070)

## Response to GHG-78

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Commerce Clause*.

# Comment GHG-79

As addressed in the Comment Letter, the Draft EIS primarily focused on impacts that are not proximately caused by the Project, or that are fundamentally speculative in nature, is an unprecedented application of SEPA. Ecology's approach to GHG emission analysis fails to apply SEPA in a manner consistent with law, policy or practice. Ecology fails to identify any impact related to climate change that would be caused by the MBT-Longview Project, and is fundamentally speculative in nature. Ecology fails to establish that the impacts of GHG emissions from coal being used in Asia would not occur without the MBT-Longview Project. It was an error for the Draft EIS to propose mitigation measures for speculative indirect impacts that are not caused by the Project. The Final EIS must recognize the limits of SEPA substantive authority, and state that an agency may not exercise SEPA substantive authority in relation to impacts that are speculative and/or are not proximately caused by a project.

The U.S. Constitution, including the Takings Clause of the Fifth Amendment, and Federallaw24 prevent Ecology or any other agency from applying its SEPA substantive authority to impose conditions that would discriminate against interstate commerce, burden foreign commerce, 25 or affect the development, infrastructure, or operation of the rail system.26 In this case, the commerce in question is both among "many of the states" and "with foreign nations," and is, therefore, preempted from state regulation. The Draft EIS's suggestion that SEPA substantive authority could be exercised in relation to the interstate transportation network (rail and river systems of commerce) and mitigation of GHG emissions outside of the Project area imposes a significant burden on interstate and international commerce without the necessary link to the avoidance of specific intrastate impacts, thereby violating the dormant commerce clause.

SEPA requires that any mitigation measures must be reasonable, capable of being accomplished, and reasonably related to the proposal's adverse impacts. 27 With this Draft EIS, Ecology suggests that a regulatory agency could impose mitigation measures (a) without identifying an impact that is caused by a proposed project; (b) on speculative and uncertain impacts; (c) without regard to how the proposed mitigating measures will address such impacts; and (d) without discussing the technical feasibility and economic practicability of performing the mitigation measures. This precedent would have far-reaching implications for a vast array of projects in Washington State, such as transportation infrastructure projects that support domestic and foreign trade in agricultural goods and other products, not to mention the burden placed on small and large city and county agencies throughout the State of Washington. (3070)

## Response to GHG-79

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach* and *Commerce Clause*. Proposed mitigation measures identified in the Final EIS meet all SEPA requirements. No evidence has been submitted that the proposed mitigation is not feasible or practical. Greenhouse gas mitigation is a well-established concept that is required by state law for other projects and has been required for federal projects under NEPA. The emissions calculated by the Final EIS are not speculative. The greenhouse gas emissions in the Final EIS were estimated using state of the art modeling techniques and the best available information regarding future market conditions. The assumptions in the preferred scenario represent the most likely set of future conditions under which the proposed coal export terminal would operate.

# Comment GHG-80

The Draft EIS describes four measures for MBT-Longview to implement in order to mitigate GHG emissions, including fuel efficiency training, anti-idling policies, electric car usage, and mitigation of 50% of the GHG emissions attributable to the Project.

Mitigation is the avoidance, minimization, rectification, compensation, reduction, or elimination of adverse environmental impacts. The mitigation approach is unsupported and contradicted by the fact that the Draft EIS does not identify any adverse climate change impacts attributable to the Project that would not otherwise occur, as described in Section 3.0. Under SEPA, mitigation must be linked to adverse environmental impacts that would not otherwise occur in the absence of a proposed action and must be roughly proportional in nature and extent to the impacts. The failure to identify adverse environmental impacts attributable to the Project renders these mitigation measures unnecessary and inappropriate.

Additional concerns have been noted in connection with the fourth mitigation measure to mitigate 50% of the emissions attributable to the Project:

- There is no discussion or description of what impact the mitigation would address (e.g. there is no discussion of what adverse environmental impacts in Washington State would be mitigated by reducing emissions, nor what a reduction in emissions would achieve, even assuming that GHG emission are an appropriate representation of climate change impact).
- The justification appears to be arbitrary. The rationale for using Washington State regulations, namely RCW 80.70 and RCW 80.80, is inappropriate. The Draft EIS actually acknowledges that "Washington State standards will not apply to these facilities…"26 These state regulations are focused on mitigating GHG emissions not from coal terminals but from new thermal power plants (by 20%) and new power generation based on the performance of natural gas-fired plants, respectively. The Draft EIS states that if the coal was used for power plants in the state, then mitigations between 20% and approximately 55% of gross emissions would be required. The rationale for the mitigation measure is therefore based on a twofold transference of responsibility – once from power plants in the state to power plants in other countries, and then from those power plants to the domestic terminal through which some of their coal passed. This is not consistent with the intent of the state regulations; the burden of compliance with a regulation targeting in-state power plants is being applied to a sector of the coal supply chain serving coal to a different country.
- The proposed offset mitigation value for initial operations of 693,723 metric tons of CO2e and for operations at maximum capacity of 1.27 million metric tons CO2e per year is based on net GHG emissions that are significantly overestimated (see Section 4.1).
- The emissions apportioned for mitigation include GHG emissions that occur outside of MBT-Longview's control and far outside of the state. (3070)

## Response to GHG-80

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Proposed Mitigation Measures*.

# Comment GHG-81

The State DEIS suggests that the state would require mitigation of 50% of the average annual greenhouse gas emissions attributable to what the State DEIS concludes is the project's more likely scenario, based on the State's requirements for mitigation of greenhouse gas emissions resulting from electricity generation. As with any mitigation considered in an EIS, the EPA suggests that the State include in the Final EIS what standard the State would use to determine if the mitigation plan is implementable, and how the State expects to ensure that the mitigation is permanent, enforceable, verifiable and additional. (3306)

## Response to GHG-81

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Proposed Mitigation Measures*.

# Comment GHG-82

Recommendation: Estimate the public health impacts of climate change from GHG emissions and design appropriate mitigations. Mitigation measures should use the Washington Clean Air Rule as a guide for assuring real, permanent, and measureable offsets. (2823)

## Response to GHG-82

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach* and *Proposed Mitigation Measures*.

# Comment GHG-83

Content included in the Draft EIS indicates that life-cycle greenhouse gas emissions resulting directly and indirectly from the proposed action will exceed 37.6 million metric tons of CO2• The Applicant and SEPA co-leads have failed to identify mitigation measures that would meaningfully avoid or reduce these significant adverse impacts. For these reasons, the Service against approval of the Millennium Longview Coal Terminal Project. (3458)

## Response to GHG-83

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Proposed Mitigation Measures*.

# Comment GHG-84

The expansive greenhouse gas mitigation requirements being proposed in the DEIS set a dangerous precedent for these needed future grain export terminals. While new grain export terminals are likely to be built, the high cost of complying with both the unique Washington State study and mitigation requirements that have been imposed on Millennium are likely to drive new investment to Gulf Coast ports instead. Terminals on the Gulf may help competing farmers in the Midwest reach markets in Asia, but they will not help growers in this state.

I urge you to reconsider and eliminate these proposed greenhouse gas mitigation requirements to avoid setting a negative precedent that will undermine the development of other critical trade infrastructure projects. (3457)

### Response to GHG-84

Refer to Master Response for Greenhouse Gas Emissions and Climate Change, under *Setting a Precedent*.

## Comment GHG-85

Correction of the flaws included in the DEIS would reveal that GHG pollution from this project is far more significant than admitted. But however it is counted, the project will be a major source of GHG pollution. And given the state's repeatedly stated interest in reducing its GHG emissions, 100% of its emissions should be mitigated. That is why we are puzzled that the DEIS only proposes to mitigate half of the GHG emissions that are estimated. If Washington is serious about its commitment to reducing GHGs, then the project must either be denied or 100% mitigation required. If the project proponent does not wish to go forward under such a requirement, that is its own decision.

Acceptable mitigation options must include both denial of the project outright, as well as a requirement to purchase credits from a legitimate and verified source to offset all net GHG emissions on an annual basis, including lifecycle emissions that are proximately caused by the project. Alternatively, the state could impose a GHG fee and use it to implement offsets of its own. But the state is no longer in the position of being able to allow major new sources of GHGs without 100% mitigation. (3277)

### Response to GHG-85

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Attributable to the Proposed Action* and *Proposed Mitigation Measures*.

## Comment GHG-86

The DEIS sets a second inappropriate precedent in proposed mitigation for greenhouse gases. Without statutory guidance of any kind, the Department of Ecology arbitrarily asserts that the proponent will mitigate for one half of life-cycle carbon dioxide emissions accruing to coal passing through the facility. WPPA is deeply concerned by the notion that a permittee can be administratively compelled to mitigate for impacts in the absence of clear policy guidance from the legislature.

As a matter of law, ports believe that the legislature is the only proper source of a policy with such far reaching consequences. The assertions of agency policy-makers notwithstanding, the people of Washington can have no confidence that this new policy will not be applied to future projects.

Our members provide logistical services for a wide range of products manufactured or grown both inside and outside of Washington. What confidence can ports and our customers maintain that facilities related to importing automobiles, or shipping grain, or exporting aircraft will not be required to meet the fifty percent life-cycle carbon mitigation standard? Where in state law is this made clear?

Whether the Millennium Bulk Terminal is permitted and operated successfully is not our concern. WPPA and our members are troubled that the Department of Ecology has expanded the reach of the state's environmental review by requiring mitigation for impacts outside of the state's jurisdiction, and have created a mitigation standard for carbon dioxide that is not supported by legislative policy. (3168)

## Response to GHG-86

Refer to Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach* and *Precedent*. The proposed measure in the Final EIS is to mitigate emissions of greenhouse gases that contribute to global climate change that in turn affects Washington State. Impacts in Washington State include earlier snowmelt, loss of snowpack, decreased stream flows, increased wildfires, and other adverse effects identified in Final EIS Chapter 5, Section 5.8.2, *Climate Change Impacts on the Proposed Action*. Mitigation to reduce impacts in Washington State is proposed in Final EIS Chapter 5, Section 5.8.1, *Greenhouse Gas Emissions*.

# Comment GHG-87

Despite the lack of environmental impact to the site of the project, a key provision in the DE IS will require MBT-Longview to contemplate and mitigate for greenhouse gas (GHG) emissions that are not only beyond the boundaries of this project and state, but also beyond the scope of your granted legislative authority. An obligation to consider and mitigate GHG emissions on a global scale is a departure from the traditional use of the SEPA tool, which is meant to consider local impacts. We are unaware of any other project proposal that has been tasked with global evaluations, or to undertake such mitigation.

The proposed accounting and mitigation is precedent setting. Precedent for new obligations under our state's Environmental Policy Act should not be established on a project-by-project basis. Doing so will surely cast a dim light on economic prosperity for our state.

Furthermore, current GHG limiting rules, including the state's GHG RACT Rule and the Emission Performance Standards, referenced in the draft-EIS, only require evaluation of project specific impacts, not a global review. In fact, Ecology just released a rule that would put a cap GHG emissions within the state. The authors of that rule are on record regarding limitations the state has in regulating emissions beyond the state's boarders.

If the current review of the proposed MBT-Longview project results in new precedent to review global emissions, we are concerned about what this process will mean for other proposed projects of statewide significance. Will they too face lengthy delays and requirements to mitigate for impacts outside their projects proposals? This sends the wrong message to potential opportunities for economic growth. (2939)

## Response to GHG-87

Refer to Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*, *Proposed Mitigation Measures*, and *Setting a Precedent*.

# Comment GHG-88

The DEIS also relies on life-cycle analysis model to determine the scope of emissions that will be counted against the MBT-Longview project. The co-lead agencies appear to have overlooked a preferred life-cycle model that shows environmental benefit resulting if the MBT-Longview moves forward, in favor of a model that is more detrimental. We would encourage the co-lead agencies to reconsider which model they use. Calling for mitigation for emissions not directly associated with the proposed project fails not only to consider current law, but also ignores GHG emission leakage issues. Every GHG emissions program, including the state's recently released carbon cap rule, takes into consideration the consequences of emissions leakage. (2939)

## Response to GHG-88

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*, *Greenhouse Gas Emissions Attributable to the Proposed Action*, and *Proposed Mitigation Measures*.

# Comment GHG-89

Requiring GHGE Mitigation is Regulatory Overreach.

The essential purpose of SEPA is fairly straightforward: (1) evaluate potential environmental impacts cause by a proposed action; (2) evaluate whether those impacts are adverse; and (3) evaluate how to avoid or mitigate adverse environmental impacts caused by the proposed action.

This third element, however, requires more than merely pointing out an adverse impact that may result from a proposed action. Rather, the agency must demonstrate that the proposed action is the cause of an adverse impact. In addition, the agency must make an individual determination that any proposed condition -- to avoid or mitigate an adverse impact – is specifically necessary to address that impact.

Where the causal relationship between a proposed action and an adverse impact is speculative or remote, then there is no basis for an agency to exercise its SEPA substantive authority. And where an adverse impact is caused by a proposed action, any proposed mitigation condition must be proportionate to the nature and extent of that impact.

In this DEIS Ecology fails to identify any climate change impact that would be caused by the MBT project. In addition, Ecology fails to justify how it exercises its SEPA substantive authority where the very impacts that agency seeks to mitigate will occur with or without the MBT project. For example:

1. Ecology assumes without any rationale or justification that incremental new GHG emissions are an adverse impact without any explanation about how the MBT emissions cause adverse environmental impacts;
2. Ecology assumes without any rationale or justification that incremental new GHG emissions that are above federal or state regulations -- which do not apply to the MBT project -- constitute a level of emissions that is considered to be a significant impact;
3. Ecology assumes without any rationale or justification that MBT's incremental new GHG emissions contribute to climate change irrespective of how minor those emissions are relative to global GHG emissions;

4. Ecology assumes without any rationale or justification that mitigating 50% of incremental new GHG emissions from the MBT project will mitigate -- below a level of significance -- the adverse climate change impacts presumably caused by the MBT project; and
5. Despite all of these assumptions, Ecology concludes in the DEIS that the "ongoing and expanded operations in the project area would be affected by climate change as described for the Proposed Action" -- meaning that, in Ecology's view, climate change impacts to the project area under the No Action Alternative will be the same with or without the operation of the MBT project.

Ecology's approach utterly fails to apply SEPA in a manner consistent with law, policy or practice. With this DEIS, the agency sets a precedent that it can exercise its SEPA substantive authority without identifying an impact that is caused by a proposed project and impose mitigation conditions without regard to how those conditions will address such impacts. This precedent will have far reaching impact on the development of a vast array of projects in Washington State, such as maritime, rail, agriculture, exports and imports. (2447)

### Response to GHG-89

Refer to Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach, Proposed Mitigation Measures,* and *Setting a Precedent.* Also refer to the Master Response for Connected or Similar Actions.

## Comment GHG-90

Likewise, Section 5.8.2.7 of the Draft EIS states that "[p]otential climate change impacts on the Proposed Action in the project area are not considered significant and would not necessitate mitigation" Id. at 5.8-33. In contrast, in the section describing potential mitigation measures, the Draft EIS states that "[t]he Applicant will implement the following measures to mitigate greenhouse gas emissions." Id. at 5.8.21. The Draft EIS also states that the Applicant "will prepare" and obtain approval of a greenhouse gas mitigation plan. Id. at 5.8.22. Again, these statements cannot be reconciled with the Agencies' conclusion that mitigation is not necessary. The Agencies must harmonize their intended treatment of mitigation measures for the Proposed Action. (2987)

### Response to GHG-90

Refer to Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach, Proposed Mitigation Measures,* and *Setting a Precedent*.

## Comment GHG-91

The Agencies Should Not Impose Mandatory Mitigation Measures for GHG Emissions as Part of the SEPA Process

Despite stating that "[p]otential climate change impacts on the Proposed Action … would not necessitate mitigation," Draft EIS at 5.8-33, the Draft EIS appears to include a number of mandatory mitigation requirements. Id. at 5.8-21-22. Among other things, the Draft EIS suggests that MBTL must prepare and obtain approval of a "greenhouse gas mitigation plan that mitigates for 50 percent of the greenhouse gas emissions identified in the 2015 Energy Policy Scenario." Id. at 5.8-22. Imposing mandatory mitigation requirements is neither required by law nor consistent with SEPA's

primary purpose of informing agency decision-making. Moreover, imposing a mitigation requirement based on life cycle GHG emissions could have a significant and detrimental precedent on future projects in the State of Washington.

The NAM does not dispute that the identification and evaluation of mitigation measures is an important part of the SEPA process. In fact, the SEPA implementing regulations direct agencies to "identify, evaluate, and require or implement, where required by the act and these rules, reasonable alternatives that would mitigate adverse effects of proposed actions on the environment." WAC 197-11-030(2)(g). Likewise, the regulations state that an EIS must "[c]learly indicate those migration measures (not described in the previous section as part of the proposal or alternatives), if any, that could be implemented or might be required, as well as those, if any, that agencies or applicants are committed to implement. Id. 197-11-440(6)(c)(iii). However, under most circumstances, an applicant is not required to implement the mitigation measures identified in an EIS. In this respects, an EIS is fundamentally different from a Mitigated DNS, where mandatory mitigation measures are imposed as part of the SEPA process to ensure that a proposed action will not have significant environmental impacts.

Here, the Agencies have already concluded that an EIS is necessary, but appear to impose a series of mandatory mitigation measures as part of the approval process. Such mandatory requirements are not necessary here. In particular, the Agencies should not require the terminal to mitigate 50 percent of the GHG emissions identified in the 2015 Energy Policy Scenario. See Draft EIS at 5.8-22. While Washington requires mitigation of GHG emissions under some circumstances, see RCW 80.70 and RCW 80.80, the Agencies concede "[t]he mitigation requirements in RCW 80.70 and RCW 80.80 are not directly applicable to the Proposed Action." Draft EIS at 5.8-21. Under these circumstances, there is no basis for the Agencies to require mitigation of GHG emissions from the Proposed Action, let alone mandatory mitigation at the upper end of what these inapplicable regulations require of other sources. Requiring mitigation of GHG emissions in this SEPA review would impose substantial burdens on the Millennium Terminal and would also have the potential to create precedent that would discourage future investments in the state. For these reasons, the Agencies should clarify in the final EIS that all GHG mitigation measures should remain voluntary. (2987)

## Response to GHG-91

Refer to Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach, Proposed Mitigation Measures,* and *Setting a Precedent*.

# Comment GHG-92

We are pleased that MBTL is proposing to offset 50 percent of the net operational greenhouse gas (GHG) emissions identified in their 2015 Policy Scenario (page 5.8-22). However, Appendix 2 of Washington's 2010 Climate Change Comprehensive Plan states "maintaining emissions at current levels means we are not on track to meet the state's statutory GHG reduction limit for 2020, and must continue to look for additional opportunities to increase energy efficiency, promote renewable energy, and otherwise reduce our GHG emissions." Therefore, requiring MBTL to offset all project GHG emissions, including those from both operations and transport, would support the goals of the state's 2010 Plan. (2432)

### Response to GHG-92

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Proposed Mitigation Measures* and *Greenhouse Gas Emissions Attributable to the Proposed Action*.

## Comment GHG-93

MM GHG-4. Mitigate for Impacts on Washington State from Net Greenhouse Gas Emissions Attributable to the Proposed Action. The calculations for this section should reflect the proposed project's increasing percentage of the state's carbon emissions over time, and thus the increasing mitigation rate that is necessary to mitigate for it. (2691)

### Response to GHG-93

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Proposed Mitigation Measures* and *Greenhouse Gas Emissions Attributable to the Proposed Action*.

## Comment GHG-94

The DEIS proposes that Millennium create measures that will mitigate for 50% of the estimated greenhouse gases that the proposed terminal would create. However, although the DEIS states ''the measures must achieve emission reductions that are real, permanent, enforceable, verifiable and additional" (p. S-58), none are specified. The final EIS should describe what the mitigation measures will be. Also, Millennium should pay to mitigate the full 100% of the greenhouse gas emissions, or the Asian importers should pay to make up the difference that Millennium does not pay. Millennium should not be issued permits until that agreement with Asian importers is concluded. Otherwise DOE will be permitting a project that leaves half of the considerable increase in greenhouse emissions with no mitigation. (3465)

### Response to GHG-94

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Proposed Mitigation Measures* and *Greenhouse Gas Emissions Attributable to the Proposed Action*.

## Comment GHG-95

I also wanted to bring attention to the comments in the greenhouse gas emission section of the fact sheet. It suggest that one of the proposed mitigations be to reduce or offset 50 percent of the increased greenhouse gas emissions.

Again, as far as I can tell that sounds like a nice idea, but there is really not a clear methodology in place how that would be. That sounds like pipe dreams, sure, we should do that. But there's really not a clear way that that will happen. So that is an inadequate suggestion. Nice idea but doesn't have legs. (TRANS-LV-Q3-00015)

### Response to GHG-95

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Mitigation*.

# Comment GHG-96

We invite your attention to a specific aspect of the project's State Environmental Policy Act (SEPA) Draft Environmental Impact Statement (DEIS) which may pose an undue burden upon interstate and international commerce. The proposed requirement for mitigation of greenhouse gases from coal consumed overseas is an unprecedented step that is not applied to other businesses operating in Washington or other goods that are shipped through the state. We respectfully request that you reconsider this requirement.

In order to address the impact on Washington State from greenhouse gas emissions of the project, the draft EIS proposes that Millennium mitigate 50 percent of the greenhouse gas emissions produced by the exported coal, regardless of where that coal is consumed. To quote the draft EIS, "For operations at maximum capacity this is 1.27 million metric tons C02e per year (or 50% of2.53 million from 2028 to 203 8)." Even assuming a modest carbon credit price of $20 per ton, compliance with that requirement would cost Millennium more than $25 million annually. This exceeds the amount that Millennium estimates it will spend to pay its workforce-traditionally the highest operating cost of such an enterprise-and may render the project unfeasible.

Washington is one of the nation's, and the world's, busiest and most valuable trade hubs, with more than $90 billion worth of goods exported in 2014, according the Washington State Department of Commerce. Further, the department estimates that one in three jobs within the state are tied to trade, either directly or indirectly. Washington State is already home to the nation's 5th largest coal export facility by volume, located in Seattle. However, no other project or terminal is required to mitigate the lifecycle emissions of exported items.

For example, the Boeing Corporation, based in Washington State, is both a major supplier of exported goods as well as a provider of a means of export. Boeing employs more than 75,000 people in Washington. The company aims to keep its greenhouse gas emissions at or below 1.3 million metric tons, according to their most recent environment report in 2014. This figure is simply Boeing's industrial and testing emissions. Boeing is not required to mitigate these emissions, much less the millions of tons its aircraft emit annually. Millennium should not be required to do so either.

Millennium does not object to offsetting its emissions generated at the site. However, the mitigation requirements as proposed in the draft EIS are overly broad. We urge you to support the jobs created in Cowlitz County and the economic and environmental restoration that the Millennium project will support and revise the mitigation requirements accordingly. (3459)

## Response to GHG-96

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Commerce Clause* and *Proposed Mitigation Measures*.

# Comment GHG-97

We strongly support approval of this proposal, and request that only GHG mitigation conditions for carbon emissions directly related to the actual operation of this facility be required. Neither railroad or ship transportation, nor destination commodity use mitigation requirements are appropriate for the operation of this or any other export facility. No other export terminal anywhere in the world handling similar commodities are subjected to such standards; to require Millennium to such an

unusually onerous standard would place all of our nations export commodities and systems in peril in the future.

Therefore, we request that such extremely burdensome and unreasonable requirements be omitted from the final EIS so that this project is permitted to move forward in the interest of our economy and our nation's middle class workers and our economic future. (3406)

### Response to GHG-97

Refer to Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach, Proposed Mitigation Measures,* and *Setting a Precedent*.

## Comment GHG-98

The DEIS states that one half of the increase in carbon dioxide emissions reported in the DEIS cannot be mitigated. In addition, the mitigation plan that is described for CO2 is far from convincing. It is overly vague. Health and safety effects of climate change from burning fossil fuels must be addressed now. (3381)

### Response to GHG-98

Refer to Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach, Proposed Mitigation Measures,* and *Setting a Precedent*.

## Comment GHG-99

The principal flaw the State of Montana sees in the DEIS is that it requires mitigation by the project applicant for increased GHG emissions from coal burned in Asia during the time period of the project's operation, as a result of the project, based on a modeling scenario that is speculative at best, and accordingly not in compliance with the SEPA requirements that a SEPA EIS evaluate potential impact proximately caused by a proposal. (3112)

### Response to GHG-99

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Attributable to the Proposed Action*.

## Comment GHG-100

Finally, requiring that the mitigation plan be approved by the State creates a new and open-ended permit requirement which creates a level of uncertainty that would in itself tend to make the project uneconomic. This provision violates SEPA and the State's Commerce Clause obligations. (3112)

### Response to GHG-100

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Commerce Clause* and *Proposed Mitigation Measures*.

# Comment GHG-101

But the project is threatened due to an unusual and unprecedented condition: the requirement that MBT account for cumulative lifecycle greenhouse gas emissions associated with the terminal, including by purchasing offset credits for up to 1.3 million tons of carbon dioxide that will be emitted annually in Asia when the exported coal is used for electricity generation.

This condition is extremely troubling for many reasons. First and foremost, it appears to represent yet another attack on American energy resources, and coal in particular. According to the Department of Energy, the U.S. already exports more than 70 million tons of coal each year from more than 30 locations across the country (including more than 4 million tons from Seattle-the 51h highest of any port). Moreover, much of this exported coal contains less sulfur and ash than other coal on the global market, making it preferable from an environmental perspective. Singling out Millennium and the port of Longview to pay fees not required of other locations is simply unfair, and puts Millennium at a significant domestic and global competitive disadvantage.

Even more concerning, however, is the precedential nature of the proposed carbon offsets. For decades, the scope of environmental permitting has rightly focused on the site itself, not the product being sold or what happens to it thousands of miles away from the facility under review. A growing push from "keep it in the ground" advocates threatens to impose global lifecycle carbon considerations into EIS reviews of all kinds-be they export facilities, pipelines, exploration and production activities, or even just roads. These requirements will often make projects economically infeasible. For example, at a carbon credit price of $20 per ton, the Millennium project's estimated 1.3 million tons of additional emissions could effectively cost port owners more than $25 million per year. That amounts to what is effectively an enormous export tariff on an American product.

Moreover, if this requirement is not removed, it will be used to impose similar requirements on an endless range of other exported products. The implications for other energy resources such as oil and natural gas are obvious, but it is entirely conceivable that other export products are similarly penalized, including aircraft, vehicles, heavy machinery, medical equipment, refrigerators, computers and electronic equipment, and even agricultural products. The same logic applies-use of all these products requires significant amounts of energy, and that energy increases carbon emissions. In fact, energy is so ubiquitous in trade and commerce that nearly every transaction involving overseas use of American products could theoretically become subject to global carbon offset conditions. (3110)

## Response to GHG-101

Refer to Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach, Proposed Mitigation Measures*, and *Setting a Precedent*.

# Comment GHG-102

The proposed mitigation for a rail-to-ship trans-loading facility to offset life cycle C02 emissions is an issue. First, the precedential nature of expanding the permit scope to conditions beyond the site itself to states in the mountain west and Asia is chilling for future infrastructure projects. Additionally, C02 emissions are not unique to coal-the same might be referenced for planes, trucks and autos, along with agricultural products which use energy in their supply chains. (2991)

### Response to GHG-102

Refer to Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*, *Proposed Mitigation Measures*, and *Setting a Precedent*.

## Comment GHG-103

By designating the 2015 scenario as "preferred" the EIS minimizes the amount of coal that could be burnt. This upstream error leads to downstream underestimations of climate and air quality impacts. The scenario assumes that the Clean Power Plan is in effect and that the US will keep its Paris commitments. In reality Clean Power Plan is suspended by the courts and its fate, along with other EPA actions, and US adherence to the Paris climate accord will depend on the result of a presidential election between climate denying and climate proactive candidates who are currently neck and neck in public opinion polls. (Cho, 2016)

The Upper Bound scenario, which has no Clean Power Plan or American leadership on climate change, is described by its authors as also "plausible", is just as likely as the 2015 scenario, and creates twelve time more greenhouse gas emissions. Since things could go either way, the stakes are high, and the consequences irreversible, the Upper Bound scenario is the safer choice on which to base estimations of possible impact. (2529)

### Response to GHG-103

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Attributable to the Proposed Action*.

## Comment GHG-104

SEPA does not permit selection of a "most likely" scenario when all scenarios are speculative

The GHG analysis in the Draft EIS does not provide an analysis that identifies what is "likely or reasonably likely" to occur,14 and in fact, no analysis could accurately predict what will occur in energy and commodities market between 2018 and 2038. Instead, Ecology simply defines four scenarios that are all considered "plausible," and then chooses one of the four that it deems the "most probable outcome."

The Draft EIS is silent on the probability that events in the world will play out through 2038 as depicted in the "most probable outcome" scenario. Rather, the selection process was based on Ecology's view that this scenario -- the 2015 Energy Policy Scenario -- is somewhat more likely than the other scenarios.

SEPA, however, requires an analysis of significant impacts. "Significant" means "a reasonable likelihood of more than a moderate adverse impact on environmental quality"; and "impacts" are defined as "the effects or consequences of actions."

The Draft EIS provides no rational basis to conclude that the 2015 Energy Policy Scenario (the "2015 Scenario") is a more likely outcome than any of the other scenarios discussed. The Final EIS must conclude that any effort to forecast commodity and energy markets, and select one scenario to reflect the reasonably foreseeable impacts of the Project on the Asian market place over a 20 year period, does not meet SEPA's "rule of reason" standard.

While the analytic approach in the Draft EIS is sufficient for disclosure purposes, it is not reliable enough to exercise SEPA substantive authority. SEPA requires that an agency demonstrate identifiable impacts are "likely or reasonably likely" to occur before imposing any mitigation. As described more fully below, because the range of scenario alternatives analyzed in the Draft EIS reflects the fundamentally and inherently speculative nature of this exercise, it does not provide a valid basis for imposing GHG mitigation offsets. (3070)

### Response to GHG-104

Refer to Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*, *Proposed Mitigation Measures*, and *Setting a Precedent*.

## Comment GHG-105

2014 Scenario provides a more accurate reflection of U.S. market dynamics

Given the significant infirmities associated problems detailed above with the 2015 Scenario, the Past Conditions (2014) Scenario (the "2014 Scenario") provides a more realistic view of potential future outcomes in the U.S. while the Low Bound Scenario is a more realistic scenario concerning effects in overseas markets. The 2014 Scenario assumes current market dynamics in the U.S., where coal and natural gas actively compete and any increases in price for either commodity will decrease its use. The 2014 Scenario does not project dramatic changes in market dynamics due to future regulatory constraints such as the CPP or major price shifts. It projects that some displacement of coal use by natural gas will occur in the U.S. due to higher coal prices generated by the opening of other markets for PRB coal. The assumed decrease in coal consumption employed in this Scenario results in a net decrease in GHG emissions throughout the time period examined in the Draft EIS.

The results of the 2014 Scenario are also consistent with the results of an analysis recently employed in a federal agency's environmental review addressing similar coal export terminals (Tongue River). That analysis quantified a reduction in U.S. GHG emissions due to new export terminal capacities driving up U.S. coal prices, resulting in decreased U.S. coal consumption. Although none of the four scenarios can reasonably be said to accurately predict the manner that U.S. markets and energy production will evolve over the next 20 years, the 2014 Scenario offers the least uncertainty because it simply carries forward the domestic market dynamics that are currently in place. (3070)

### Response to GHG-105

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Attributable to the Proposed Action*.

## Comment GHG-106

With respect to Asian GHG emissions, the Low Bound Scenario most accurately reflects market dynamics, as it assumes the lowest level of induced demand. As detailed above, the planned nature of power generation decisions in Asian economies, the limited ability to switch fuels, and baseload dynamics of Asian power production show that very little or no increased consumption will be induced by the Project's introduction of a new source of coal into a market that is already amply supplied with low cost subbituminous coal. (3070)

## Response to GHG-106

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Attributable to the Proposed Action*.

# Comment GHG-107

Draft EIS Lacks Support for 100% Reliance on the 2015 Energy Policy Scenario.

The Draft EIS selected the 2015 Energy Policy scenario as its "preferred" scenario for determining the net GHG emissions that would be caused by the Project. The Draft EIS provides no analytical or evidentiary support for its selection of the 2015 Energy Policy scenario as its "preferred" scenario—but rather it simply states that this scenario is preferred because it is the most probable outcome.3

Specifically, there is no supporting evidence or analysis to substantiate why other scenarios should not be given some amount of weight in the Draft EIS's conclusions concerning the level of GHG emissions likely to be caused by the Project. As discussed in the CPP memo, the 2015 Energy Policy scenario analysis uses input assumptions that are highly uncertain. This high degree of uncertainty with respect to multiple input variables greatly decreases the probability of likelihood that the scenarios will prove to be an accurate representation of what will occur in the future. 9(3070)

## Response to GHG-107

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Proposed Mitigation Measures* and *Greenhouse Gas Emissions Attributable to the Proposed Action*.

# Comment GHG-108

Draft EIS Presents an Unrealistic Upper Bound Scenario That Has Little Likelihood of Occurrence

The Draft EIS presents an unrealistic range of potential outcomes for the net emissions that could be caused by the Project. The Draft EIS provides no evidence that it has identified the correct or complete range of possible outcomes, even assuming its calculations are accurate and reliable.9 The Draft EIS also did not disclose the probability or likelihood of the expected outcome(s). An evaluation of the range of outcomes and input assumptions demonstrates that the Upper Bound scenario represents a statistical outlier and is not reliable.

A comparison of the Draft EIS scenarios and net GHG emissions for primary components is instructive for considering the reasonableness of the Upper Bound scenario (and the range of possible outcomes). Table 1 (below) shows the total net emissions from the largest emissions components in the Draft EIS, which includes the Pacific Basin and U.S. market-related emissions, as well as net emissions from international shipping and rail transportation attributed to the Project by the Draft EIS. These emissions account for 91% of total emissions included in the Draft EIS mitigation plan.10 (3070)

## Response to GHG-108

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Proposed Mitigation Measures* and *Greenhouse Gas Emissions Attributable to the Proposed Action*.

# Comment GHG-109

Finally, one of the important aspects of the DEIS is proposed mitigation for greenhouse gas emissions from burning the coal in Asia.

There are many problems with the modeling that is created for the DEIS. But the main thing is that the factors are many of them based on political processes that cannot be foreseen.

For example, the DEIS model that's chosen based on the 2015 regulations says that it may not ever be implemented. That scenario may never be implemented because we are unable to control new federal administrations -- or predict new federal administrations that may not ever implement these plans because they do not believe in the reality of the global climate change or wish to slow down the implementation, or simply wish to protect us in this interest.

There are so many factors that cannot be predicted in these models that vary wildly in their results, and we should not use them as a way of creating a mitigation plan.

On the other hand, greenhouse gas emissions already are affecting fish in our estuaries in the Columbia River because of the lack of, the lessening of glaciers, the predicted impacts on rain patterns which will create less snow pack and less water to go over the dams and keep fish alive. All of those things are not mentioned in the DEIS. These effects are just as real as many other effects on people from the greenhouse gases, and they are in no way -- there's no place in the DEIS where those kinds of mitigations are proposed. (TRANS-LV-Q3-00031)

## Response to GHG-109

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Proposed Mitigation Measures*, *Greenhouse Gas Emissions Attributable to the Proposed Action*.

# Comment GHG-110

C. Without establishing nexus and proportionality there is no basis to exercise SEPA substantive authority

The U.S. Constitution's Fifth Amendment limits governmental authority to deny or condition permits. Specifically, when denying or conditioning a permit the government must demonstrate that its action (a) has an "essential nexus" to the permit, and (b) that the action is "roughly proportional" to the project's impacts.

Washington courts apply the nexus and proportionality tests to restrictions, including those under SEPA, imposed on land development in Washington. The agency imposing the restriction has the burden of proving that a SEPA mitigation condition satisfies the essential nexus and rough proportionality tests, or else the development condition constitutes an illegal tax, fee, or charge under RCW 82.02.020, or the Washington State Constitution.

Nexus is an essential component to the exercise of SEPA substantive authority because it establishes the relationship between a project's environmental impact and an agency's "individual determination" that a proposed restriction is necessary to address that impact. Most simply, nexus is about causation and the mitigation required to address an impact caused by a proposed project.

Similarly, rough proportionality requires that the type and amount of mitigation is related in nature and extent to the proposed project's impact. To establish proportionality, the condition must be "impact specific" and the agency must "base its condition on an "evaluation of the proposed development's demonstrated impact."

The Draft EIS proposes that a mitigation condition requiring a 50% reduction in emissions associated with the Project is necessary to address significant impacts from the Project. However, there is no basis to establish an essential nexus because the Draft EIS cannot on the basis of existing science or law demonstrate that emissions attributed to the Project will cause a discernable environmental impact in Washington State – i.e., there is no nexus between the proposed mitigation requirement and an environmental impact caused by the Project.

The proposed mitigation also fails the rough proportionality test. The Draft EIS assumes without any rationale or justification that mitigating 50% of incremental new GHG emissions from the Project will mitigate – below a level of significance – the adverse climate change impacts presumably caused by the Project. It also fails because the identified range of emissions is so large that picking one amount is the product of speculation. Specifically, if the Project actually reduces GHG emissions, as predicted by two of the Draft EIS GHG scenarios and sets of assumptions, then no amount of mitigation is proportional. Similarly, mitigation based on the high end scenario is not roughly proportional if emissions are moderate.

The Final EIS cannot address – with any degree or validity – the inherent uncertainty of a long-term commodities market and energy production prediction by simply reducing the mitigation required to 50% of the GHG emissions purportedly caused by the Project. And when that prediction is made even more questionable by its use of an array of demonstrably incorrect assumptions, the mitigation requirement loses all grounding in reality. Rather than demonstrating that a particular increment of future increased emissions from the burning of coal will be caused by the Project, the 50% mitigation requirement is an implicit recognition that there is too much variability in potential outcomes to predict with reasonable certainty whether the Project will have any effect at all on overall net global GHG emissions.

The statutes and regulation cited in the Draft EIS to justify the 50% mitigation figure are not applicable to Project permitting decisions. By importing mitigation requirements into the Draft EIS from other statutory programs that were not intended to apply to dock permitting decisions, Ecology is attempting to usurp the authority of the Legislature.

There is simply no rational basis for Ecology to conclude that a 50% mitigation requirement for the GHG emissions attributed to the Project is close to roughly proportional when the Draft EIS GHG analysis is based on a set of speculative scenarios that are deemed "plausible and reasonable" or "most probable" but result in vastly different predicted new GHG emissions. (3070)

## Response to GHG-110

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach* and *Proposed Mitigation Measures*.

# Comment GHG-111

No part of the DEIS discusses the impacts of the project's greenhouse gas and mercury emissions or climate change and ocean acidification on fish and wildlife, including fish and wildlife dependent on

the environmental health of Alaska and Washington's National Wildlife Refuges. We have set forth some of these impacts above in section II. Omission of these impacts on fish and wildlife from the DEIS is unacceptable and deprives the public and decision makers of the complete information they need. The DEIS acknowledges that "[t]he climate impacts of global warming include sea level rise, changes in precipitation and snowpack patterns, ocean acidification, wildfire seasons, and fluctuations in surface temperatures" (DEIS 5.8-9) and states that "[s]tudies have found, in general, that climate change could result in changes in precipitation, temperature, and storm intensity and could increase risks of damage from flooding, drought, heat waves, winds, and storm surge (DEIS 5.8.2). That increases in greenhouse gas emissions can adversely affect "biodiversity" is mentioned as a result of higher global surface temperatures in the explanation of the "greenhouse gas effect." DEIS 5.8-3. The DEIS study area for climate change from construction and operation of the project is "the project area for the Proposed Action and the access roads and rail leading to the project area." DEIS 5.8.2.2. Analyzing climate change impacts to this narrowly defined study area, the DEIS finds no significant impacts from changes in temperature, precipitation, snowfall, sea-level rise "that could affect construction and operation" of the project " DEIS 5.8.2.8. Wildfires as a result of hotter and drier summers are discussed in DEIS, 5-8-32, but only insofar as they might impact the project's "service disruption." A revised DEIS and the Final DEIS must study, analyze and disclose climate change impacts on fish and wildlife, including those dependent upon Alaska and Washington's Natural Wildlife Refuges. (2712)

### Response to GHG-111

Draft EIS Chapter 4, Sections 4.7, *Fish*, and 4.8, *Wildlife*, assessed the potential impacts of the Proposed Action on fish and wildlife, including impacts related to vessel transportation. Potential impacts related to mercury emissions in Washington State were assessed in Draft EIS Appendix I, *Sulfur Dioxide and Mercury Emissions*. Final EIS Chapter 5, Section 5.8.2, *Climate Change Impacts on the Proposed Action*, has been revised to consider how future changes in climate, including ocean acidification, could affect fish and wildlife and their habitat. The study areas for this analysis align with the study areas defined for each resource area in their respective EIS sections. The *SEPA Climate Change Technical Report* has been revised to discuss impacts on local fish populations from the Proposed Action and climate change.

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Climate Change Analysis Approach*.

## Comment GHG-112

A revised DEIS and the Final DEIS must study, analyze and disclose climate change impacts on fish and wildlife, including those dependent upon Alaska and Washington's Natural Wildlife Refuges. (2589)

### Response to GHG-112

Refer to Response to GHG-111.

## Comment GHG-113

In the GHG analysis portion of the DEIS, the DEIS acknowledges that "[t]he climate change impacts resulting from this increase to greenhouse gases would persist for a long period of time, beyond the

analysis period and are considered permanent ….” DEIS 5.8-16. The DEIS observes that climate change can result in higher global temperatures, sea level rise, changes in precipitation and snowpack patterns, ocean acidification, wildfire seasons, fluctuations in surface temperatures, and adverse impacts on biodiversity, human health and infrastructure. DEIS 5.8.1.1 and 5.8.2. However, the study area for climate change impacts from the project’s GHG emissions is inexplicably limited to “the project area for the Proposed Action and the access roads and rail leading to the project area.” DEIS, Table 5.0.4 and section 5.8.2.2;.SEPA Climate Change Technical Report, 1.3. Constricting the study area downplays the significant adverse climate change impacts of the project. There is no information in the DEIS about whether there would be specific climate change impacts outside the limited study area and, if so, where those impacts would occur and the nature of specific impacts. Thus, that information is unavailable to the public and decision makers. Without information about whether there may be climate change impacts outside this limited study area, the DEIS inappropriately concludes that “[t]here would be no unavoidable and significant adverse environmental impacts.” DEIS, 5.8.2.8. A revised DEIS and Final DEIS must study, analyze, and fully disclose the climate change impacts on Washington and Alaska’s oceans, shorelines, fish and wildlife, communities and National Wildlife Refuges. (2589)

## Response to GHG-113

Refer to Response to GHG-111.

# Comment GHG-114

In the GHG analysis portion of the DEIS, the DEIS acknowledges that “[t]he climate change impacts resulting from this increase to greenhouse gases would persist for a long period of time, beyond the analysis period and are considered permanent ….” DEIS 5.8-16. The DEIS observes that climate change can result in higher global temperatures, sea level rise, changes in precipitation and snowpack patterns, ocean acidification, wildfire seasons, fluctuations in surface temperatures, and adverse impacts on biodiversity, human health and infrastructure. DEIS 5.8.1.1 and 5.8.2. However, the study area for climate change impacts from the project’s GHG emissions is inexplicably limited to “the project area for the Proposed Action and the access roads and rail leading to the project area.” DEIS, Table 5.0.4 and section 5.8.2.2;.SEPA Climate Change Technical Report, 1.3. Constricting the study area downplays the significant adverse climate change impacts of the project. There is no information in the DEIS about whether there would be specific climate change impacts outside the limited study area and, if so, where those impacts would occur and the nature of specific impacts. Thus, that information is unavailable to the public and decision makers. Without information about whether there may be climate change impacts outside this limited study area, the DEIS inappropriately concludes that “[t]here would be no unavoidable and significant adverse environmental impacts.” DEIS, 5.8.2.8. A revised DEIS and Final DEIS must study, analyze, and fully disclose the climate change impacts on Washington and Alaska’s oceans, shorelines, fish and wildlife, communities and National Wildlife Refuges. (2712)

## Response to GHG-114

Refer to Response to GHG-111.

# Comment GHG-115

The EIS inadequately considers Carbon Dioxide ($CO_2$) and other pollutant emissions from the coal at its point of combustion in Asia. The agencies must consider the impacts from this forseeable and unavoidable impact of the project on WA economy and environment (shelffish industry, etc)

The plan is to export over 48 million metric tons of coal per year to China, where it will be burned, resulting in air pollution that will cause impacts in the United States (in addition to the effects on nearby populations in China). The pollution includes carbon dioxide ($CO_2$), a greenhouse gas that also causes ocean acidification. (3426)

## Response to GHG-115

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. Draft EIS Chapter 5, Section 5.8.2, *Climate Change*, discussed the link between climate change and ocean acidification, and the negative impacts that ocean acidification has on marine organisms. The Final EIS has been revised to include additional information on how climate change (including ocean acidification) could affect resources in the EIS study areas, including fish populations, within the EIS study areas. In further addressing ocean acidification impacts on marine life in the EIS study area, the *SEPA Climate Change Technical Report* has been revised to discuss the combined impacts on local fish populations from the Proposed Action and climate change.

# Comment GHG-116

Washington States' 270 million a year shellfish industries are already experiencing impacts from ocean acidification- resulting in State expenditures (on Nov 27, 2012, Governor Gregoire signed an executive order creating a 42 point program to address the dramatic situation http://www.kitsapsun.com/news/2012/nov/27/governor-calls-for-action-to-fight-acidification/#axzz2Ig4cqccm- November 27, 2011, Kitsap Sun). This is just one of the many statewide initiatives that are in direct conflict with a permit to allow 44 million tons per year of coal be burned into our atmosphere- there is no national boundary for this issue. While we cannot prevent China from burning coal, we can decide it is not in the public interest to allow this US coal to be transported by rail and shipped there to be burned. This is an indirect environmental and economic impact to our environment that must be considered by the EIS.

The EIS inadequately evaluates the effects of burning of coal shipped due to the permitting of this project and cumulatively of the other terminals if permitted on the WA state shellfish industry. Include in this analysis losses of public expenditures such as the $3 million invested with this program to help shellfish hatcheries adapt to more acidic conditions and establishing a new center for ocean acidifcation at the University of Washington. (3426)

## Response to GHG-116

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. Refer to Response to GHG-115.

# Comment GHG-117

The fact that pH in oceans I dropping (8.2-->81 in 255 years) is becoming more acidic is alarming. There is a tremendous buffer to resist pH changes as life generally exists at pH 7-8.5. Yet the pH is changing--dropping suggesting that the ocean is saturated & buffering [?] systems exhausted.

We must stop loading our environment. pH CO2 is not addressed in EIS. (3702)

## Response to GHG-117

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. Refer to Response to GHG-115.

# Comment GHG-118

The EIS does not address the effects of dissolved CO2 on the pH of water or the ocean. (TRANS-SPOKANE-Q2-00006)

## Response to GHG-118

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. Refer to Response to GHG-115.

# Comment GHG-119

The SEPA Climate Change Technical Report claims that ocean acidification does not affect the project area. This is not true given that marine waters periodically reach the project area with shifting tides and should be assessed in the FEIS. (2691)

## Response to GHG-119

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. Refer to Response to GHG-115.

# Comment GHG-120

Ocean acidification and changes to marine and freshwater chemistry are of significant concern to the health of the environment. The analysis of the impacts from burning 44 million metric tons of coal per year on ocean acidification is overly simplified and does not appropriately consider potential cumulative impacts. Coal combustion produces many products including C02, NOx and S02. Nitrogen oxides and sulfur dioxide will transform in the atmosphere to strong acids such as nitric acid and sulfuric acid (HN03 and H2S04) that can affect the carbonate chemistry of marine waters. Further the term 'ocean acidification' overly simplifies the true complexity of the carbonate system which includes parameters such as dissolved inorganic carbon (DIC), alkalinity, pC02, and pH. This should be a consideration in the FEIS.

More attention should be given to the impacts of burning 44 million metric tons of coal per year will have on carbonate chemistry globally, along coastlines adjacent to the project area and the potential cumulative biological impacts. There is a growing body of literature highlighting the impacts that ocean acidification may have on species that are both culturally, commercially and ecologically

significant to the Pacific Northwest. This includes, but is not limited to, salmon, pteropod, shellfish and some harmful algal bloom forming species of diatoms and dinoflagellates. There should be a discussion of the cumulative impacts ocean acidification may have on the natural environment. Anthropogenic climate change will likely cause moderate to severe declines in most west coast salmon, especially when interacting factors are incorporated into the analysis (e.g., existing threats to populations, water diversion, accelerated mobilization of contaminants, hypoxia, and invasive species). Salmon will adapt their behavior and possibly physiology, but these responses are unlikely to prevent long-term declines. (2691)

### Response to GHG-120

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. Refer to Response to GHG-115.

Final EIS Chapter 5, Section 5.8.2, *Climate Change Impacts on the Proposed Action*, has been revised to consider how future changes in climate. The study areas for this analysis align with the study areas defined for each resource area in their respective EIS sections.

In addressing warming temperature, variable streamflows (i.e., earlier snowmelt), and ocean acidification impacts on salmon populations in the EIS study areas, the *SEPA Climate Change Technical Report*, has been revised to discuss the combined impacts on local salmon populations of climate change.

## Comment GHG-121

We have already lost significant ocean productivity (i.e. food supply potential and ecological function) due to GHG emissions, which have caused acidification and warming and will additional emissions as an effect of the proposed project further impact and harm ocean productivity and economic benefits. This is not analyzed in the DEIS. (3387)

### Response to GHG-121

The Draft EIS described existing conditions in the study areas identified for each resource area analyzed in Draft EIS Chapters 3, 4, and 5. To the extent that climate change has affected conditions within a study area for a particular resource, those conditions are reflected in the existing conditions described in the Draft EIS. Draft EIS Chapter 5, Section 5.8.2, *Climate Change,* described projected changes in temperature, precipitation, snowpack, and sea level rise for the region.

Under SEPA, an EIS is required to focus on the environmental impacts of a proposal and its alternatives. Refer to the Master Response for Purpose and Focus of the EIS for a list of the resources addressed in the EIS, an explanation of the basis for the EIS scope and focus, and a discussion of how the Final EIS will be used, along with other information, by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

## Comment GHG-122

Section 5.8.2.4, page 5-8-25 adequately describes projected impacts from climate change, but focuses almost exclusively on economic impacts to the region. The one exception seems to be the paragraph on ocean acidification, which acknowledges the potentially significant effect on shellfish and other organisms. WDFW recommends including a more robust discussion of the impacts climate

change will have on the fish and wildlife of Washington, as well as the important economic value it serves our state and region. Climate impacts are expected to affect ecosystems, species and habitats in at least six key ways. These include the degradation and loss of habitat, increase in major ecosystem disturbances, shifts in geographical ranges of some native plants and animals, change in timing of life history events for species, declines in species population and the loss of biodiversity, and the spread of invasive species and disease. These impacts have large ramifications for our region's social, economic and environmental viability in the future. WDFW suggests referencing "State of Knowledge Report: Climate Change Impacts and Adaptation in Puget Sound", prepared by the Climate Impacts Group in 2016 in further analysis of this topic and the discussion appropriate mitigation for project impacts. (3059)

### Response to GHG-122

Refer to Response to GHG-121. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus. The Master Response for Geographic Study Areas of the EIS explains the study areas analyzed in the EIS.

## Comment GHG-123

The DEIS inappropriately avoids adequate analysis of significant adverse impacts on fish and wildlife species and habitats from greenhouse gas and mercury emissions, climate change, ocean acidification, and vessel transportation. Among other things the DEIS fails to study, analyze and disclose impacts on migratory fish and wildlife species shared by Washington and Alaska and on resident species dependent upon National Wildlife Refuges in the two states. (2712)

### Response to GHG-123

Refer to Response to GHG-111 regarding the analysis of fish and wildlife impacts from the Proposed Action and from future changes in climate.

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*.

## Comment GHG-124

The DEIS inappropriately avoids adequate analysis of significant adverse impacts on fish and wildlife species and habitats from greenhouse gas and mercury emissions, climate change, ocean acidification, and vessel transportation. Among other things the DEIS fails to study, analyze and disclose impacts on migratory fish and wildlife species shared by Washington and Alaska and on resident species dependent upon National Wildlife Refuges in the two states. (2589)

### Response to GHG-124

Refer to Response to GHG-111.

## Comment GHG-125

The DEIS discusses ocean acidification and recognizes that it results "in changes in seawater carbonate chemistry that can affect marine organisms such as shellfish. Biological impacts from

ocean acidification are expected to vary but could be significant." DEIS 5.8-25. Despite this statement the DEIS provides no further information about ocean acidification impacts on shellfish or other marine life. A revised DEIS and the Final EIS must include consideration of these significant adverse impacts on fish and wildlife, not just on shellfish but on all calcareous invertebrates including oysters, pteropods, and euphasiids that are essential prey animals of marine mammals and commercially important fish species including salmon. (2589)

### Response to GHG-125

Refer to Response to GHG-111.

## Comment GHG-126

The DEIS discusses ocean acidification and recognizes that it results "in changes in seawater carbonate chemistry that can affect marine organisms such as shellfish. Biological impacts from ocean acidification are expected to vary but could be significant." DEIS 5.8-25. Despite this statement the DEIS provides no further information about ocean acidification impacts on shellfish or other marine life. A revised DEIS and the Final EIS must include consideration of these significant adverse impacts on fish and wildlife, not just on shellfish but on all calcareous invertebrates including oysters, pteropods, and euphasiids that are essential prey animals of marine mammals and commercially important fish species including salmon. (2712)

### Response to GHG-126

Refer to Response to GHG-111.

## Comment GHG-127

I did not see addressed the effect of added carbon in the atmosphere and its effect on ocean acidification (OA). OA is already causing major problems for Washington and Oregon shellfish. The tipping point is already happening as declines in reproductive health of oysters, crab, and other shell fish and probably many feeder organisms (2270)

### Response to GHG-127

Refer to Response to GHG-111.

## Comment GHG-128

Please determine the collective incremental impact on the Pacific Northwest shellfish industry as the additional emissions acidify and warm the waters of Puget Sound, Hood Canal, and the North Pacific in general. (2042)

### Response to GHG-128

Refer to Response to GHG-111.

# Comment GHG-129

Please determine the collective incremental impact on salmon populations as average temperatures rise in breeding streams, as snowpacks melt earlier in the season, as ocean acidification alters the ecosystem, and as other climate changes descend upon our region due to these emissions.(2042)

## Response to GHG-129

The *SEPA Climate Change Technical Report,* provided the combined impacts on local salmon populations from the Proposed Action and climate change. The scope of this analysis was limited to the Proposed Action and local area, and does not include broader, statewide, or larger regional considerations.

# Comment GHG-130

Applying the limited climate change study area, the DEIS and accompanying reports completely fail to analyze ocean acidification stating: "[o]cean acidification is not addressed here since its impacts on the Proposed Action are anticipated to be minimal. SEPA Climate Change Report, 2.4. The failure to provide an analysis of ocean acidification impacts is an egregious omission in the DEIS, particularly as Washington State and Alaska face devastating natural resource and economic losses from ocean acidification of their marine waters. At a minimum, a revised DEIS and the Final EIS must include studies, analysis, and full disclosure of ocean acidification impacts on Washington and Alaska's National Wildlife Refuges, marine waters, shorelines, fish and wildlife resources, and communities. (2712)

## Response to GHG-130

Refer to Response to GHG-111.

# Comment GHG-131

Applying the limited climate change study area, the DEIS and accompanying reports completely fail to analyze ocean acidification stating: "[o]cean acidification is not addressed here since its impacts on the Proposed Action are anticipated to be minimal. SEPA Climate Change Report, 2.4. The failure to provide an analysis of ocean acidification impacts is an egregious omission in the DEIS, particularly as Washington State and Alaska face devastating natural resource and economic losses from ocean acidification of their marine waters. At a minimum, a revised DEIS and the Final EIS must include studies, analysis, and full disclosure of ocean acidification impacts on Washington and Alaska's National Wildlife Refuges, marine waters, shorelines, fish and wildlife resources, and communities. (2589)

## Response to GHG-131

Refer to Response to GHG-111.

# Comment GHG-132

Despite this, the Lead Agencies are considering approving a coal export terminal that would endanger public health and safety and contribute to catastrophic and irreversible environmental

impacts. The release of carbon dioxide emissions, which would further destabilize the climate system and worsen ocean acidification will have perilous consequences for all Washingtonians and United States citizens. The Draft Environmental Impact Statement (DEIS) fails to consider these extremely dangerous impacts. (3387)

### Response to GHG-132

Refer to Response to GHG-111. Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*.

## Comment GHG-133

Moreover, the 2015 Energy Policy fails to account for the regulatory setting summarized in Table 5.8-1. As a result is grossly underestimates the impacts on climate change. Under this plan, the rate of sea level rise described in the document will, at best, be at the upper end of the 4-foot projection described in this report. (3404)

### Response to GHG-133

Sea-level rise impacts were addressed in the *SEPA Climate Change Technical Report*, which analyzed the impacts of sea-level rise on flooding risks in the project area based on current scientific projections of potential sea-level rise, accounting for local uplift forces.

## Comment GHG-134

Although the DEIS contains mitigation measures such as using fuel efficient equipment, anti-idling policies, and a mitigation plan, there is no way to counter the significant adverse environmental impact this project will have not only in Cowlitz County and Washington State, but in many spots around the world such as coral reefs, an important support system for fishstocks. This terminal is counter to the best economic interest of Washington and may affect the ability of the ocean to produce food used around the world. Further acidification will cost us jobs and a less pristine environment. Its overall effects will be significant and adverse and not able to be mitigated here and around the world. (2040)

### Response to GHG-134

Refer to Response to GHG-111. Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach* and *Proposed Mitigation Measures*.

## Comment GHG-135

The DEIS Fails to Disclose the Health Risks and Costs Associated with Climate Change to Residents of Washington State and the Region

By facilitating the mining, transport, and burning of coal, the MBT project will contribute to climate change-induced injury and disease, including:

- Increased heat related illness and health care costs;
- Increased extreme weather events with associated injuries and deaths;

- Food supply disruption;
- Spread of infectious diseases; and
- Disproportionate adverse effects on low income and communities of color.)

Beyond the more obvious hazards associated with coal mining, transport, storage, and burning, there is an undeniable connection between increased fossil fuel usage and its impact on climate change and health. The science is clear that the earth is warming and that people, through the burning of massive quantities of fossil fuels, are the main cause of this rapid increase in global temperatures. Heat trapping and warming temperatures are a result of increases in atmospheric greenhouse gases, which efficiently absorb heat from the earth's surface and prevent outgoing thermal energy from radiating back into space. The coal carried by trains into Longview, when eventually burned, will significantly add to an already dangerous burden of greenhouse gases being emitted into the atmosphere.

Numerous studies, reported in leading scientific and medical journals, show that ongoing changes to our climate are correlated with: changes in rainfall patterns; worsening heat waves; an increased frequency and magnitude of extreme weather events, droughts, and fires; a rise in sea level; increased potency of allergens; and the spread of infectious diseases – all of which pose a real and serious threat to human health. Unless global carbon emissions start to fall within the next decade, we can expect to see further and more drastic changes in our climate, and related adverse health impacts all over the world.

Populations that could be most vulnerable to health impacts of climate change include those with:

- Demographic vulnerability: People with existing illnesses, people with disabilities, older adults, mothers, infants, children, people with low socioeconomic status, linguistically or socially-isolated populations, immigrants and refugees, communities of color, and American Indians
- Occupational vulnerability: Wildland firefighters, outdoor workers, growers, ranchers and farmworkers, emergency responders and health care workers
- Geographic vulnerability: Urban and suburban areas, coasts, steep slopes, and private water systems (Haggerty et al., 2014)

MBT's emissions will contribute to increased ground level ozone.

- Ground level ozone increases with hot weather, vehicle and diesel exhaust, gasoline vapors, and other outdoor air pollutants. Ground level ozone is known to irritate the respiratory tract, cause premature aging of the lungs, and has been linked to the development of asthma and exacerbation of existing asthma cases. In fact, people who spend more time being active in the outdoors working or playing are at greater risk for adverse health effects from ozone exposure than those who spend more time inside or are sedentary (McConnell et al., 2002; Gent et al., 2003).
- Asthma currently affects over 9% of Washington adults (ages 18 and older), and over 110,000 youth in Washington suffer from asthma. The Centers for Disease Control ranks asthma prevalence in Washington State residents as higher than the national average. In 2010, $73 million was spent on hospitalization costs for asthma-related illness in Washington. Asthma is the primary cause of schoolage absenteeism nationally and is associated with reduced quality of life, depression, and suicidal ideation (WA DOH, 2013).

- In Oregon, an estimated 10.8% of adults and 7.8% of children have asthma. Oregon has a higher burden of asthma than the overall US and was among the top six states with the highest percentage of adults with asthma in 2011. Children 0-4 years and females have the highest rates of asthma hospitalizations. In 2011, the total cost of asthma hospitalizations was more than $28 million, with an average of over $14,000 per hospitalization (Garland- Forshee & Gedman, 2013).
- The University of Washington's Climate Impacts Group has estimated that ozone levels will rise due to climate change and increases in train, auto, bus, and truck transportation in the state. Ozone levels are expected to increase by 16% in Spokane County and 28% in King County by midcentury (2045-2054) from 1997-2006, increasing the risk for deaths from cardiovascular disease, asthma, and lung cancer. They also estimate an increase in ozone-related deaths by 17% in Spokane County and 27% in King County during the same time period (Jackson et al., 2010).
- Health related costs of current ozone air pollution nationally were an estimated $6.5 billion in 2008 and will continue to rise without change in regulatory controls (Knowlton et al., 2011).

MBT will contribute to negative health impacts of increased extreme weather events and wildfires.

- Extreme weather events with associated injuries are already being witnessed globally. Precipitation extremes including heavy rainfall, flooding, and droughts are projected to increase in all regions of the US (IPCC, 2012).
- Floods account for approximately 98 deaths per year in the US and are the second deadliest of all weather-related hazards (Ashley & Ashley, 2008; NOAA, 2012).
- Steep slopes and intense rainfall can trigger landslides that result in injury and death.
- Smoke from wildfires is associated with cardiopulmonary disease, ischemic heart disease, asthma, bronchitis, pneumonia, cancer and motor vehicle crash injury (Haggerty et al., 2014).

MBT will contribute to negative health impacts of shifting disease ranges.

- Climate change is associated with the spread of vector- and water-borne disease and illness. Vectors such as fleas, ticks, and mosquitoes transmit pathogens that cause diseases including Lyme, dengue fever, West Nile virus, and Rocky Mountain spotted fever.
- Large-scale weather shifts in temperature, precipitation, and humidity can result in vector adaptation or geographic expansion, increasing the number of people at risk for acquiring vector-borne diseases.
- Water-borne illnesses such as pediatric gastrointestinal infections have also been associated with extreme weather events, large-scale flooding, and water source contamination (Luber et al., 2014).

MBT will contribute to loss of food security and increase risk to vulnerable populations.

- An anticipated decline in crop yields, livestock, and fish production from extreme weather, changes in rainfall patterns, and ocean acidification is predicted to raise food prices and result in food shortages.
- Elevated atmospheric carbon dioxide is also associated with decreased plant nitrogen concentration, resulting in decreased protein content of existing plants.

- Mental health disorders and anxiety around climate-related disease and illnesses are an additional concern for health care providers (Luber et al., 2014).
- Air pollution and climate change will continue to disproportionately affect minorities and lower socio-economic populations in Washington, the US and worldwide. Those least responsible for the atmospheric content of carbon and other pollutants are positioned to bear the most significant brunt of their ill effects, including increased respiratory and infectious illness, extreme weather events and food shortages. (3327)

### Response to GHG-135

The Draft EIS assessed environmental resources with the potential to affect human health in accordance with SEPA Rules and the Cowlitz County Code. An EIS is not required to document all possible effects and considerations of a decision (WAC 197-11-448). The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for this scope and focus. A Health Impact Assessment for the Proposed Action is being prepared separately from the SEPA environmental review. Refer to the Master Response for the Health Impact Assessment for more information. Refer to Final EIS Chapter 3, Section 3.2, *Social and Community Resources*, and Chapter 5, Sections 5.6, *Air Quality*, and 5.8, *Greenhouse Gas Emissions and Climate Change*, for potential impacts on social and community resources, air quality, and greenhouse gas emissions and climate change.

Final EIS Chapter 5, Section 5.8.2, *Climate Change Impacts on the Proposed Action*, has been revised to consider how future changes in climate could affect resources in the EIS study areas.

## Comment GHG-136

In the DEIS, the Lead Agencies and cooperating agencies failed to adequately consider the best science and evidence in evaluating the proposed project's impacts on the growing climate crisis and ocean acidification. In particular, Dr. Hansen's paper discussed above, Assessing 'Dangerous Climate Change': Required Reduction of Carbon Emissions to Protect Young People, Future Generations and Nature, should have been included. The science and other best evidence presented and included in these comments and the attachments should be fully considered in the Lead Agencies' and any cooperating agency's analyses for the approval of the Longview coal export terminal. (3387)

### Response to GHG-136

Refer to Response to GHG-121 and Response to GHG-135.

## Comment GHG-137

Please determine the collective incremental impact on human (especially pregnant women and their fetus'), animal, and plant health due to these emissions. (2042)

### Response to GHG-137

Refer to Response to GHG-121 and Response to GHG-135.

# Comment GHG-138

The DEIS devotes pages to calculating increases in metric tons of C02 but it is silent on the resultant impact of climate change on human health. This is quite an omission. It's equivalent to calculating the tonnage of nuclear bombs dropped during WWII but failing to comment on the loss of life in Hiroshima and Nagasaki. What could be the impact on Cowlitz County and Washington residents from forest fires, smoke, injury, death and dislocation?

What are the impacts from increased heat, higher ozone levels and degraded air quality? How will this impact pediatric populations and adults over 65? Those with pre-existing diseases like asthma, bronchitis, COPD?

What will be the health impacts of severe weather, including heavy rain, flooding, wind storms and landslides? What will be the impacts from increasing rates of vector-borne diseases like West Nile Virus, Rocky Mountain Spotted Fever, plague, dengue fever, tularemia and Lyme disease? Or from diarrheal infections such as Salmonella and Campylobacter?

Where is information about food security? Will there be disproportionate adverse effects on low income communities and communities of color? If so, what will they be? Due to the lack of a Human Impact Assessment, the DEIS should be deemed inadequate. (2246)

## Response to GHG-138

Refer to Response to GHG-121 and Response to GHG-135.

# Comment GHG-139

"From SEPA: "The agency perspective should be that each generation is, in effect, a trustee of the environment for succeeding generations. Particular attention should be given to the possibility of foreclosing future options by implementing the proposal." SEPA, WAC sec. 197-11- 440(5)(c)(vii) Therefore, through a cumulative analysis for the proposed MBT, determine the total amount of CO2 emissions that would result from the mining, transport by rail, export by cargo ship, and burning of 44million tons of Powder River Basin coal over the life of the project. How will all these emissions impact and accelerate climate changes in Washington state? In particular, what will be the impacts on the glaciers of the North Cascades, on ocean acidification that is detrimental to marine ecosystems and shellfish, on precipitation that contributes to river and stream flow in the summer months that is crucial to salmon and agriculture?" I would add that this is one of the key reasons that the EIS must do a cumulative impacts analysis of ALL of the proposed terminals. "What are the projections for extreme weather events in Washington that may increase due to the possible burning of coal that might be exported from Cherry Point and Longview? (And the other export terminals)What would be the projected economic impacts due to climate change-induced extreme weather events like landslides in the winter due to greater than normal precipitation or drought in the summer due to a decrease in precipitation in our state? "How much would the burning of the Powder River Basin coal in Asia that is proposed to be exported from the Longview Terminal offset the goals established by Washington State to reduce greenhouse gas emissions as adopted by our state legislature in 2008? (3426)

## Response to GHG-139

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. Refer to Response to GHG-111.

Draft EIS Chapter 6, *Cumulative Impacts*, assessed the potential greenhouse gas emissions from the Proposed Action and six planned coal export terminals.

# Comment GHG-140

We live in a community almost completely ringed with levees, yet Section 4.1.4.1 dismisses the effect of sea level rise (from burning coal). This section cites our elevation and distance from the sea without mention of the huge effect tides play on local river (and groundwater) levels, the elevation difference between the 500-year and 100-year levels of protection offered by the dikes, and the substantial percentages of Longview below 4', 6' and 8' NAVD88. Losing the 100-year level of protection would end our community. (3434)

## Response to GHG-140

Refer to Response to GHG-133.

Potential impacts from future flooding were addressed in the *SEPA Climate Change Technical Report*. The report reviewed the potential for increased flooding due to changes in precipitation and snowpack, as well as sea level rise. This analysis includes a review of the existing levee elevations and the potential for climate change to alter the effectiveness of the surrounding flood protection systems.

# Comment GHG-141

Greenhouse Gas Emissions and Climate Change, Page 5.8-1-33

There has been significant investment by Washington state natural resource agencies and Tribal governments to plan for, investigate and respond to the following effects of climate change. For example; DNR is building and deploying ocean acidification sensor packages throughout the nearshore waters of WA to collect data on pH and water quality changes resulting from climate change that affect ecologically and commercially important species. DNR is also investigating the potential to strategically culture aquatic plants to increase pH of acidified waters. These efforts and investments of citizen dollars and further investments by state and local government required to respond to continued production of greenhouse gases should be considered in the project's economic analysis. (2691)

## Response to GHG-141

Refer to Response to GHG-111. Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*.

# Comment GHG-142

In assessing the proposed project's impact on the atmospheric concentration of GHGs, the Lead Agencies' and cooperating agencies should consider both the indirect and cumulative GHG emissions

from the proposed project. In considering indirect and cumulative impacts, the Lead Agencies failed to analyze any delayed or incremental impacts of the increased GHG emissions caused by the proposed project. Disclosing an estimate of annual emissions from the project itself does not suffice.

The Lead Agencies must disclose total emissions over the life span of the project from the construction, operations, and transport associated with the terminal. Once it discloses that figure, the Lead Agencies must do an actual analysis of those emissions, added to all other cumulative emissions beyond 350 ppm and the additional harm to the human environment. To make this analysis meaningful, please answer these questions:

a. What do the Lead Agencies or the State use as a maximum global warming temperature goal for the most heating to the Earth's surface and our oceans that is safe for humanity and other living organisms, including human life, liberty and property?

b. What do the Lead Agencies or the State use as a maximum atmospheric carbon dioxide concentration level that is safe for humanity and other living organisms, including human life, liberty, and property?

c. What plan for restoring our atmosphere to safe levels of carbon dioxide, and our planet to safe temperatures do the Lead Agencies use as a basis for conducting its cumulative impacts analysis? (3387)

### Response to GHG-142

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*. Cumulative greenhouse gas emissions were assessed in Draft EIS Chapter 6, *Cumulative Impacts*.

## Comment GHG-143

Please determine the collective incremental impacts on the region's fruit----growing industry as temperatures rise, precipitation patterns change, pest populations grow, and new pests arrive in our region due to changes in our climate driven by these emissions.

Please determine the collective incremental impacts on our wine industry, which is one of Washington State's largest industries, as precipitation patterns change, temperatures rise, and new pests and vine diseases arrive in our region due to climate changes driven by these emissions. (2042)

### Response to GHG-143

The concerns raised by the commenter are outside the scope of a SEPA EIS. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

## Comment GHG-144

Please determine the collective incremental impacts on Eastern Washington forests as weather patterns change, as pest populations grow, as habitat temperatures rise, and as precipitation levels change due to these emissions. (2042)

### Response to GHG-144

Eastern Washington State is outside the geographic study area defined for the climate change analysis. The Master Response for Geographic Study Areas of the EIS explains the study areas analyzed in the EIS.

## Comment GHG-145

Please determine the collective incremental impact of these emissions on our coastal communities as sea level rises and more intense storms erode the bluffs and beaches that heretofore separated them from the sea.

Please determine the collective cost of any required buyouts, relocations, and/or protective measures that may be required on our coasts. (2042)

### Response to GHG-145

Coastal communities are outside the geographic study area defined for the climate change analysis. The Master Response for Geographic Study Areas of the EIS explains the study areas analyzed in the EIS.

## Comment GHG-146

The Draft EIS has not reliably identified any climate change effects attributable to the Project under the SEPA framework. While it states that the Project's net GHG emissions represent a significant impact, the Draft EIS fails to explain how these impacts have been determined or establish a causation link between the Project's GHG emissions and the supposed environmental impacts in Washington State that would not otherwise occur under the No Action Alternative. The Draft EIS's conclusions are also contradictory in that they separately conclude climate change impacts on the No-Action Alternative would be the same as those on the Project, tacitly acknowledging that climate change effects are the same irrespective of the operation of the Project. Because it is not possible - with any degree of confidence - to attribute potential local or state-level climate change impacts to project-level GHG emissions given the scale, complexity and uncertainty inherent in current modelling and data analytical techniques, the Draft EIS, or any EIS for that matter, cannot reliably identify local climate change impacts attributable to GHG emissions from the Project.
(3070)

### Response to GHG-146

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Attributable to the Proposed Action* and *Greenhouse Gas Emissions Analysis Approach*.

## Comment GHG-147

The EIS is also deficient because it fails to account for the hidden costs of. more mining, and the transportation and burning of coal on global climate change. In Montana, our snow is melting earlier, causing impacts to both: recreation and agriculture. The fires. still burning near Fort McMurray serve as a warning to. any of us of the impact of climate change on forests and. nearby communities. Furthermore, it does not matter whether the coal is burned in China or in the United States. The

atmosphere does not recognize national boundaries. Wherever coal is burned to generate electricity it adds to the greenhouse gas effect with increasingly costly consequences for coastal and inland communities. (1203)

### Response to GHG-147

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*.

## Comment GHG-148

Finally, because the sole purpose of the MBTL facility is to facilitate the shipping of coal being transported from the PRB to its final destination in Asia, where it will be burned for energy, I also believe that the EIS must fully consider the long term and direct effects that this action will have on the global climate. (3829)

### Response to GHG-148

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*.

## Comment GHG-149

The potential climate impacts that would result from the proposed MBTL coal export terminal cannot be ignored. Full consideration must be given to the long-term, connected, direct, and indirect impacts that the proposed MBTL project would have on global climate change. Construction and operation of the proposed MBTL would have direct climate impacts due to diesel combustion emissions both from transporting materials and operating equipment for the construction of the export terminal and from operation of the railroad bring coal to the MBTL. The principal climate impacts, however, would be indirect and would come from the combustion of the coal exported from MBTL, an undeniable cumulative and connected impact of the construction and operation of MBTL. Virtually every ecological community and natural system in Montana, and, indeed, the world, is already being impacted by global climate change. (2504)

### Response to GHG-149

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach* and *Greenhouse Gas Emissions Attributable to the Proposed Action*.

## Comment GHG-150

Climate change and coal's impact on Earth's rising temperatures must be considered with a project of this size. (0357)

### Response to GHG-150

Draft EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, included an assessment of potential impacts related to greenhouse gas emissions and climate change.

# Comment GHG-151

One issue that is cumulative in nature but that has not been addressed in this draft EIS is the effect of global water use as we are entering a future of water scarcity due to anthropomorphic climate change (0490)

## Response to GHG-151

Final EIS Chapter 5, Section 5.8.2, *Climate Change Impacts on the Proposed Action*, has been revised to include information on how regional water quality and availability may change in the study area due to climate change (i.e., longer periods of drought followed by heavy precipitation and flooding events). An analysis of global changes in water demand and availability due to future changes in climate is outside of the purpose and focus of this EIS. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

# Comment GHG-152

I was gratified to see that the global impacts of climate change were included in the DEIS by analyzing the impacts for Cowlitz County and Washington State from burning coal in Asia. But the analysis was misdirected. Instead, countries already hit the hardest by climate change should have been the focus by calculating the number of new climate refugees displaced by drought, sea level rise and flooding all because someone thought they could make money selling coal to Asia. The urgency of the need to address climate change was not mentioned. Human caused GHG emissions have been the greatest in history in the last 40 years yet with the exception of airplane emissions, they have not contributed to the current warming of the climate because there is a time lag of at least 40 years between when emissions are created on the earth's surface and when they become climate warming greenhouse gases in the troposphere. We can stop emissions tomorrow and things will get much worse for the next 40 years. If we are to have any hope of ensuring that future generations live in a stable healthy climate then we must start to reduce our emissions now, not increase them. When you are in a hole, the first rule is to stop digging, yet the DEIS states that this proposal by 2028, would add 3.2 million metric tons of CO2e to the global emissions. The DEIS states that emissions attributable to operations of the Proposed Action are considered adverse and significant. I would go further and say they are immoral and unconscionable. I want our legacy to be that we weaned our way off of fossil fuels in time to preserve the climate for future generations. (1442)

## Response to GHG-152

The concerns raised by the commenter are outside the scope of a SEPA EIS. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

# Comment GHG-153

S.7.9, the section describing Unavoidable and Significant and Adverse Impacts for Greenhouse Gas Emissions warrants a No-Action decision for three reasons. 1) The DEIS describes but does not quantify the impacts of climate change under each scenario evaluated. 2) The scenario on which the DEIS is based, "Preferred Scenario," the 2015 Energy Policy Scenario, is unsustainable, unsafe, and

out-of-step with the regulatory setting described in Table 5.8-1. Impacts of climate change described are exceedingly optimistic - inconsistent with this status-quo / incrementally improved energy policy, per IPCC's AR5. 3) Any error or uncertain should be yielded to the tax-paying public and to future generations. The effects of climate change are irreversible over centuries, cumulative in effect, and imminent without bold action now. (3409)

### Response to GHG-153

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*.

Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used, along with other information, by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

## Comment GHG-154

I emphasized that connection actions between the mine and the port and Asia and the impacts on climate change and how it would cycle back to us. I requested that they consider this. I cited a section of the National Environmental Policy Act. I believe it was section F2 or 2F that specifically directed agencies to consider international ramifications of actions which is not something that we normally associate with, but it's just that it was our responsibility to do that. Obviously those things were not necessarily done, as far as I could tell, to this point. I hope that's considered. (3837)

### Response to GHG-154

Draft EIS Appendix I, *Sulfur Dioxide and Mercury Emissions*, assessed the potential for sulfur dioxide and mercury emissions from coal combustion in Asia to affect Washington State from coal combustion related to the Proposed Action.

Final EIS Chapter 5, Section 5.8.2, *Climate Change Impacts on the Proposed Action*, has been revised to discuss how climate change could affect resources in the study area. The study areas for this analysis align with the study areas for each of the resource areas in the EIS.

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*.

The NEPA regulations referenced by the commenter do not apply to this document because it is the SEPA EIS for the Proposed Action.

## Comment GHG-155

The EIS needs to analyze how the total CO2 will affect the climate like [?] promote & cumulative impact. How much will the snow pack decrease? How much more will the river decline & warm & how many fish kills (my water distribution had [?] ore [?] last summer Clackamas River water)? How much further N will files epicenter [?] never the current 300 US cases in pregnant woman (over 100 in continental US)? How much more sea level rise? Which areas will be impaired? How many more tornadoes? [?] etc. The EIS should clarify the climate impacts [?] & not just the CO2 metric ton emissions. (3545)

### Response to GHG-155

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*.

Final EIS Chapter 5, Section 5.8.2, *Climate Change Impacts on the Proposed Action*, and the *SEPA Climate Change Technical Report*, have been revised to discuss how climate change could affect resources in the EIS study areas.

## Comment GHG-156

This statement is based on 30 independent climate models (CMIP5), "... which assure increased robustness as to level of uncertainty in the direction and magnitude of future climate trends." The IPCC admits that these climate models overestimate [most by a factor of two] the sensitivity of CO2 to warming for the period from 1998 to 2012 [Footnote 1: Intergovernmental Panel on Climate Change (IPCC), AR5, Evaluation of Climate Models, pages 769-772, https:/lwww.iocc.ch/pdt7assessment-report/ar5/wg1/WGIAR5_Chapter09_FINAL.pdf, 2014.]. How can the Washington Department of Ecology justify using these models to assign future climate and weather harm to the state of Washington when the models prior 20 years are so far off? (3788)

### Response to GHG-156

The IPCC modeling data are composed of the most current and best available information. Consequently, the data are used for the analysis in this EIS (the National Climate Assessment and the National Climate Change Viewer both draw from the IPCC data). In 2015, NOAA published new data that showed the temperatures during the 1998 to 2012 time frame were consistent with the modeled outcomes (Karl et al. 2015).

## Comment GHG-157

The implications of impacts addressed in this section (e.g., low flow, high flow, flood inundation, and wildfire) should be included in the previous sections assessing these issues (especially Section 4). These impacts are relevant to the assessment of the project and should not be separated. Please consider climate conditions and impacts through the end of the project's life to assess risks for the project.

In addition, please address the following:

- Increased landslides due to climate change impacts, including increased wet season precipitation and increased frequency and magnitude of extreme storms.
- Effects on hydrological dynamics due to sea level rise, increased peak flow, reduced low flow, increased wave energy, increased scouring, and other water related changes to impact hydrological dynamics over the life of the project
- Effects on point and non-point discharge due to increased frequency and magnitude of extreme storms over the life of the project
- Effects on stormwater and wastewater discharge related to seasonal flow changes due to climate change over life of project. Increased extreme storms can flush toxics in large plumes. Seasonal low flows can reduce dilution, causing increased toxicity.

- Effects on wildfire related to 1) increased ignitions due to increased sparks from rail lines (due to increased rail traffic) and 2) longer, hotter, drier fire season due to climate change.
- Overall, consider changing risk profiles (usually increasing risk) over the life of the project. If the facility may persist beyond the currently defined life of the project, what modifications will be needed to prevent future harm?

In all cases, if the risk of environmental harm increases due to inclusion of these impacts, please provide appropriate mitigation measures. DNR recommends that as the applicant develops a greenhouse gas emissions mitigation plan as discussed in section 5.8, page 22, they consider converting current public facilities that bum fossil fuels to either wood chips or wood pellet heating systems. These funds could be managed by the Washington State Department of Commerce to pay for the conversion of fossil fuel energy systems to wood energy systems at public facilities. This action will have three primary benefits:

1. Converting to wood energy systems will reduce greenhouse gas emissions;
2. utilizing low-grade wood chips or pellets will help provide a market for small trees that must be removed to reduce wildfire risk which they identified as potential risk to the project in 5.8-32; and
3. Combusting woody biomass in efficient, modem boilers will reduce particulate emissions compared to slash pile burning or wildfires. (2691)

## Response to GHG-157

Draft EIS Chapter 5, Section 5.8.2, *Climate Change*, included information on how climate is projected to change in the study area, how climate change may affect the Proposed Action, and how future changes in climate could affect resources in the study area. The *SEPA Climate Change Technical Report*, further addressed the commenter's specific concerns related to landslides, hydrological dynamics, extreme storms, stormwater and wastewater, and increased wildfire risks.

The climate change analysis did not address increased risks of wildfire from increased rail traffic. The likelihood of such incidents is very low, and potential impacts would be similar to impacts that could occur under existing conditions or the No-Action Alternative. Therefore, potential impacts from rail-related fires are not assessed in the EIS.

The Final EIS assesses the potential impacts of the Proposed Action at full operation. These impacts would be for the duration of the Proposed Action's operation.

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach* and *Greenhouse Gas Emissions Attributable to the Proposed Action*.

# Comment GHG-158

Climate change impacts and impacts to the cultures of Tribal Nations have not been adequately addressed. (3468)

## Response to GHG-158

Final EIS Chapter 5, Section 5.8.2, *Climate Change Impacts on the Proposed Action*, and the *SEPA Climate Change Technical Report,* have been revised to consider how future changes in climate could

affect resources in the EIS study areas, including tribal resources. The Master Response for Geographic Study Areas of the EIS explains the study areas analyzed in the EIS.

# Comment GHG-159

How has the 2014 National Climate Assessment, or any other recent state of federal climate change reports and studies been incorporated to enable a decision that allows for timely mitigation to climate change? It does not appear that the Lead Agencies have taken this information into account in its environmental analysis. (3387)

## Response to GHG-159

The 2014 National Climate Assessment, along with the U.S. Geological Survey National Climate Change Viewer, are the primary information sources used for the analysis in Final EIS Chapter 5, Section 5.8.2, *Climate Change Impacts on the Proposed Action*. This section includes information on how the climate is projected to change within the study area, how climate change may impact the Proposed Action, and how future changes in climate could affect resources in the EIS study areas.

# Comment GHG-160

The DEIS does not adequately address the impact that this project will have on global warming. Finally, and most importantly, this DEIS does not adequately address the impact that this project will have on our children's future. (0812)

## Response to GHG-160

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*.

# Comment GHG-161

It is hard to understand how greenhouse gas emissions from the project can be deemed significant and unavoidable while the climate change they cause is not. The EIS fails to adequately consider the effect of climate change on air and water quality and environmental justice. Higher temperatures increase ozone formation, drought and dust storms increase PM10, and wildfires generate concentrations of ozone and PM2.5 which are higher than the worst urban air day. Climate change also increases toxic algae blooms, storm runoff of PCBs and heavy metals, and sewage overflows (USGCRP, 2016) (Jackson, 2010). All of these impacts disproportionately impact minority and low income people. We suggest that impacts on climate, air and water quality be revised to reflect current political uncertainty and indirect impacts. (2529)

## Response to GHG-161

The purpose of this SEPA EIS is to provide information for agency decision-makers and the public regarding the potential environmental impacts associated with a proposal and the mitigation measures that could be implemented to reduce those impacts. The potential impacts of the Proposed Action on global climate change are assessed via an estimate of the quantity of greenhouse gas emissions associated with the Proposed Action, consistent with the CEQ 2016 guidance on considering greenhouse gas emissions and the effects of climate change.

Final EIS Chapter 5, Section 5.8.2, *Climate Change Impacts on the Proposed Action*, has been revised to include additional information on how climate change could affect resources in the EIS study areas. This analysis includes a qualitative discussion of the impacts of climate change on water quality and air quality, among others. A full accounting of the existing impacts of climate change is outside the scope of a SEPA EIS. Refer to the Master Response for Purpose and Focus of the EIS.

# Comment GHG-162

The survival of species whether wildlife, marine species, fisheries. birds or habitat vegetation are all dependent upon water quality. The long term effects of mining, transporting, exporting American Coal for burning in coal fired power plants in Asia increases the carbon footprint on the planet and contributes to global warming with increases in C02. The potential negative effects of such increased emissions on the quality and temperature of the water in our streams. rivers. and wetlands should he documented and analyzed. The same assessment should carefully document and analyze the potential negative effects on the world's oceans and all marine lite dependent on said ocean as their life sustaining habitat. Identification of water quality temperatures as said temperatures related to propagation of endangered species of fish and marine species should be documented and fully analyzed. The amount of C02 emissions released into the atmosphere through the burning or each metric ton of coal, together with release of other heavy metals. such as arsenic, lead and mercury, should be documented and analyzed as potential contaminants to water quality. (2980)

## Response to GHG-162

Refer to Response to GHG-161.

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*.

Draft EIS Chapter 5, Section 5.8.2, *Climate Change*, discussed the link between climate change and ocean acidification, and the negative impacts that ocean acidification can have on marine organisms. Final EIS Chapter 5, Section 5.8.2, *Climate Change Impacts on the Proposed Action,* has been revised to include additional information on how climate change could affect resources in the EIS study areas. This analysis includes a qualitative discussion of the impacts of climate change on water quality, water temperature, and ocean acidification, among others.

# Comment GHG-163

Sea level rise is discussed in terms of ocean rise. The Draft EIS notes that the project site is 60 miles inland, therefore the project site would be minimally affected by sea level rise. The Draft EIS fails to discuss the project site's location adjacent to the tidal portion of the Columbia River, which would be directly affected by sea level rise due to the increased tidal hold-in elevations. Additionally, no discussion is provided related to modified hydrology associated with climate change and the predicted warmer, wetter weather pattern, and the proposed project site's location on a modified floodplain.(4.1-10). (3227)

## Response to GHG-163

Refer to Response to GHG-133.

# Comment GHG-164

Linking project-level emissions to climate change effects is not possible based upon current scientific, meteorological, and statistical methods and models. General Circulation Models (GCMs) are the best available tools for simulating the response of the global climate system to increasing GHG concentrations. GCMs are built and run at a global level, and are used to project future changes in climate on the basis of differing GHG emissions scenarios. GCMs are complicated numerical models representing physical processes in the atmosphere, ocean, cryosphere and land surface, and they are at a scale that is too large to allow individual project assessments.

For example, the latest Intergovernmental Panel on Climate Change (IPCC) projections assume a series of cumulative GHG emission scenarios ranging from 510 to 7,010 Gt CO2,8 compared to the Draft EIS estimate of total lifecycle GHG emissions for the Project's life span (2018–2038) of 0.038 Gt (37,590,823 metric tons) of CO2e. 9 The Draft EIS emissions represent between 0.007 to 0.0005% of the IPCC emission scenarios, which is non-detectable in the GCMs recognizing the inherent uncertainty. Furthermore, the projected climate change effects that the GCMs generate are relatively small compared to the global GHG emission scenarios. The IPCC cumulative GHG emission scenarios ranging from 510 to 7,010 Gt CO2 project temperature changes of the range 1.5 to 4.8 degrees Celsius. The GCMs would not be able to detect statistically significant temperature changes attributable to the Draft EIS GHG estimates which are 4-5 orders of magnitude less. 11 GCMs cannot be run to assess differences attributable to a single project. (3070)

## Response to GHG-164

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach* and *Greenhouse Gas Emissions Attributable to the Proposed Action*.

# Comment GHG-165

The projected 37.6 million metric tons of greenhouse gas emissions associated with facility construction and operation over a 20-year period is inconsistent with state policy to reduce fossil fuel dependence, promote clean energy technologies, and mitigate the potential for catastrophic and irreversible impacts to natural resources. Global climate change presents serious environmental challenges including, but not limited to, ocean acidification, sea level rise, warming water temperatures, decreased snowpack, and increased wildfire danger. Climate change is already having profound ecological and economic consequences in the region. Human contributions to ocean acidification in the Pacific Northwest are quantifiable and have increased the frequency, intensity, and duration of harmful conditions. Washington marine waters and ecosystems are identified as "particularly vulnerable" to the effects of ocean acidification - a fact emphasized by recent larvae production failures at Pacific Northwest oyster hatcheries. These waters support a $270 million aquaculture industry and a larger $1.7 billion seafood industry. Although the DEIS proposes to mitigate 50% of associated emissions, the financial and technological feasibility of achieving reductions of that scale is unknown at this time since the mitigation plan has yet to be developed. All unmitigated large-scale greenhouse gas emissions associated with coal exports will be at odds with the 2012 Washington State Blue Ribbon Panel on Ocean Acidification recommendations to address the causes and consequences of ocean acidification. (2691)

### Response to GHG-165

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach* and *Greenhouse Gas Emissions Attributable to the Proposed Action*. The potential mitigation presented in the Draft EIS was developed within the limits of the SEPA regulatory framework described in the Master Response for Mitigation Framework. Mitigation measures included as permit conditions would become legal requirements of the Applicant. The Final EIS has been updated to include mitigation monitoring and reporting requirements for the Applicant as proof of compliance with the mitigation requirements. Mitigation monitoring reports would be part of the public record. For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

## Comment GHG-166

The DEIS study area and overall considerations given to the potential impacts from climate change are tremendously insufficient. The current area of study for climate impact is defined as the project area and access roads and rail leading to the project area. That is an unacceptably narrow area of study considering the environmental and climate impacts of mining, transporting and burning coal will not be confined within those parameters. The assessment of greenhouse gas emissions and climate change impacts requires a comprehensive analysis of the full effects exacerbating climate change will have on the current area of study and all of Washington State as a whole. (0656)

### Response to GHG-166

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach* and *Greenhouse Gas Emissions Attributable to the Proposed Action*.

## Comment GHG-167

Coal is the world's most carbon-intensive fuel. The burning of coal has global impacts because of carbon emissions. It does not matter where coal is burned, the pollution found in the emissions ride the global air currents to every part of our earth. If permitted and constructed, the MBTL facility would ultimately result in more coal being burned, which would release more greenhouse gases (GHG) into the atmosphere. These GHG are causing global climate change, which is already affecting Montana. The analysis presented in the MBTL DEIS does not include the connected and cumulative impacts this project would have on Montana (see below for details). (2504)

### Response to GHG-167

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*.

In accordance with SEPA Rules, the SEPA co-lead agencies defined the geographic study areas for the Draft EIS analyses to encompass the areas where the Proposed Action could result in significant adverse environmental impacts. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS. Montana is outside the SEPA EIS study areas for the resources assessed for climate change impacts. Therefore, an analysis of climate change impacts on Montana was not conducted.

# Comment GHG-168

Ocean acidification impacts on Alaska's corals must also be studied, analyzed, and disclosed. (2589)

## Response to GHG-168

Refer to Response to GHG-111.

# Comment GHG-169

Ocean acidification impacts on Alaska's corals must also be studied, analyzed, and disclosed. (2712)

## Response to GHG-169

Refer to Response to GHG-111.

# Comment GHG-170

Science must define the fiduciary obligation that our state authorities, as trustees, must fulfill under the Public Trust Doctrine and Washington's Constitution. Earth has already heated over pre-industrial temperatures to levels that have substantially impaired our natural systems and if allowed to rise further will threaten the habitability of Earth for the human species. Rapid reduction of greenhouse gas (GHG) emissions is required to preserve a habitable climate for present and future generations. Thus, in order to protect our essential natural systems, the best available science demonstrates that our atmosphere must be returned to an equilibrium of less than 350 parts per million ("ppm") carbon dioxide to prevent long-term heating beyond 1° C (1.8° F), which scientific analysis deems catastrophic. Our atmosphere now has carbon dioxide concentrations of over 404 ppm, which constitutes substantial impairment. If the Lead Agencies or any cooperating agency disagrees with this safe standard for atmospheric carbon dioxide levels or for a maximum increase in global surface temperature that should be allowed, please so state in your response to these comments. Please provide your analysis for what standard should be applied, your reasoning, scientific support for that standard, and a comprehensive analysis of what present and future generations of Washingtonians should expect to result from that standard in terms of impacts to their lives, liberties, and property, as well as overall impacts to the ecosystems across our state and nation, in full compliance with SEPA. (3387)

## Response to GHG-170

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*.

# Comment GHG-171

Based on the Best Science and Evidence, A Climate Recovery Plan Calibrated to Standards of Protection Must Precede Approval of the Proposed Project and the Lead Agencies Must Address the Direct, Indirect, and Cumulative Impacts of GHG Emissions and Climate Change.

The Lead Agencies' decision on whether to approve the proposed project must be preceded by a Climate Recovery Plan. The Climate Recovery Plan ensures annual emission reductions calibrated to the 350 ppm trajectory will be achieved and details how they will be achieved. Allowing the proposed project, which would result in significant GHG emissions, outside a plan for protecting the atmosphere in trust for present and future generations, would be a violation of the Washington Constitution and Washington's public trust responsibility to our posterity, and of SEPA. (3387)

### Response to GHG-171

Mitigation measures cannot be required by an EIS. The potential mitigation measures presented in the Draft EIS were developed within the limits of the SEPA regulatory framework described in the Master Response for Mitigation Framework. Mitigation measures included as permit conditions would become legal requirements of the Applicant. The Final EIS has been updated to include mitigation monitoring and reporting requirements for the Applicant as proof of compliance with the mitigation requirements. Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used, along with other information, by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

## Comment GHG-172

Do the Lead Agencies have any evidence to show that this project, and the related projects that depend on it, will not cumulatively press warming past tipping points of no return? And how would that tipping point be quantified in terms of GHG emissions and CO2 levels? (3387)

### Response to GHG-172

The purpose of the SEPA EIS is to provide information for agency decision-makers and the public regarding the potential environmental impacts associated with a proposal and the mitigation measures that could be implemented to reduce those impacts. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

## Comment GHG-173

Given that significant impairment and degradation and loss of life has already occurred as a result of human-caused climate disruption, how much more risk do the Lead Agencies estimate is tolerable or legally viable? (3387)

### Response to GHG-173

Refer to Response to GHG-172. Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*.

## Comment GHG-174

The DEIS Fails to Address the State of Washington's Constitutional and Public Trust Obligation to its Citizens to Protect Public Trust Resources, Including Water, Shorelines, Wildlife, Air/Atmosphere, and Oceans.

Pursuant to Washington's Constitution and public trust doctrine, and court order, Lead Agencies have "a constitutional obligation to protect the public's interest in natural resources held in trust for the common benefit of the people of the State" and a "responsibility to protect fundamental and inalienable rights protected by the Washington State Constitution." To fulfill these obligations, Lead Agencies must take actions to reduce carbon emissions within the State pursuant to the best science of climate recovery, as presented herein. In Foster v. Ecology, the court found:

The scientific evidence is clear that the current rates of reduction mandated by Washington law cannot achieve the GHG reductions necessary to protect our environment and to ensure the survival of an environment in which Petitioners can grow to adulthood safely. In fact, in its 2014 report to the legislature the Department stated, "Washington's existing statutory limits should be adjusted to better reflect the current science. The limits need to be more aggressive in order for Washington to do its part to address climate risks." (3387)

### Response to GHG-174

Refer to Response to GHG-172. Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*.

## Comment GHG-175

This proposed project would emit a tremendous amount of greenhouse gases (GHGs) (37.6 million metric tons of CO2e over 20 years) if approved. Lead Agencies must evaluate how approval of this project would adversely impact the State's sovereign obligations to its citizens to protect their public trust res, for present and future generations. (3387)

### Response to GHG-175

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach*.

## Comment GHG-176

The Lead Agencies' DEIS should quantify and analyze the impact of increased atmospheric concentration of GHGs over the lifespan of the project that is caused/enabled by the proposed project. Specifically, the Lead Agencies can calculate how additional CO2 concentrations further imbalance the Earth's energy system in terms of kilowatt hours per square meter. The Lead Agencies can calculate the total metric tons of carbon dioxide Oregon should be decreasing on an annual basis to return to the 350 ppm prescription by 2100, the best science on climate recovery, and how this project affects those necessary reductions over the lifecycle of the project. If the Lead Agencies do not have enough information, then it may not approve the project, and must obtain the information necessary to make a full disclosure and analysis and ensure for Washingtonians and our posterity their rights to life, liberty and property. (3387)

### Response to GHG-176

Refer to the Master Response for Greenhouse Gas Emissions and Climate Change, under *Greenhouse Gas Emissions Analysis Approach* and *Greenhouse Gas Emissions Attributable to the Proposed Action*.

# Chapter 6
# Responses to Comments—Cumulative Impacts

This chapter presents responses to substantive comments related to cumulative impacts.

## Comment CM-1

I urge you to ensure the EIS looks at the cumulative health, safety, and environmental impacts to communities along the rail-line and close to the strip mines. (0044)

### Response to CM-1

Draft EIS Chapter 6, *Cumulative Impacts*, analyzed the incremental addition of environmental impacts from the Proposed Action to impacts from past, present, and reasonably foreseeable future actions. Final EIS Chapter 6, *Cumulative Impacts*, has been revised to assess potential cumulative impacts at the time the Final EIS cumulative impact analyses were prepared. Refer to the Master Response for Cumulative Impacts Analysis.

A Health Impact Assessment (HIA) for the Proposed Action was prepared separately from the SEPA environmental review. Refer to the Master Response for the Health Impact Assessment for more information on the HIA process.

## Comment CM-2

It is difficult to see how this project could be approved after reading the adverse and cumulative impacts (Section 6) that would be produced by the proposed coal terminal for Longview, WA. Adverse and cumulative impacts are indicated as being "Yes" for every single category except for groundwater. (0357)

### Response to CM-2

The commenter is referring to Table 6-1 in Draft EIS Chapter 6, *Cumulative Impacts*. This table identified resource areas where the Proposed Action would result in adverse impacts, and therefore, would have the potential to contribute to cumulative impacts. The table did not identify whether cumulative impacts would occur for each of the resources, only that a cumulative analysis was warranted for these resources Final EIS Chapter 6, *Cumulative Impacts,* Table 6-1, has been revised for clarity.

An EIS is not a decisional document; in other words, the approval or denial of a proposal is not within the scope of an EIS. Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS along with other information will be used by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

## Comment CM-3

Accident risks. The DEIS predicts 11 additional rail related accidents per year, plus added risk of tanker accidents. But the certainty of the cumulative effects of such accidents is not addressed. (2435)

### Response to CM-3

Draft EIS Chapter 6, *Cumulative Impacts*, assessed potential cumulative impacts on rail safety. This section has been revised in the Final EIS to assess potential cumulative impacts at the time the Final EIS cumulative impact analyses were prepared. The analysis assesses potential rail safety impacts on the Reynolds Lead, BNSF Spur, and BNSF main line in Washington State.

## Comment CM-4

It would be an egregious error to consider the MBT proposal in isolation -i.e., without also including the potential for impacts, risks, and hazards from the (also currently proposed and under consideration) Tesoro Savage Energy Distribution Terminal DEIS which has · · been proposed for the Port of Vancouver. Many concerns for one proposal are the same as for the other and a significant compounding of impacts, risks and hazards would most definitely occur if both proposals were to be permitted. The significance of this cannot be overstated and should not be overlooked. (1763)

### Response to CM-4

The Vancouver Energy Project was included as a reasonably foreseeable future action and assessed in the cumulative impacts analysis. Refer to Draft EIS Chapter 6, *Cumulative Impacts*, Table 6-2.

## Comment CM-5

Need to revise all cumulative evaluations/comparisons and coal market dynamics for the EIS now that Gateway Pacific has been halted. (2519)

### Response to CM-5

The application for the Gateway Pacific Terminal was withdrawn on February 7, 2017. The Final EIS includes Gateway Pacific Terminal as a reasonably foreseeable future action because the application was not withdrawn when the Final EIS cumulative analysis was performed (December 2016). The coal market assessment for the Final EIS has been updated to the most recent international coal demand projections from the International Energy Agency's (IEA) World Energy Outlook, which was released in December 2015. The cumulative greenhouse gas emissions presented in Final EIS, Chapter 6, *Cumulative Impacts*, reflect the updates to the coal market assessment.

## Comment CM-6

The Only Items missing were Hazardous Materials and Groundwater. This indicates that the cumulative impacts for the 26 potential foreseeable projects are significant and combined will be a "toxic stew". The next 20 years are critical for the long term planning for Cowlitz County and Washington State. The choice of the 26 potential projects needs to be carefully reviewed from the economic benefit, employment, and other factors for the long term or the basic viability and livability of the region will decline so much that residents will move out and result in a rapid decline of housing and employment. Page S-40 (2572)

### Response to CM-6

An EIS is not a decisional document; in other words, the approval or denial of a proposal is not within the scope of an EIS. Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

## Comment CM-7

It is interesting to note that of the 23 areas of study 22 have adverse impacts from the proposed actions as well as cumulative impacts. The only area missing is groundwater. Consider the impact of 30 years of coal related activities with the ground water about 10 feet below the surface in parts of the area. The coal is not a filter to clean up the ground water, but an adder of a multitude of toxic and hazardous pollutants in small concentrations that over time impact everything. When MBTL Longview Coal Export Terminal are applying 2,000 gallons per minute water to the facility for coal dust control, it can and will have an impact long term. Page 6-3 SEPA DEIS pdf 3/73 (2572)

### Response to CM-7

Refer to Response to CM-2.

As discussed in Draft EIS Chapter 4, Section 4.4, *Groundwater*, runoff from the study area, and any contaminants within that runoff, would be directed to on-site drainage systems, treated, and either reused on site or discharged in accordance with a future National Pollutant Discharge Elimination System (NPDES) Permit for the export terminal. Operation of the Proposed Action is not expected to degrade groundwater quality, and therefore, it would not contribute to potential cumulative impacts.

## Comment CM-8

Unfortunately, the cumulative impacts chapter in the DEIS does not provide enough information or analysis with which decision makers can assess the full range of consequences of their actions. Indeed, Chapter 6 fails of its stated purpose: to address how the cumulative increases in, for example, vessel transportation, would actually impact fish and wildlife. As one example, the DEIS concludes that the risk of large and small bunker fuel oil spills from vessels would increase 6-58. This is an obvious conclusion from cumulative increases in vessel traffic, but the DEIS does not address the consequences of cumulative oil spills or resulting impacts on fish and aquatic wildlife and fisheries resources of increasing oil spills. As noted in section IV.D. above, there is no quantitative cumulative impacts analysis of repeated wake stranding of juvenile Chinook salmon and other fish and no indication whether the cumulative vessel transportation from either the project's vessels in isolation or combined with all cumulative vessel traffic would result in wake stranding becoming a significant unavoidable impact . See DEIS 6-31 and 32. Little additional information has been generated or disclosed in DEIS Chapter 6 beyond what has already been presented in earlier chapters and there is no discussion of whether any cumulative impact on any fish or wildlife species would create an unavoidable impact to that resource. (2589)

## Response to CM-8

The cumulative impacts analysis was prepared in accordance with SEPA Rules and the SEPA Handbook (Washington State Department of Ecology 2016). Refer to the Master Response for Cumulative Impacts Analysis.

With respect to oil spills, Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, acknowledged that, if a vessel incident occurred, the impacts could be significant, depending on the nature and location of the incident, the weather conditions at the time, and whether any oil is discharged. Although the likelihood of a serious incident is very low, there are no mitigation measures that can completely eliminate the possibility of an incident or the resulting impacts. The Proposed Action would increase vessel traffic, which would incrementally increase the likelihood of vessel incidents. However, given the existing vessel traffic in the Columbia River, potential impacts from a vessel incident involving a Proposed Action-related vessel would be similar to impacts that could occur under existing conditions or the No-Action Alternative. Therefore, such impacts are not analyzed in the EIS.

# Comment CM-9

After failing to develop quantitative and qualitative studies of cumulative impacts of increased vessel traffic on fish and marine mammal species, the DEIS makes the following unacceptably vague and speculative statement that mitigation measures "similar" to those in Chapter 4 "[I]t is likely that similar measures would be implemented for the cumulative projects, thus reducing the potential impacts in similar ways." DEIS, 6-33. (2589)

## Response to CM-9

As discussed in Draft EIS Chapter 6, *Cumulative Impacts*, the Proposed Action and cumulative projects would be required to comply with mitigation measures imposed through local, state, and federal permitting processes. If a project has a federal nexus, compliance with the federal Endangered Species Act Section 7 consultation process would also be required, which would identify avoidance and minimization measures that would reduce the potential impact on federally protected species. Consultation would also reduce the potential impact on species that are not federally protected, such as species identified by the Washington Department of Fish and Wildlife as threatened, endangered, species of concern, or other special-status species. Therefore, it is reasonable to assume that standard mitigation measures such as timing restrictions on dredging and in-water construction, underwater noise minimization, and general construction practices (e.g., spill containment) would be required through permits or authorizations and implemented for the cumulative projects.

# Comment CM-10

The Draft EIS also fails to adequately address the cumulative impacts of other fossil fuel export projects proposed to be built in communities along the Columbia River in Washington and Oregon. This must be remedied in the Final EIS. (2590)

## Response to CM-10

Draft EIS Chapter 6, *Cumulative Impacts*, analyzed the incremental addition of environmental impacts from the Proposed Action to impacts from past, present, and reasonably foreseeable future

actions. Final EIS Chapter 6, *Cumulative Impacts*, has been revised to assess potential cumulative impacts at the time the Final EIS cumulative impact analyses were prepared (December 2016). Refer to the Master Response for Cumulative Impacts Analysis. The reasonably foreseeable actions assessed in the analysis include several proposed fossil fuel export projects.

# Comment CM-11

Unfortunately, the cumulative impacts chapter in the DEIS does not provide enough information or analysis with which decision makers can assess the full range of consequences of their actions. Indeed, Chapter 6 fails of its stated purpose: to address how the cumulative increases in, for example, vessel transportation, would actually impact fish and wildlife. As one example, the DEIS concludes that the risk of large and small bunker fuel oil spills from vessels would increase 6-58. This is an obvious conclusion from cumulative increases in vessel traffic, but the DEIS does not address the consequences of cumulative oil spills or resulting impacts on fish and aquatic wildlife and fisheries resources of increasing oil spills. As noted in section IV.D. above, there is no quantitative cumulative impacts analysis of repeated wake stranding of juvenile Chinook salmon and other fish and no indication whether the cumulative vessel transportation from either the project's vessels in isolation or combined with all cumulative vessel traffic would result in wake stranding becoming a significant unavoidable impact . See DEIS 6-31 and 32. Little additional information has been generated or disclosed in DEIS Chapter 6 beyond what has already been presented in earlier chapters and there is no discussion of whether any cumulative impact on any fish or wildlife species would create an unavoidable impact to that resource. (2712)

## Response to CM-11

Refer to Response to CM-8.

# Comment CM-12

After failing to develop quantitative and qualitative studies of cumulative impacts of increased vessel traffic on fish and marine mammal species, the DEIS makes the following unacceptably vague and speculative statement that mitigation measures "similar" to those in Chapter 4 "[I]t is likely that similar measures would be implemented for the cumulative projects, thus reducing the potential impacts in similar ways." DEIS, 6-33. (2712)

## Response to CM-12

Refer to Response to CM-9.

# Comment CM-13

Please revise the Draft EIS to address all the contributory but "allowed", "not regulated" or "below minimum" sources of pollution. The cumulative effect of these contributions to the overall waste in our environment are unnecessary and degrade the atmosphere of all living organisms. (2270)

## Response to CM-13

The analyses in the Draft EIS were prepared in accordance with SEPA Rules and applicable regulatory thresholds for various sources of pollution.

# Comment CM-14

The DEIS includes a qualitative assessment of the potential cumulative impact of 2038 rail traffic on BNSF main line routes to vehicle delay, emergency service response, and vehicle safety. This study shows the cumulative proposed action impacts causing multiple crossings to go into failure in Cowlitz County. The DEIS included an analysis of crossings in Washington outside of Cowlitz County. However, no the analysis did not include Clark County which is the most populous county on the route in Washington. This omission must be corrected. (2745)

## Response to CM-14

The vehicle transportation study area in Draft EIS Chapter 6, *Cumulative Impacts*, included all active public and private at-grade crossings on the Reynolds Lead and BNSF Spur, and all at-grade public crossings on the BNSF main line in Cowlitz County. A review of at-grade crossings of interest along the BNSF main line in Washington State (identified by the Washington State Department of Transportation during the EIS scoping process) was also conducted. This was the same study area analyzed in Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*. In accordance with SEPA Rules, the SEPA co-lead agencies defined the study areas for the Draft EIS analyses to encompass the areas where the Proposed Action could result in significant adverse environmental impacts. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment CM-15

Table 6-1 Resources Potentially Contributing to Cumulative Impacts on Page 6-2 of the Draft EIS shows a potential cumulative impact on every element of the environment with the exception of groundwater. Yet the sections that follow show that there would be no cumulative impacts for several elements. A few examples are 6.3.1.6 Hazardous Materials, 6.3.2.1 Geology and Soils, and 6.3.2.3 Wetlands. (3070)

## Response to CM-15

Refer to Response to CM-2.

# Comment CM-16

In other elements of the environment, impacts appear to be double-counted because background growth in transportation is intended to accommodate future projects such as this Project, yet all of the Project impacts are added on top of the background forecast to result in a cumulative impact. Examples are in rail transportation, rail safety, and vehicle transportation. In 6.3.3.1 Rail Transportation, Page 6-35, Table 6-5, Projected Trains per Day on Reynolds Lead and BNSF Spur in 2038 by Scenario. Background growth does not account for any traffic from MBT-Longview Project. On Page 6-38: Table 6-6. Projected 2038 Train Volumes in Washington State by Scenario. Background growth does not account for any traffic from MBT-Longview Project. In 6.3.3.2 Rail Safety, page 6-41:The 2038 predicted number of freight train accidents in Cowlitz County (BNSF main line, BNSF Spur, and Reynolds Lead) is 7.2 per year without Proposed Action-related trains (Cumulative No-Action scenario), and 8.1 with Proposed Action-related trains (Cumulative Proposed Action scenario). The predicted number of loaded coal train accidents is 1.5 per year with

Proposed Action-related trains. The forecasted growth in train traffic should account for some or all of the coal trains.

And in 6.3.3.3 Vehicle Transportation, traffic growth is projected at 2 percent per year: Page 6-42: "Background traffic was estimated by developing a linear growth rate between existing and forecast traffic volumes in the immediate area. Traffic volumes are forecast to increase at a rate of 2% annually. For comparison purposes, a 2% annual growth rate was applied to traffic count data to reflect baseline traffic conditions in the SR 432 Highway Improvements and Rail Realignment Study (Cowlitz-Wahkiakum Council of Governments 2014). The 2% annual growth rate was applied to the 2028 No-Action scenario traffic volumes for 10 years to develop 2038 No-Action Cumulative Proposed Action scenario traffic volumes. Vehicular traffic related to the Proposed Action was added to the 2038 No-Action Cumulative Proposed Action scenario to develop the 2038 Cumulative Proposed Action scenario traffic volumes". The 2% growth factor should account for some if not all of any traffic from resulting from redeveloping the Project site. (3070)

## Response to CM-16

Draft EIS Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, described the Proposed Action in detail. Specifically, Chapter 2 described the off-site transport of coal by vessel and rail that is considered part of the Proposed Action for the SEPA analysis. Draft EIS Chapter 5, Sections 5.1, *Rail Transportation*, 5.3, *Vehicle Transportation*, and 5.4, *Vessel Transportation*; and Draft EIS Chapter 6, *Cumulative Impacts*, described Proposed Action-related train, vehicle, and vessel traffic was not attributed to the projected future baseline rail traffic numbers. Proposed Action-related rail, vehicle, and vessel traffic is evaluated in addition to baseline rail, vehicle, and vessel traffic under the No-Action Alternative because the respective traffic volumes would not occur without construction and operation of the proposed export terminal, an established practice under SEPA to evaluate a reasonable worst case analysis of potential probable impacts.

# Comment CM-17

6.3.1.3 Aesthetics, Light, and Glare: Page 6-20 lists the projects included in the cumulative analysis of aesthetics, light and glare: The following cumulative projects are located in this study area: Barlow Point Master Plan Project, Riverside Refinery, Washington Energy Storage & Transfer, SR 432 Rail Realignment and Highway Improvement Project, Reynolds Lead and BNSF Spur Improvements, and the Kelso Martin's Bluff Rail Improvement Project. None of these projects have progressed to the point of having design information on which to base a study of aesthetics, light and glare. Yet, on page 6-21, the Draft EIS concludes: Overall, the Proposed Action, in combination with the cumulative projects, would contribute to cumulative impacts related to aesthetics, light, and glare by adding to the concentration of industrial features along the Columbia River visible to viewers at rural, residential, and natural viewpoints. Given that there is no basis for the conclusion and it is highly speculative without seeing lighting designs, "would contribute" should be changed to "could contribute." (3070)

## Response to CM-17

Final EIS Chapter 6, *Cumulative Impacts*, has been revised to indicate the Proposed Action, in combination with the cumulative projects, could contribute to cumulative impacts related to aesthetics, light, and glare.

# Comment CM-18

6.3.1.4 Cultural Resources: Page 6-21 of the Draft EIS, During operations, the Proposed Action could affect onshore archaeological resources if increased shoreline erosion, due to wakes from Proposed Action-related vessels, altered or destroyed the landforms on or in which resources are located. Although a shoreline analysis concluded that impacts on archaeological sites along the lower Columbia River were not likely to result from an increase in project-related vessel traffic, other cumulative projects (Table 6-4) would increase vessel traffic in the Columbia River. Therefore, the Proposed Action, in combination with the cumulative projects, could contribute to cumulative impacts on archaeological resources related to shoreline erosion from vessel wakes.(emphasis added) This is speculative and not supported by the shoreline analysis. (3070)

## Response to CM-18

Final EIS Chapter 6, *Cumulative Impacts*, has been revised to indicate the Proposed Action, in combination with vessel traffic associated with the cumulative projects, would not be likely to contribute to cumulative impacts on archaeological resources related to shoreline erosion from vessel wakes.

# Comment CM-19

6.3.1.5 Tribal Resources: Pages 6-22 through 6-23. "Operation of the Proposed Action would also affect tribal resources through activities that cause physical or behavioral responses in fish or that affect aquatic habitat. These impacts could reduce the number of fish available for harvest by the tribes in areas upstream of Bonneville Dam. Cumulative projects would also introduce vessel traffic and other activities that may cause physical or behavioral responses in fish or affect aquatic habitat. Therefore, the Proposed Action, in combination with the cumulative projects, would contribute to cumulative impacts on tribal fish resources." The text on page 4.7-34 of the Draft EIS describes project-related vessel traffic increases as an impact that could cause behavioral responses, not would. The cumulative impact analysis appears to string together a series of information that is inconclusive and determine it would be an impact rather than could be an impact, and the text should be revised to use the word "could." (3070)

## Response to CM-19

Final EIS Chapter 6, *Cumulative Impacts*, has been revised to indicate the Proposed Action, in combination with the cumulative projects, could contribute to cumulative impacts on tribal fish resources.

# Comment CM-20

6.3.3.2 Rail Safety: On page 6-41, the Draft EIS concludes: "Within Washington State, the predicted number of freight train accidents is approximately 98 per year without Proposed Action-related trains, and 110 accidents per year with Proposed Action-related trains. The predicted number of loaded coal train accidents in Washington State is approximately 19 per year." As was noted above, there is no evidence that coal trains would have a different accident rate than other commodities, and if the number of accidents is tied strictly to the number of trains using the line, then the accident rate predicted for the with-Project Action-related trains in 2028 would be the same as in year 2035 without the Project Action- related trains. (3070)

## Response to CM-20

Draft EIS Chapter 5, Section 5.2, *Rail Safety*, described the potential impacts on rail safety—including the increased potential for train accidents—that could occur as a result of the Proposed Action. The *SEPA Rail Safety Technical Report*, notes that train accident rates are distinguished only by freight versus passenger service, not by specific cargoes. Final EIS Chapter 5, Section 5.2, *Rail Safety*, has been revised to clarify this aspect of the accident rates. As documented in the Draft EIS, the Proposed Action would increase the potential for train accidents by adding loaded and empty rail traffic on rail routes in Washington State.

Refer to Response to CM-16.

# Comment CM-21

6.3.3.4 Vessel Transportation: The Draft EIS acknowledges that "the likelihood of a vessel allision is low in the Columbia River because there are few impediments close to the edge of the navigation channel." (page 6-56) It also acknowledges the "factors that influence the potential for incidents during vessel transport are complex but are driven largely by changes in the pattern of vessel traffic, particularly those vessels limited to the navigation channel (i.e., deep-draft vessels)." (page 6-56) "The modeling predicts approximately 26.30 incidents per year in 2038 Cumulative Proposed Action scenario conditions, compared to 24.70 incidents in 2038 Cumulative No-Action scenario conditions. Groundings (powered and drift) are projected to account for 21.84 of the incidents (17.30 powered groundings and 4.54 drift groundings). The Proposed Action's incremental contribution to this cumulative impact would be small, approximately 1.6 incidents per year over the 2038 Cumulative No-Action scenario." (page 6-57). And then at the end of the section, the Draft EIS writer appears to throw in several other elements of the environment without a clear conclusion, yet states that "In general, the increase in deep-draft vessels associated with the Proposed Action and cumulative projects would result in the increased potential for vessel-related cumulative impacts to occur." (3070)

## Response to CM-21

The text referenced by the commenter addressed the potential for cumulative increases in deep-draft vessel traffic to result in cumulative impacts related to vessel wake, propeller wash, underwater noise and vibration, discharge of ballast water, and shoreline erosion. The section disclosed the potential for such cumulative impacts but does not quantify the impacts.

# Comment CM-22

An example of the Draft EIS's errors in considering cumulative impacts is its incorrect statement that the Project "would" affect tribal resources as a result of rail traffic "delaying tribal fishers' access to traditional fishing locations and delivery of fish to buyers." Draft EIS at 6-22. In fact, Chapter 3.5-14 concludes that the Project "could' affect access to fishing sites due to increased rail traffic. The Draft EIS was careful not to attribute a level of "significance" to impacts on tribal fishing because the co-leads concede that "other factors besides rail operations affect fishing opportunities, such as the number of fishers, fish distribution timing and duration of fish migration periods and seasons." Draft EIS at 3.5-17. The fact that other cumulative actions could also affect access to fishing sites does not change the outcome here and allow the co¬ leads to conclude that cumulative effects to tribal resources "would' occur. As demonstrated in Attachment 3 to the Comment Letter, 22 the

Project will not result in significant adverse effects on tribal resources. The Draft EIS concluded that the Project would contribute to cumulative impacts on tribal resources by aggregating the de minimis - to non-existent effects of the Project on tribal resources with potential effects from other projects that the co-leads speculate might impact tribal resources in Zone 6. Draft EIS at 6-22-6-23. The Final EIS should clarify that any impacts to tribal resources from the Project-whether from direct, indirect, or cumulative effects-are not significant. The Final EIS should affirmatively state that this is not a significant adverse impact caused by the Project requiring mitigation or, in the alternative, disclose that substantial uncertainty exists in its conclusion. (3070)

### Response to CM-22

Refer to Response to CM-19 regarding revisions to Final EIS Chapter 6, *Cumulative Impacts*, related to cumulative impacts on tribal fish resources.

The tribal resources analysis in Draft EIS Chapter 3, Section 3.5, *Tribal Resources*, did not make a determination of significance related to treaty-reserved rights related to traditional fishing sites on the Columbia River.

## Comment CM-23

Based on the lack of impacts on tribal fisheries presented in Section 4.7 of the DEIS and the analysis presented herein, it is incorrect and speculative to conclude the Proposed Action contributes to cumulative impacts affecting the populations of salmonids harvested by tribal fishers in Zone 6. (3070)

### Response to CM-23

Refer to Response to CM-19.

## Comment CM-24

The cumulative impacts analysis should include the use of Stevens Pass as a viable alternative for some increased train volume frequencies. The cumulative impact analysis should also review the possibility that the coal terminal could be fully operational and at peak capacity much sooner than the projected date. While the impacts may not necessarily be different, the timeline for impact mitigation would be. (2734)

### Response to CM-24

Draft EIS Chapter 5, Section 5.1, *Rail Transportation*, noted that BNSF changed its train operations in 2012 to enhance the use of existing rail capacity through "directional running." Draft EIS Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, noted that Proposed Action-related train routes were assumed to be the same as current BNSF and UP train operational protocols in Washington State, including existing unit coal trains. Baseline and Proposed Action-related rail traffic at full operations is not anticipated to exceed rail capacity along the Stampede Pass route. Furthermore, the Rail Plan indicates that projected rail traffic would exceed capacity along the Stevens Pass route in 2035. For these reasons, the continued use directional running of empty trains through Stampede Pass was analyzed and Stevens Pass was not analyzed.

As described in Draft EIS Chapter 6, *Cumulative Impacts*, the cumulative impacts analysis year of 2038 was selected because it is 20 years after the assumed start date for construction of the Proposed Action (2018) and the 10 years after the Proposed Action would reach full operation (with a throughput of up to 44 million metric tons of coal per year). In addition, this analysis year conservatively accounts for future actions that may only be in the planning stages now but that can reasonably be expected to be operational in the future.

# Comment CM-25

| | | | |
|---|---|---|---|
| 18 | Chapter 6: *Cumulative Impacts* | Implementation of mitigation measures is unclear. Mitigation measures should be discussed in greater detail. | Jason Beloso |
| 19 | Chapter 6: *Cumulative Impacts* | The DEIS uses 2038 as the analysis year for cumulative impacts (6-2). It is conceivable that the coal terminal could be fully operational and at peak capacity much sooner than this date. While the impacts may not necessarily be different, the timeline for impact mitigation would be. This scenario should be analyzed. | Chris Herman |
| 20 | Chapter 6: *Cumulative Impacts* | Cumulative Impact Locations (Figure 6-1) are constantly evolving. While it may be impossible to accurately document this, discussions related to mitigation should be constrained by the proposed projects that are moving forward. | Chris Herman |
| 21 | Chapter 6: *Cumulative Impacts* | The cumulative impacts analysis should include the use of Steven's Pass as a viable alternative for some increased train volume frequencies (page 6-38). | Chris Herman |
| 22 | Chapter 6: *Cumulative Impacts* | Neither of the projects identified in the cumulative impacts section for both the Reynolds Lead and the BNSF Spur continue to be considered (pages 6-36 and 6-40). This section should be updated to include this information. | Chris Herman |
| 23 | 6.3.3.3 Analysis Scenarios (6-42) | Please clarify that the 'no action' scenario refers solely to the Millennium proposal. | Ahmer Nizam |
| 24 | 6.3.3.3 Performance Measures (6-45) | Same comment as in Vehicle Transportation Chapter - please explain the basis for the 0.04 threshold. | Ahmer Nizam |
| 25 | 6.3.3.3 Vehicle Queuing (6-48) | Will there be new impacts related to vehicle queues extending from nearby intersection, back over the tracks (i.e., the need to assess installation of traffic signals under MUTCD Warrant 9, and/or arranging for railroad traffic signal preemption)? | Ahmer Nizam |
| 26 | 6.3.3.3 Statewide Study Crossings (6-53) | Does this factor in warning device activation times - such as with gates crossings where the gates descend in advance of the arrival of the train? | Ahmer Nizam |

(2734)

## Response to CM-25

The following responds to the comments in the table above.

- **Comment 18.** Proposed mitigation measures for the Proposed Action are identified in the sections for each resource area in Final EIS Chapters 3, 4, and 5. Mitigation measures are not identified for cumulative impacts. For more information about the development,

implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

- **Comment 19.** As described in Draft EIS Chapter 6, *Cumulative Impacts*, the cumulative impacts analysis year of 2038 was selected because it is 20 years after the assumed start date for construction of the Proposed Action (2018) and the 10 years after the Proposed Action would reach full operation (with a throughput of up to 44 million metric tons of coal per year). In addition, this analysis year conservatively accounts for future actions that may only be in the planning stages now but that can reasonably be expected to be operational in the future.
- **Comment 20.** Refer to the response to Comment 18.
- **Comment 21.** Refer to Response to CM-24.
- **Comment 22.** The Riverside Refinery and Washington Energy Storage & Transfer projects have been removed from the analysis. Final EIS Chapter 6, *Cumulative Impacts*, identifies the cumulative projects considered in the analysis.
- **Comment 23.** Draft EIS Chapter 6, *Cumulative Impacts*, stated the Cumulative No-Action scenario represents conditions in 2038 without construction of the Proposed Action. It includes 10 years of added vehicle growth from 2028 conditions. It also assumed existing and planned activities for the Applicant's bulk product terminal as defined in Draft EIS Chapter 2, *Project Objectives, Proposed Action, and Alternatives*.
- **Comment 24**. As described in Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, the Federal Railroad Administration (FRA) GradeDec.Net model was used to analyze the crossings (Federal Railroad Administration 2016). This model accounts for accident history and frequency of trains at existing at-grade crossings, volume of vehicle traffic, existing safety devices at the at-grade crossings, and other factors to determine the potential impacts of an increase in rail traffic. The *Railroad-Highway Grade Crossing Handbook–Revised Second Edition* (Federal Highway Administration 2007) indicates active devices with automatic gates, or grade separation should be considered as options when certain criteria are met. One criterion is if the expected accident frequency, as calculated by the U.S. Department of Transportation Accident Prediction formula, exceeds 0.075 per year for active devices with automatic gates, and 0.50 per year for grade separation. For the Final EIS, a vehicle safety impact was defined as a study crossing that would have an expected accident frequency above 0.075 accident per year under the Proposed Action that would be at or below 0.075 accident per year under the No-Action Alternative.
- **Comment 25**. Draft EIS Chapter 6, *Cumulative Impacts*, included a queueing analysis for the at-grade study crossings on the Reynolds Lead and BNSF Spur and upstream intersections. The queuing analysis was updated for the Final EIS.
- **Comment 26.** The statewide study crossings analysis in the Draft EIS did not factor in warning device activation times. The purpose was to provide a high-level estimate of gate downtime at the statewide study crossings. The Final EIS has been revised to state the analysis assumes gate closing 30 seconds before train passes through grade crossing and 12 seconds after the train passes the crossing.

# Comment CM-26

The DEIS purports to find more "limited" impacts related to coal dust and spills, fish, wildlife and vegetation, vessel traffic management, stormwater, and groundwater. We question the use of the qualifier "limited" for many of these impacts, and would argue that from our perspective, effects from these aspects of the facility and on these resources and activities could have serious, cumulative implications for ecological and human health in the Columbia River Basin and its waterways. (3302)

## Response to CM-26

Draft EIS Chapter 6, *Cumulative Impacts*, assessed potential cumulative impacts related to coal dust and spills, fish, wildlife, vegetation, vessel transportation, and water quality. Final EIS Chapter 6, *Cumulative Impacts*, has been revised to use information at the time the Final EIS cumulative impact analyses were prepared (December 2016). Refer to the Master Response for Cumulative Impacts Analysis.

Based on the analysis in Draft EIS Chapter 4, Section 4.4, *Groundwater,* operation of the Proposed Action is not expected to degrade groundwater quality, nor would it contribute to potential cumulative impacts on groundwater.

# Comment CM-27

The DEIS' cumulative impacts analysis contains two substantial flaws.

First, the analysis ignores the existing dock at MBT, Dock 1, which has obtained multiple in-water work permits and maintenance dredging permits in recent years. The Co-leads must revise the DEIS to account for Dock 1 and ongoing water quality impacts from the maintenance of Dock 1 and its dredge prism.

Second, the DEIS fails to analyze cumulative impacts from past and present activities, instead restricting the analysis to cumulative impacts from the project and reasonably foreseeable future actions. The first sentence of DEIS Chapter 6, Cumulative Impacts, states "Cumulative impacts are impacts that would result from the incremental addition of the Proposed Action to impacts from past, present, and reasonably foreseeable future actions." While the DEIS acknowledges that cumulative impacts include past and present actions, the DEIS makes the arbitrary decision to exclude past and present actions from the substance of the cumulative impacts analysis on water quality and fish impacts. In particular, the DEIS states: "The cumulative impacts study area for water quality impacts due to on-site activities is the project area (including dredged material disposal sites), the CDID #1 stormwater system drainage ditches adjacent to the project area, and the Columbia River Segment 2 (river miles 37 to 72)." The DEIS identifies the following projects in the study area: the Barlow Point Master Plan Project, the Northwest Innovation Works facility at Port Westward, the Columbia Pacific Bio-Refinery, the Riverside Refinery, Washington Energy Storage & Transfer, and the Kalama Manufacturing and Marine Export Facility. These projects are identified in DEIS Chapter 6 as "reasonably foreseeable future actions." Failure to account for past and present actions renders the DEIS's cumulative impacts analysis flawed. (3277)

## Response to CM-27

Refer to the Master Response for the Cumulative Impacts Analysis.

# Comment CM-28

It must explain—in a meaningful, tangible way—how the human environment in the study area would look and function if the proposed growth in fossil-fuel and other shipping occurs.

CEQ guidance confirms that "cumulative effects analysis should be conducted within the context of resource, ecosystem, and human community thresholds—levels of stress beyond which the desired condition degrades." Unfortunately, the cumulative impact assessment falls short of this standard. It does not provide readers with any sense of whether impacts will cumulatively cross acceptable "resource, ecosystem, and human community thresholds." Nor does it disclose whether the "desired condition" of Longview, the Columbia River and its estuary, or the Pacific Northwest will survive all the proposed fossil-fuel export projects. These failures prevent the DEIS from presenting the "reasonably thorough discussion" of environmental impacts that SEPA requires. PT Air Watchers v. State, Dep't of Ecology, 179 Wash. 2d 919, 927 (2014). (3277)

## Response to CM-28

The cumulative impacts analysis was prepared in accordance with SEPA Rules and the SEPA Handbook (Washington State Department of Ecology 2016). Additional guidance developed by the Council on Environmental Quality (CEQ) in the handbook entitled *Considering Cumulative Effects under the National Environmental Policy Act* (Council on Environmental Quality 1997) was also considered where SEPA requirements are consistent with requirements of NEPA. The analysis identified the resource areas where the Proposed Action could contribute to cumulative impacts and, for each resource area, identified and assessed future actions that would result in impacts within the geographic and temporal study areas defined for the Proposed Action.

# Comment CM-29

In many places, major conclusions are presented as vague generalities. In others, dramatic changes that will effect countless people are buried in minutiae. For example, while the DEIS confirms that the project will contribute to astonishing increases in railroad traffic—in places, 200 trains per day—it appears to largely dismiss the profound impacts this change would represent. For example, the DEIS is certainly correct that "The rail traffic attributable to the cumulative projects would increase vehicle delay at public at-grade crossings as a result of increased gate downtime." See, e.g., DEIS at 6-19. However what does it actually mean for people? Simply stating that 200 trains per day, where there is capacity for 76, is "would result in congestion or delays" is not particularly illuminating. DEIS 6-37. One must wade through the details, and do one's own calculations to realize that many at grade crossings in Spokane County will be closed for almost seven hours a day. DEIS 6-52. Where speeds are slower that number could double. (3277)

## Response to CM-29

Draft EIS Chapter 6, *Cumulative Impacts*, Table 6-14, provided additional context for the projected 200 trains per day at certain crossings in Spokane County under the 2038 Cumulative Proposed Action scenario. In particular, the table identified the projected number of trains per day in 2015 (70) and in the 2038 Cumulative No-Action scenario (184) as well as the percentage change between the 2038 Cumulative No-Action and Proposed Action scenarios (9%). The Final EIS has been revised to provide an updated projection for the number of trains in 2038.

# Comment CM-30

Other critical information crucial to the public and decisionmakers appears buried in a way that will risk being overlooked. For example, the DEIS acknowledges that the cumulative impact of all the fossil fuel projects will be 110 rail accidents per year, with twelve of them attributable to the MBT project. Is Washington really willing to trade a coal or oil train accident statewide every three days for the benefit of serving as a transit point for fossil fuel companies? Is this project worth an additional rail accident each month? The DEIS is silent on the particular risks posed by oil trains, which in recent years have created emergencies and even disasters. Similarly, the DEIS discloses that there will be delays in emergency vehicles due to increased blockage, but that delay isn't place in any context or fleshed out with details. How long will the delays be? How many emergency vehicles are going to be affected waiting for coal and oil trains? How will delays impact patients with life-threatening injuries, strokes and heart attacks? (3277)

## Response to CM-30

As described in Draft EIS Chapter 5, Section 5.2, *Rail Safety*, the analysis of rail safety used the 2015 FRA reporting threshold of $10,500 in sustained damages to define an accident. As acknowledged in the Draft EIS, accidents include a wide variety of incidents and are not limited to collisions or derailments, and not every accident involving a loaded Proposed Action-related coal train would result in a spill.

Draft EIS Chapter 6, *Cumulative Impacts*, noted that vehicle delay (including for emergency vehicles) would generally depend on the speed of the train, length of the train, the traffic volume at the crossing, and the number of lanes at the crossing (for vehicle storage). The potential for Proposed Action-related trains to affect emergency response would depend on whether the dispatched emergency vehicle would need to cross the rail line and the availability of alternative routes if a Proposed Action-related train occupies the crossing at the time of the emergency call. The amount of time that that it would take emergency response vehicles to use alternative routes would be dependent on a number of site- and location-specific factors and cannot be predicted with accuracy.

# Comment CM-31

Other rail traffic impact information is presented in an impenetrable format that doesn’t aid anyone’s understanding of the specifics. For example, Table 6-8 provides data on vehicle and train volumes at certain crossings in Cowlitz County, but zero information on how the interaction of the two will result in delays. Information is presented in terms of changes to the “level of service” at these crossings, but that isn't particularly informative. How long each day will these crossings be closed, and for how long? How long will drivers have to wait as each of the 142 trains per day crosses through their communities? DEIS 6-44. (3277)

## Response to CM-31

Level of service is a standard measure used in vehicle transportation analysis. Level of service represents a “report card” rating (A through F) based on the delay experienced by vehicles at an intersection, or in this case, a railroad crossing. Levels of service A, B, and C indicate conditions where traffic moves without substantial delays. Levels of service D and E represent progressively worse operating conditions. Level of service F represents conditions where average vehicle delay has become excessive and demand has exceeded capacity.

# Comment CM-32

Similarly, the vessel transport section documents a near-doubling of existing traffic in the Columbia River, with nearly eight and a half thousand total vessel transits annually. DEIS 6-55. This means that the Columbia effectively would be transformed into a tanker superhighway, with near constant movement of massive vessels, many of them carrying coal and oil. But the increase in environmental impacts and risks from this transformation is waved away with zero analysis or explanation. For example, while recognizing that "greater number of vessels and trains in the study area could increase the potential for fuel spills," it then dismisses without any quantification or analysis the impact of such spills as "temporary and localized." DEIS 6-28. It also uses modeling that is not explained or transparent to find that the risks of allisions is "low." Id. 6-57. (3277)

## Response to CM-32

Draft EIS Chapter 6, *Cumulative Impacts*, quantified incident frequencies and the estimated likelihood of a bunker oil spill and volume based on a modeling analysis. In addition to the vessel transit projections, the model used environmental data (wind, visibility, and sea-state data) and additional information was presented in the *SEPA Vessel Transportation Technical Report*. As discussed in Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, the likelihood of a vessel allision is low in the Columbia River because there are few impediments close to the edge of the navigation channel. Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, acknowledged that, if a vessel incident occurred, the impacts could be significant, depending on the nature and location of the incident, the weather conditions at the time, and whether any oil is discharged. Although the likelihood of a serious incident is very low, there are no mitigation measures that can completely eliminate the possibility of an incident or the resulting impacts.

# Comment CM-33

To the contrary, an oil or fuel spill in the Columbia would be an existential-level threat to the environment and for the communities that rely on it. Remarkably, the DEIS does not actually discuss what a major crude oil or fuel spill in the Columbia would mean. Similarly, what does doubling the amount of large vessel traffic in the lower Columbia mean for wake stranding, shoreline erosion, and other impacts that are critical issues? Generalized conclusions that the project would "increase the potential for fish stranding" are not at all helpful without the context of "resource, ecosystem, and community thresholds . . . ." as directed by CEQ guidance. Without these types of threshold analyses, and without placing the risks in the appropriate scale and context, the DEIS's cumulative impact analysis does not meaningfully help decision-makers faced with choices about whether this and other proposed projects are consistent with SEPA. (3277)

## Response to CM-33

Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, acknowledged that, if a vessel incident occurred, the impacts could be significant, depending on the nature and location of the incident, the weather conditions at the time, and whether any oil is discharged. Although the likelihood of a serious incident is very low, there are no mitigation measures that can completely eliminate the possibility of an incident or the resulting impacts. The Proposed Action would increase vessel traffic, which would incrementally increase the likelihood of vessel incidents. However, given the existing vessel traffic in the Columbia River, potential impacts from a vessel incident involving a Proposed

Action-related vessel would be similar to impacts that could under existing conditions or the No-Action Alternative. Therefore, such impacts are not analyzed in the EIS.

Draft EIS Chapter 6, *Cumulative Impacts*, noted that increase in deep-draft vessels associated with the Proposed Action and cumulative projects would result in the increased potential for vessel-related cumulative impacts, such as vessel wake stranding and shoreline erosion.

# Comment CM-34

Of particular concern are the GHG-related impacts of exporting all the coal from currently proposed projects. As the DEIS acknowledges, collectively the existing and proposed projects would constitute a staggering 126 million tons/year increase in the amount of coal leaving the west coast. DEIS 6-71. The international market implications of this are potentially huge, but the information provided in the DEIS is extremely thin. For example, as discussed above, the DEIS should disclose the total amount of CO2 associated with that amount of coal combustion: 257 million tons/year—almost three times the state's entire GHG emissions from all sources. (And that number doesn't include the oil projects.) While that ultimate contribution could be reduced via displacement, the FEIS should start with the known total and then discuss potential reductions from displacement and offsets.

Additionally, the information provided in the DEIS on placing these GHGs in context is both confusing and inadequate. Table 6-28 doesn't provide any information on annual emissions, which is the most comprehensible format, and appears to use a "total" based on unrealistically short life span of 11 years of full operations. Moreover, the DEIS provides no information on how this information was obtained—which of the various coal market scenarios were used, and what set of assumptions? The fact that the DEIS comes up with a number of tons of "total" GHG emissions that is such a tiny fraction of the known annual coal combustion emissions raises questions about the adequacy and transparency of this analysis. Equally mystifying is that the DEIS then goes on to only attribute a tiny portion of this to Washington state—only 0.290 million tons/year. DEIS 6-73. However, the whole point of the analysis is that Washington state would be the proximate cause of the much larger amount of emissions associated with coal combustion. No matter how calculated, the public should see just how significantly the terminal would undercut Washington's commitment to reducing greenhouse gases. Even using the DEIS's flawed figure of 62.5 million tons of year, it is evident that authorizing these various projects is entirely inconsistent with our legal obligation to reduce our total GHG footprint to 66 million tons by 2035 and 44.2 million tons by 2050. In other words, the DEIS contains information that provides a clear and powerful legal basis on which to deny this and other similar fossil fuel export projects. That information should be highlighted and as clear as possible. (3277)

## Response to CM-34

The combustion of this coal is influenced by the change in coal prices and the resulting substitution of natural gas for coal in the United States, the induced demand for imported coal, and the substitution of U.S. coal for other coals in Asian markets. A coal market assessment was conducted to estimate emissions for the Cumulative Proposed Action scenario based on the expected conditions in the global coal market. Because of the integrated nature of the coal markets and the trade-off between fuel types within the United States, the coal market assessment was necessary to capture the interrelated nature of energy markets and provide a more reasonable estimate of the greenhouse gas emissions attributable to the Cumulative Proposed Action scenario. The greenhouse gas emissions estimates were not based on the maximum estimate for combustion of the 126 million

metric tons of coal per year as it would oversimply the market conditions and overestimate the greenhouse gas emissions attributable to the Cumulative Proposed Action scenario. The majority of the greenhouse gas emissions under the Cumulative Proposed Action scenario would be emitted outside of Washington State and would, therefore, not contribute to the Washington State greenhouse gas inventory. Greenhouse gas emissions are global pollutants and affect the atmosphere equally, regardless of where they are emitted. The coal market assessment and greenhouse gas emissions estimates have been updated in the Final EIS.

# Comment CM-35

Vehicle Transportation, 6.3.3.3, discusses potential cumulative impacts on vehicle transportation. A detailed, quantitative, analysis was conducted in the Cowlitz County area, but only a qualitative, cursory analysis was conducted for Spokane County. Even though train volume is going to go from the current 70 trains a day to a projected 200 trains per day in 2038 (see below) in the Spokane Corridor. This near tripling of train volume will create significant additional vehicle delay at these at grade crossings without accounting for increases in vehicle congestion that is going to occur on these roads during the next 20 years. In Spokane County, on just the BNSF rail line to Pasco, there are 25 "at Grade" crossings. The average daily traffic count for these roads is currently more than 51,000 cars per day. A significant portion of this traffic volume will be subjected to increased congestion for so many minutes per day as the additional train volume traverses the county. Over the course of a year, this will cost Spokane County drivers millions of dollars in increased congestion costs. The increase in traffic congestion created by the additional trains being added to the existing rail network needs to be identified and properly mitigated. Transportation projects under construction in just Spokane County are spending billions of dollars to add capacity to the transportation road grid and these coal trains are going to increase traffic congestion on dozens of arterials that cross rail lines at the "at Grade" crossings. The DEIS needs to do a quantitative analysis of these traffic impacts for the Spokane area. (0478)

## Response to CM-35

Refer to Response to CM-14.

# Comment CM-36

The conclusions in Section 5.7 of the DEIS are also hard to square with the conclusions in Section 6.3.3.7. In the latter section, the air quality impacts of the project show an alarming 52.1% increase in 24-hour PM 2.5 and a 52.5% increase in annual PM 2.5 in the Gorge – bringing both levels dangerously close to their NAAQS thresholds. Section 5.7 must be updated to reflect the cumulative effects of the proposed project or reworked so that it does not contain conclusions based erroneously on viewing one aspect of the project in isolation. If the modeling relied on an adequate study of the fugitive coal dust emissions of coal trains in realistic wind conditions in the Gorge, it is highly likely the modeling would show exceedance of NAAQS thresholds due to the cumulative effects of the extra proposed trains. This must be disclosed in the EIS. (2508)

## Response to CM-36

Draft EIS Chapter 6, *Cumulative Impacts*, estimated maximum PM10 and PM2.5 concentrations at 100 feet on the BNSF main line in the Columbia River Gorge in comparison to the National Ambient Air Quality Standards (NAAQS), accounting for Proposed Action-related trains and cumulative

projects that would include the transport of coal by rail through the Columbia River Gorge. The analysis has been updated in the Final EIS. Estimated maximum PM10 and PM2.5 concentrations are below the NAAQS.

Final EIS Chapter 6, Section 6.3.3.7, *Coal Dust*, has been revised to provide an updated cumulative coal dust assessment in the Columbia River Gorge. The average maximum monthly coal dust deposition is estimated to be above the benchmark used for the analysis within 200 feet from the rail line. The maximum monthly deposition is also estimated to be above the benchmark used for the analysis at 250 feet from the rail line.

# Comment CM-37

The EIS must address degradation of the protected resources in the Columbia River Gorge from increased rail traffic and the improvements necessary to accommodate it.

The EIS acknowledges that there would be a significant increase in rail traffic if the proposal is approved and concludes that there would be significant impacts on rail transportation if rail improvements are not made. DEIS at S-41. However, the DEIS does not take into account the permanent degradation of the recreation resources of the NSA that would occur. The additional train traffic would wake campers and detract from the recreational experiences at the recreation areas in the NSA. In fact, The Oregonian reported that "When camping in the Gorge, it pays to be a little deaf" and singled out excessive train noise as a cause. Cumulative adverse impacts of increased train traffic to the recreation resources of the NSA must be considered and impacts caused by past actions must be included. (2508)

## Response to CM-37

The Columbia River Gorge is outside the study area for the analysis of parks and recreation facilities in the EIS. In accordance with SEPA Rules, the SEPA co-lead agencies defined the geographic study areas for the Draft EIS analyses to encompass the areas where the Proposed Action could result in significant adverse environmental impacts. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment CM-38

The cumulative impacts analysis is inadequate. While acknowledging that "impacts from past, present, and reasonably foreseeable future actions" must be considered, the DEIS instead discounts the effects of the proposed action and the significance of the cumulative effects of past and proposed actions. The cumulative impacts section functionally sets an environmental baseline as the environment exists today and concludes that the camel's back is already broken – so what's one more straw? This is not the intent of a cumulative impacts assessment. Instead, if there are already significant unavoidable cumulative adverse impacts no more should be added to the mix. The EIS should be reworked to reflect this reality and then the project should be denied. (2508)

## Response to CM-38

Refer to the Master Response for Cumulative Impacts Analysis and to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

# Comment CM-39

20. The Leading Agencies and cooperating agencies must analyze the cumulative impact of life cycle GHG emissions of all federally-approved fossil fuel development, transportation, and export projects and any other state action that results in the increased concentration of GHGs in the atmosphere (e.g., timber sale). The Lead Agencies failure to fully evaluate the cumulative impacts of the proposed project's life cycle GHG emissions combined with the GHG emissions from other state actions is a violation of SEPA and the Lead Agencies' constitutional public trust obligations. As noted by the Ninth Circuit in Center for Biological Diversity v. NHTSA, "the fact that climate change is largely a global phenomenon that includes actions outside of the agency's control does not release the agency from the duty of assessing the effects of its actions on global warming within the context of other actions that also affect global warming."

21. Specifically, the Lead Agencies must evaluate the dozens of Pacific Northwest fossil fuel projects as part of a program to open up global markets for U.S. fossil fuel and the cumulative impacts of that export program. (3387)

## Response to CM-39

An analysis of greenhouse gas emissions from all federally approved fossil fuel development, transportation, and export projects and any other state action that results in the increased concentration of greenhouse gases in the atmosphere is outside the scope of a SEPA EIS. Refer to the Master Response for Purpose and Focus of the EIS. Draft EIS Chapter 6, *Cumulative Impacts*, estimated the greenhouse gas emissions from the Proposed Action and other planned coal export terminals in the Pacific Northwest and western Canada. This analysis has been updated in the Final EIS.

# Comment CM-40

The cumulative impacts of increased rail traffic for coal and oil transport must also be considered. Many of the same communities along the rail route for MBT are facing current oil and coal train traffic, and proposals for enormous oil export terminals like the Tesoro Savage facility in Vancouver, WA. Each train being over a mile long, this would not only increase the traffic and noise, but also the diesel particulate matter and fugitive dust blowing off uncovered coal cars. This accumulation of dust on train tracks can also contribute to derailments, posing a dangerous combination of coal trains and highly combustible oil trains on the same routes. (3353)

## Response to CM-40

Draft EIS Chapter 6, *Cumulative Impacts*, analyzed the incremental addition of impacts from the Proposed Action to impacts from past, present, and reasonably foreseeable future actions, including all planned coal and oil transport projects in the EIS study areas. Final EIS Chapter 6, *Cumulative Impacts*, has been revised to assess potential cumulative impacts at the time the Final EIS cumulative impact analyses were prepared.

# Comment CM-41

Similarly to the train traffic, the combined and cumulative harm that could come to fisheries from both oil and coal transport along Northwest waterways such as the Columbia River should be

considered. BNSF has stated that coal accumulation on train tracks can contribute to derailments, posing even greater harm to important fisheries such as the Columbia River. (3353)

### Response to CM-41

Refer to Response to CM-40. Draft EIS Chapter 6, *Cumulative Impacts,* included an assessment of potential cumulative impacts on fish.

## Comment CM-42

Water quality, vegetation, fish, wildlife from operations effects particularly from emissions of coal dust, continued maintenance dredging, shading from overwater structures and vessels (as described in the comments regarding Chapters 4 and 5) would only be more pronounced when considered cumulatively and should be assessed in the FEIS. (2691)

### Response to CM-42

Refer to the Master Response for Cumulative Impacts Analysis.

## Comment CM-43

The Vessel Traffic Study needs to be further enhanced and presented as part of the DEIS providing more solid statistics on the level of risk posed by this action as well as mitigation measures that can be implemented to reduce imposed risk. These may include but are not limited to:

1. The need for tug escorts;
2. Improved vessel-traffic management and practices and;
3. Enhancing requirements for tug capabilities (including propulsion, equipment and operations) to ensure safe escort of vessels. (2691)

### Response to CM-43

Draft EIS Chapter 6, Section 6.3.3.4, *Vessel Transportation*, quantified incident frequencies and the estimated likelihood of a bunker oil spill and volume based on a modeling analysis.

Proposed mitigation measures for the Proposed Action are identified in the sections for each resource area in Final EIS Chapters 3, 4, and 5. Mitigation measures are not identified for cumulative impacts. For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

## Comment CM-44

The impact of the proposal are cumulative. Nearly every impact has a cumulative impact that is inadequately mitigated. These impacts do not end in 2038, but continue on for generations. (TRANS-SPOKANE-M1-00075)

### Response to CM-44

Refer to Response to CM-43 regarding mitigation. Final EIS Chapter 3.0, *Introduction*; Chapter 4.0, *Introduction*; and Chapter 5.0, *Introduction*, noted that the impacts in 2028 would be the same or similar to the impacts that would occur for the lifetime of the Proposed Action.

## Comment CM-45

The DEIS fails to adequately address the cumulative impacts of other fossil fuel export projects proposed to be built in communities along the Columbia River in Washington and Oregon. This must be remedied in the Final EIS. (3814)

### Response to CM-45

Refer to Response to CM-40.

## Comment CM-46

The Cumulative Impacts part of the permitting process seems speculative and far-fetched. (3489)

### Response to CM-46

The cumulative impacts analysis was prepared in accordance with SEPA Rules and the SEPA Handbook (Washington State Department of Ecology 2016).

Refer to Response to CM-40.

## Comment CM-47

Despite the unprecedented, wide-ranging impacts of MBT, the EIS fails to fully address the cumulative impacts. The impacts of the proposed MBT are not confined to the Longview port, but extend from the mines in the Powder River Basin, along the full length of the rail lines to the port at Longview, across the Pacific Ocean, and beyond to Asia where the coal would ultimately be burned. But the impacts do not stop there. The impacts of greenhouse gases from burning coal overseas come full circle back to pollute our air and our wildlife and aquatic life habitat, and create ever-increasing climate change threats. Despite these well-known cumulative impacts, the EIS addresses only the immediate impacts of MBT. (3329)

### Response to CM-47

Refer to the Master Response for Cumulative Impacts Analysis. In accordance with SEPA Rules, the SEPA co-lead agencies defined the geographic study areas for the Draft EIS analyses to encompass the areas where the Proposed Action could result in significant adverse environmental impacts. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

## Comment CM-48

The cumulative impacts of existing and new proposed coal and oil trains through our region must be taken into account. (3319)

## Response to CM-48

Refer to Response to CM-40 and Response to CM-47.

# Comment CM-49

The EIS should have evaluated the cumulative impacts of coal trains in communities like Camas, Washougal, Vancouver, Spokane, Seattle, and the Tri-Cities that could see train traffic from multiple coal export terminals. (3426)

## Response to CM-49

Refer to Response to CM-47.

# Comment CM-50

| DEIS Section and/or Page Number | Text Correction/Revision | Comment |
|---|---|---|
| *Cumulative Impacts* Page 6-33, Section 6.3.2.7 – Wildlife, Aquatic Wildlife | Last sentence of paragraph 1. "~~*Impacts on p*~~*Pinnipeds and diving birds* *exhibit* ~~*would likely result in*~~*behavioral shifts and avoidance of those areas where underwater noise from in-water pile driving would occur."* | Paragraph 1, last sentence. Potential (could) effect is not an impact. |

(3070)

## Response to CM-50

Final EIS Chapter 6, Section 6.3.2.7, *Wildlife*, has been revised as suggested by the commenter.

# Chapter 7
# Responses to Comments—Other Topics

This chapter presents responses to comments related to topics not covered in Chapters 2 through 6. These topics include the Washington State Environmental Policy Act (SEPA) process, scope of analysis, public and agency outreach, agency coordination and consultation, comment period extension, general mitigation, and Health Impact Assessment and overall health concerns.

## 7.1 SEPA Process

### Comment SEPA-1

While we appreciate the rigorous review conducted by the co-lead agencies, and the release of the DEIS, we are concerned with the length of time and costs associated with such a review thus far. At more than four years in length, and nearly double the time of other significant project reviews, it is time to finish this review. The employer community needs the assurance of regulatory certainty. We strongly support a rigorous and thorough review of all projects, as well as compliance with environmental laws. When the review becomes a significant delay, however, the project proponent and beneficiaries of the project are unnecessarily harmed. (2939)

#### Response to SEPA-1

The Draft EIS was prepared in accordance with the SEPA Rules and Cowlitz County Code. The length of the SEPA process reflects the breadth and complexity of the issues with potential significant impacts; the level of analysis required to provide sufficient information for agency decision-makers and the public regarding the potential environmental impacts and proposed mitigation; and time for public review. The SEPA Draft EIS process was synchronized with the NEPA Draft EIS process led by the Corps.

### Comment SEPA-2

I do not think it is fair to only hold public meetings in Washington state. When much of Oregon, Idaho, Utah and Wyoming will be effected by the transfer of this coal. (0485)

#### Response to SEPA-2

SEPA Rules (WAC 197-11-535) do not include requirements specific to the locations of public hearings. Because the Proposed Action would be located in Cowlitz County and the focus of the impact analyses as described above is within Washington State, the co-leads elected to conduct all public hearings in Washington State. Refer to the Master Response for Geographic Study Areas of the EIS.

# Comment SEPA-3

The Draft EIS identifies numerous unavoidable and significant adverse environmental impacts that will remain for nine environmental resource areas: social and community resources; cultural resources; tribal resources; rail transportation; rail safety; vehicle transportation; vessel transportation; noise and vibration; and greenhouse gas emissions. Significant impacts from just one of these resource areas should be enough to derail this permit process. Identifying nine separate areas that will have unavoidable adverse impacts is a mandate to stop this dangerous project from moving forward. (0478)

## Response to SEPA-3

An EIS is not a decisional document; in other words, the approval or denial of a proposal is not within the scope of an EIS. Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used along with other information by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

# Comment SEPA-4

The unavoidable, adverse environmental impacts that can't be mitigated make it imperative that permits needed to construct this export terminal project must be denied and the proposed action must never be allowed to be constructed. (0478)

## Response to SEPA-4

Refer to Response to SEPA-3.

# Comment SEPA-5

The CTUIR DNR also questions the financial soundness and integrity of the project's proponents, who have, in fact, repeatedly changed into different entities or even gone bankrupt, leaving us with little assurance of their execution of their promises and commitments. There have also been legitimate reports of less-than-forthright claims and representations by the proponents in the ongoing process to authorize the project from the earliest days of the project, a fact that cannot be casually disregarded in the overall decision on whether or not to issue an approval. (3302)

## Response to SEPA-5

Under SEPA, an EIS is required to focus on the environmental impacts of a proposal and its alternatives. Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used along with other information by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

# Comment SEPA-6

Finally, as noted above, there are numerous fossil fuel projects proposed across the northwest. To date no regional environmental impact analysis has been conducted to examine cumulative impacts of the projects comprehensively. These projects are being pursued individually and impacts are being done on a case-by-case basis. This approach prevents a cumulative analysis being conducted.

Such a review should be conducted, as well as coordination with other regulatory processes and analyses such as the "Vessel Traffic Safety Evaluation and Assessment for the Columbia River," being prepared by the Department of Ecology to comprehensively examine all mainstem shipping activity. The information intended for that risk assessment seems critical for the full and thorough evaluation of the potential impacts of approval of the Millennium Bulk Coal Terminal. Due to the important, relevant information being developed, approval of the Millennium Bulk Coal Terminal should be held in abeyance until such time as it can be informed by the results of a regional environmental analysis and the Columbia River spill risk assessment by Ecology. (3302)

### Response to SEPA-6

Draft EIS Chapter 6, *Cumulative Impacts*, presented the analysis of the incremental addition of impacts from the Proposed Action with impacts from past, present, and reasonably foreseeable future actions. Table 6-2 presented the reasonably foreseeable future actions considered in the cumulative analysis, including reasonably foreseeable fossil fuel projects. Table 6-2 has been updated in the Final EIS to reflect changes to the reasonably foreseeable future actions since the Draft EIS was published.

Final EIS Section 6.3.3.4, *Vessel Transportation*, presents the analysis of the incremental addition of impacts on vessel transportation from vessel activity related to the Proposed Action to impacts from past, present, and reasonably foreseeable future actions. Any project that would introduce new vessel traffic to the lower Columbia River was considered a reasonably foreseeable future action for purposes of the cumulative vessel transportation analysis.

## Comment SEPA-7

As I looked through the draft EIS, I came upon chart 6.1 that asks if there are adverse effects expected from allowing this project to proceed. To twenty-two out of twenty-three of the questions, the answer is yes. Which begs the question, why are we continuing with this process at all? (1450)

### Response to SEPA-7

Refer to Response to SEPA-3.

## Comment SEPA-8

Environmental Impact Statement Process- The solicitation of public input during public hearings for "scoping" a draft EIS leaves a major gap in presenting documented findings, analyzes, and scientific assessments necessary to expose all potential environmental impacts for review by the public, public entities, cities, towns and counties prior to the time they are requested to make comment on the draft FIS. It is essential that a comprehensive EAR containing all studies, assessments, scientific analyzes, and documentations should be published and presented to the public and entities of the States prior to the time a draft EIS is circulated for comment by governmental entities. Elected officials must be afforded the full opportunity to have sufficient time to thoroughly review a detailed FAR prior to preparing official written comments to a draft EIS. (2980)

### Response to SEPA-8

Pursuant to WAC 197-11-455, the lead agency for a SEPA proceeding shall provide 30 days for review of and comment on a Draft EIS. A lead agency may extend the comment period by up to 15 days upon request. The co-lead agencies provided a 45-day comment period for review of the Draft EIS. The comment period can be extended beyond these regulatory requirements with agreement from the Applicant. A request was made to the Applicant to extend the comment period to 60 days but the Applicant declined.

According to the SEPA Rules, technical reports and supporting documents need not be circulated with an EIS, but shall be readily available to agencies and the public during the comment period (WAC 197-11-040(7), *EIS contents*) and are considered part of the agency's record of compliance with SEPA (WAC 197-11-090, *Supporting documents*). The SEPA Draft EIS included three volumes. Volume III contained all technical reports prepared for the EIS process including appendices with supporting technical information. This information was published as part of the SEPA Draft EIS and made available per the methods described in Draft EIS Chapter 7, *Public Involvement and Agency Coordination*, for public review on April 29, 2016.

Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used along with other information by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action. There will be additional opportunities for public comment during most future agency review of permit applications for the Proposed Action.

## Comment SEPA-9

Even with the errors and oversights described in this comment letter, it is important to note that the DEIS itself finds many aspects of the MBT proposal would cause harm and risks to the environment and are both significant and unavoidable. Section S.7 summarizes the areas of impacts that cannot be mitigated. While we believe an accurate list of significant and unavoidable impacts would be both broader and deeper, this list alone provides a more than sufficient basis to deny this project under SEPA. (3277)

### Response to SEPA-9

Refer to Response to SEPA-3.

## Comment SEPA-10

The DEIS does provide the basis to deny the application. The DEIS identifies “unavoidable and significant adverse impacts” that would occur in the Gorge even after mitigation measures are applied. DEIS at S-53–S-58. Table S-2 summarizes the unavoidable and significant adverse impacts, including the following examples of impacts to the NSA:

- Adverse impacts to treaty fishing rights;
- Increased delay at railroad crossings;
- Rail traffic would cause tracks to exceed capacity (presumably resulting in new construction of railroad sidings, double-tracks, and overpasses); and

- Increased emissions of greenhouse gasses (which would further affect, for example, air quality, habitat, and recreation).

Based on these disclosures, the County and the Department of Ecology (Ecology) have the necessary basis to reject the proposal. Once the EIS is revised to include all of the omitted impacts, the project should be denied. (2508)

### Response to SEPA-10

Refer to Response to SEPA-3.

## Comment SEPA-11

The inherent inability of EISs to be fully objective is laid out in the following publication (https://www.uow.edu.au/~sharonb/EIS.html), and brings up the additional concern of what attempts can be made at gauging potential bias in the formation of this document, or otherwise account for what may be (in the best case scenario) simply a benign lack of thoroughness, through evaluating the scope of the document and the diligence of its content in considering real-world impacts upon the health of the public, and towards critically upholding a global commitment to safeguarding the environment. I mention this concern because I feel the study falls short in these objectives, with one comment on an RSN article regarding the project (http://readersupportednews.org/news-section2/318-66/36631-proposed-coal-terminal-would-be-the-equivalent-of-adding-8-million-carsto-the-road) pointing out the obvious about the released EIS: "Work through the Draft EIS even quickly and you will see why we are failing to address climate change. Broad but insufficient and deceptive incidental acknowledgements of impact in technical terms that few citizens will ever penetrate, while justifying with broad conclusions," is the skewed evaluative approach taken to addressing the 217,500 public comments taken in February 2012, and in responding to the vast opposition demonstrated both online and by the many persons attending relevant hearings in protest of the project. Jan Hasselman, attorney for the Power Past Coal Coalition, also points out that the draft EIS is "relying on unproven mitigation," the addressing of which is another area for improvement. (http://www.columbian.com/news/2016/apr/29/longview-coal-terminal-environmental-review-released/) (1455)

### Response to SEPA-11

The Draft EIS was prepared in accordance with the SEPA Rules and Cowlitz County Code. The Draft EIS identified potential impacts requiring mitigation and measures to address those impacts. The Draft EIS also acknowledged the Proposed Action has the potential for unavoidable and significant adverse environmental impacts in certain environmental resource areas. For information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework. Refer to the Master Response for Purpose and Focus of the EIS for additional information on the EIS.

## Comment SEPA-12

The Cowlitz County policies, as they relate to SEPA, were specifically put in place to provide you context and remind you of the paramount decision making your actions have on our community. I strongly urge you to be reminded of this historically significant proposal in front of you. (2231)

### Response to SEPA-12

Refer to Response to SEPA-3.

## Comment SEPA-13

Greenhouse gases. According to the DEIS the greenhouse gas emissions from rail traffic and vessel transport of the coal itself within Washington alone, is the same as adding 672,000 cars each year to the State's roads, about like adding one car for each man, woman and child in Seattle. Moreover the affect of the project will be to add 2.5 million tons of net additional emissions annually, but potentially much more. Either one of the foregoing facts alone should be enough for this project to be rejected. (2435)

### Response to SEPA-13

Refer to Response to SEPA-3.

## Comment SEPA-14

No mitigation is possible. Although mitigation measures during construction and operation could reduce emissions slightly in Cowlitz County, they would have no effect on emissions from burning the coal in Asia and elsewhere. As the DEIS finds, the project would have "significant unavoidable impacts." Summary at S-2. The final EIS must conclude that all permits for the proposed Millennium Bulk Terminals project for Longview will be denied. (0666)

### Response to SEPA-14

Refer to Response to SEPA-3.

## Comment SEPA-15

However, the DEIS reveals many significant impacts and risks that, individually and collectively, provide a basis for the Co-leads to deny the project. Section S.7 summarizes the areas of impacts that cannot be mitigated. While we believe an accurate list of significant and unavoidable impacts would be both broader and deeper, this list alone provides a more than sufficient basis to deny this project under SEPA. (3327)

### Response to SEPA-15

Refer to Response to SEPA-3.

## Comment SEPA-16

10. As part of their fiduciary duties as trustees to manage and protect our state's vital natural resources, the Lead Agencies and all of the executive agencies involved in the environmental review process of the proposed project have the duty of loyalty to administer the trust solely in the interest of the trust beneficiaries—both present and future generations of citizens. (3387)

## Response to SEPA-16

Refer to Response to SEPA-3.

# Comment SEPA-17

The DEIS Fails to Disclose any Conflicts of Interest, State Subsidies or Other Ways in Which Lead Agencies' Duty of Loyalty to Washingtonians is Compromised in the Decision-making Around This Project

35. The Lead Agencies owe a duty of loyalty to the Washingtonians and future generations in making decisions of this magnitude. The Lead Agencies owe no duty of loyalty to corporations or other countries when evaluating this project. How have the Lead Agencies exercised its duty of loyalty to the public and posterity?

36. Has, or will, the Project Proponent receive any state funding, tax breaks, or other forms of subsidy related to this project?

37. Has the DEIS been prepared with the assistance of a contractor or consulting firm? If so, has the contractor executed a disclosure statement specifying that they have no financial or other interest in the outcome of the project?

38. Has there been any conflict of interest that would jeopardize the objectivity and integrity of the Lead Agencies or any cooperating agency's environmental review of the proposed project?

39. Does any employee or contractor of the Lead Agencies or any cooperating agency involved in the environmental review of the proposed project have any financial or other interest in the outcome of the decision on whether to approve the proposed project?

40. Do any of the decision-makers have affiliations with fossil fuel industries? Have they worked for the fossil fuel industry in the past? Please disclose all ties that the Lead Agencies staff working on this project have to fossil fuel industries.

41. What type of lobbying has the fossil fuel industry done to the Lead Agencies regarding this project?

42. What will this project cost Washingtonian taxpayers in the form of direct and indirect subsidies and tax breaks?

43. Please disclose all communications that the Lead Agencies have had with the fossil fuel companies that would benefit from the project. (3387)

## Response to SEPA-17

The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus. The items listed by the commenter are outside of the scope of a SEPA EIS**.** The master response also discusses how the Final EIS will be used along with other information by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

# Comment SEPA-18

On behalf of the Tri-City Regional Chamber of Commerce, I am writing today regarding the Draft Environmental Impact Statement (EIS) for the proposed Millennium Bulk Terminals in Longview, Washington and our concerns about the extensive requirements of the process.

As one of most trade-dependent states in the country, Washington is an economic leader for the Pacific Northwest. The Washington Council for International Trade estimates that 40% of all jobs in the state are related to trade and numerous Tri-Cities companies supply the world with food products and manufactured goods. To meet the demands of a 21st century economy, our state must have economic development and infrastructure projects to ensure rapidly growing communities like the Tri-Cities and Puget Sound Region can compete on a global scale. It is vital that all levels of government and the business community work together to promote a climate that makes Washington an attractive place to do business with review processes that are fair, inclusive, predictable and cost-effective to encourage growth and investment, not create more obstacles.

Over the years, our regulatory process has become longer and more uncertain, with delays often discouraging investment in Washington. In the future, we encourage state government to examine ways to reform the permitting process and make it more efficient – speeding up timelines and providing certainty to those looking to locate and expand in our community. This will drastically improve Washington's competitiveness with other states and countries, ensuring we remain an economic power for generations to come (1753)

## Response to SEPA-18

Refer to Response to SEPA-1.

# Comment SEPA-19

There is a strong emerging State and regional consensus that coal- and crude-by-rail proposals pose unacceptable risks, and that associated costs and damages may exceed the economic benefits that accrue to local communities and the State. The SEPA co-leads should broaden their consideration of social and environmental factors where possible, and should monetize and provide to the public a thorough and comprehensive accounting of all the foreseeable impacts, costs, and damages that are likely to result from the Millennium Longview Coal Terminal project. (3458)

## Response to SEPA-19

The SEPA Rules do not require that an EIS analyze the economic or social policy impacts of an action (WAC 197-11-448), or contain a cost benefit analysis (WAC 197-11-450 and 197-11-762). Final EIS Chapter 3, Section 3.2, *Social and Community Resources,* has been revised to remove the analysis of potential impacts to the local economy. Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used along with other information by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

# Comment SEPA-20

While MBTL could affect several areas managed or administered by the NPS, our review of the DEIS focused on potential impacts on the three parks that would be most directly influenced by coal

transport: Glacier National Park in Montana; Fort Vancouver National Historic Site in Vancouver, Washington; and Lewis and Clark National Historical Park near Astoria, Oregon. Given that our August 21 and November 13, 2013, submittals to the U.S. Army Corps of Engineers during project scoping recommended impact analyses for these areas, we are disappointed they were not addressed in the MBTL DEIS. (2432)

### Response to SEPA-20

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas in the SEPA EIS. A separate Draft EIS was prepared by the U.S. Army Corps of Engineers under NEPA (33 CFR 230) to support federal permit decisions related to the Proposed Action. The NEPA Draft EIS was published on September 30, 2016

## Comment SEPA-21

The SEPA DEIS Document is 3,723 pages and according to the SEPA Guidelines this document should be a maximum of 150 pages. (2572)

### Response to SEPA-21

The length of the of the Draft EIS is commensurate with the complexity of the issues analyzed and the level of analysis required to provide sufficient information for agency decision-makers and the public regarding the potential environmental impacts and to identify proposed mitigation.

## Comment SEPA-22

The SEPA DEIS Indicates that the project is designed for a minimum of 30 years, however realistically the project could be operational for 60 to 100 years until global nations really address climate change and greenhouse gas emissions. See original attachment for table of rail cars loaded, unit trains loaded, and marine vessels loaded in 1, 30, 60, and 100 years. At what point is the long term process addressed and not only very short time periods. Page S-6 (2572)

### Response to SEPA-22

The Draft EIS evaluated potential impacts of the Proposed Action during full operations of the coal export terminal (44 million metric tons). For the purposes of the analysis, it was assumed that the coal export terminal would become fully operational by 2028. Draft EIS Chapter 6, *Cumulative Impacts*, presented potential impacts that would result from the incremental addition of the Proposed Action to impacts from past, present, and reasonably foreseeable future actions in 2038. The Final EIS clarifies that impacts and mitigation apply to the lifetime of the Proposed Action.

## Comment SEPA-23

The document reviewed 23 different areas and identified Significant Adverse Environmental Impacts that cannot be mitigated in 9 areas. This overwhelmingly indicates the project has major obstacles to mitigate and is sufficient reason to proceed with the “No Action Alternative” at this time and STOP this Millennium Bulk Terminals – Longview Coal Export Terminal. Page S-10 (2572)

### Response to SEPA-23

Refer to Response to SEPA-3.

## Comment SEPA-24

Proposed mitigation measures are outlined in Table S-2. If the proposed mitigation measures were implemented, impacts would be reduced but would not completely eliminate significant adverse environmental impacts resulting from construction and operation of the Proposed Action. Unavoidable and significant adverse environmental impacts could remain for nine environmental resource areas: social and community resources; cultural resources; tribal resources; rail transportation; rail safety; vehicle transportation; vessel transportation; noise and vibration; and greenhouse gas emissions Page S-40

The Three areas Built, Natural and Operations have "Unavoidable and Significant Adverse Environmental Impacts" [See original attachment for table of built environment, natural environment, and operations impacts]

This SEPA DEIS Review should not have to "Ring the Bell" in all 23 areas to make the determination of NO ACTION ALTERNATIVE. Nine areas are more than sufficient to end this project. Page S-40. (2572)

### Response to SEPA-24

Refer to Response to SEPA-3.

## Comment SEPA-25

Unavoidable and Significant Adverse Environmental Impacts for the proposal should be sufficient to consider the recommended "No Action Alternative." (2572)

### Response to SEPA-25

Refer to Response to SEPA-3.

## Comment SEPA-26

I want to know why this proposal is not including Oregon, Idaho, Utah and Wyoming in its public meetings. (3749)

### Response to SEPA-26

Refer to Response to SEPA-2.

## Comment SEPA-27

I just want to know when they're going to start public hearings in Oregon, Idaho, Utah, Colorado, and Wyoming because the new train tracks are going to be coming through these states, the new route that they're having, and they're only having the hearings in Washington. (TRANS-PASCO-Q2-00009)

### Response to SEPA-27

The Proposed Action includes rail line improvements only at the proposed terminal, and does not include improvements beyond the terminal site. The EIS identifies the potential for future improvements to existing rail infrastructure along the BNSF Railway and Union Pacific main lines to accommodate future rail traffic. These upgrades may address capacity, safety, and/or speed, but they are not necessary to serve the Proposed Action-related train traffic and are not part of the Proposed Action, as described in Draft EIS Section 5.1, *Rail Transportation*. Future rail improvements would be subject to their own environmental review, as appropriate.

Refer to Response to SEPA-2.

## Comment SEPA-28

Isn't an EIS supposed to study the environmental impacts above and beyond what exists today? The old Reynolds site, where Millennium is located, has already been paved, piped and pulled carbon around for 70 years. (3839)

### Response to SEPA-28

The Draft EIS analyzed the potential environmental impacts of the Proposed Action based on the incremental change between conditions under the No-Action Alternative and Proposed Action. The Draft EIS documented existing conditions in the study area for each environmental resource area. These discussions of existing conditions accounted for past activities at the Reynolds site and in each study area to the extent that these past activities shape current conditions.

## Comment SEPA-29

Almost every issue the SWCC dug into when public officials openly supported coal or oil trains revealed some public official was receive something in return for their support. Legal or not it makes the MBTL look as if the process has been corrupted. The final EIS must address this issue, the SWCC that every part of the proposed project must be open and honest = no back room deals. (2352)

### Response to SEPA-29

The concerns raised by the commenter are outside the scope of a SEPA EIS. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for the EIS scope and focus.

# 7.2 Scope of Analysis

## Comment SCOPE-1

We strongly urge that the DOE acknowledge the full adverse impacts of this project to the Columbia River Gorge National Scenic Area (CRGNSA). These potential adverse impacts are identified at various sections of the Draft EIS, but do not fully document the effects of the daily rail operations to the CRGNSA even under "safe" operational conditions. The MBTL is a linear development because it depends on coal to be brought in by train. Consequently, the impact of this project stretches from

the coal mines to the MBTL. The EIS may not adequately consider the impacts to communities and natural resources along this entire linear development. Nowhere will these impacts be more concentrated than in the Columbia River Gorge, eighty miles of which pass through the National Scenic Area. (0671)

### Response to SCOPE-1

In accordance with SEPA Rules, the SEPA co-lead agencies defined the geographic study areas for the Draft EIS analyses to encompass the areas where the Proposed Action could result in significant adverse environmental impacts. As such, the study areas vary in terms of geographic extent, activities considered, and level of analysis, as described in the Master Response for Geographic Study Areas of the EIS. As described in more detail in the master response, potential impacts along Proposed Action-related rail routes in Washington State, including rail routes through the Columbia River Gorge, were evaluated for the following resources in the Draft EIS: Chapter 3, Section 3.5, *Tribal Resources*; Chapter 5, Sections 5.1, *Rail Transportation*, 5.2, *Rail Safety*, 5.3, *Vehicle Transportation*, 5.5, *Noise and Vibration*, 5.6, *Air Quality*, 5.7, *Coal Dust*, and 5.8, *Greenhouse Gas Emissions and Climate Change*. Additionally, potential impacts beyond Washington State were evaluated in Draft EIS Chapter 5, Sections 5.1, *Rail Transportation*, and 5.8, *Greenhouse Gas Emissions and Climate Change*.

## Comment SCOPE-2

The geographic scope of the DEIS is too narrow to provide an accurate assessment of the full range of direct and indirect impacts of this proposal on traffic, public safety, air and water quality, and economic development across the impacted regions where the coal would be extracted, shipped and burned. (0812)

### Response to SCOPE-2

Refer to Response to SCOPE-1 regarding the geographic scope of the EIS. Refer to Response to SEPA-19 regarding the analysis of economic impacts. The Proposed Action is not dependent on new sources of coal. Environmental reviews were done under NEPA requirements for coal mines in the Powder River Basin and Uinta Basin. Refer to the Master Response for Connected or Similar Actions.

## Comment SCOPE-3

Although substantial research on environmental concerns and possible mitigation has been completed for Washington state (especially Cowlitz county), the proposed rail routing actually involves six states; clearly, further studies are needed. The most concerning issues include: *enhanced global climate change due to increased coal burning in China (wouldn't the money be better spent in developing sustainable/environmentally friendly alternatives?) *aquatic/water quality (not only for the Columbia river, but for other areas where trains will pass over a large body of fresh water such as Lake Pend Oreille in the Sandpoint area) *rail transportation concerns, which include inadequate infrastructure for increased traffic, substantially increased health impacts from coal dust and emergency vehicle delays, and noise pollution due to increased train whistles in populated areas. I also urge you to consider the fact that although the six states involved will share (to some degree) the environmental and safety risks, neither Idaho nor Oregon stands to gain any financial benefit. Any savvy investor knows that considering risks versus anticipated benefits is

critical to any investment decision-making. Zero benefit + significant risks = untenable option. (1161)

### Response to SCOPE-3

Refer to Response to SCOPE-1.

## Comment SCOPE-4

Although substantial research on environmental concerns and possible mitigation has been completed for Washington state (especially Cowlitz county), the proposed rail routing actually involves six states; clearly, further studies are needed. As a resident of Idaho my areas of concern include: *enhanced global climate change due to increased coal burning in China (wouldn't the money be better spent in developing sustainable/environmentally friendly alternatives?) *aquatic/water quality (not only for the Columbia river, but for other areas where trains will pass over a large body of fresh water such as Lake Pend Oreille in the Sandpoint area) *rail transportation concerns, which include inadequate infrastructure for increased traffic, substantially increased health impacts from coal dust and emergency vehicle delays, and noise pollution due to increased train whistles in populated areas. I also urge you to consider the fact that although the six states involved will share (to some degree) the environmental and safety risks, neither Idaho nor Oregon stands to gain any economic benefit. In other words, the residents of both Oregon and Idaho would be required to assume substantial environmental risk, as well as, possible additional safety expenditures with no compensatory financial gain. (1163)

### Response to SCOPE-4

Refer to Response to SCOPE-1.

## Comment SCOPE-5

The EIS does not include train accidents, coal dust in communities, destruction of the land and community where it is sourced and where it will be consumed. (1388)

### Response to SCOPE-5

Refer to Response to SCOPE-1.

## Comment SCOPE-6

I see many potential environmental impacts that cross state borders and international boundaries that are not addressed in the site EIS for this project. Health and safety risks abound for all the communities that are situated close to the tracks that will be used to transport the coal to the proposed terminal. The health of the residents of the communities receiving and burning this coal is also in jeopardy due to the air pollution caused by the burning of such fuels. Then we in turn will be the recipients of the particulate pollution that is carried back across the ocean. The tracks used to transport this dirty material follows many miles of rivers (Columbia & Spokane Rivers) that will be jeopardizing key water sources that many communities rely on for their health and sustainability. (2242)

### Response to SCOPE-6

Refer to Response to SCOPE-1. Draft EIS Chapter 5, Section 5.6, *Air Quality,* and Appendix I, *Sulfur Dioxide and Mercury Emissions*, presented the results of an analysis conducted to determine the annual mercury deposition amounts over Washington State associated with coal exported from the Proposed Action. The analysis concluded the maximum mercury deposition for the Proposed Action by 2040 would represent less than 0.3% of the total Asian-sourced mercury deposition over Washington State. Therefore, the Proposed Action would have a negligible impact on mercury deposition in marine waters.

## Comment SCOPE-7

It also should have addressed the broad spectrum of worldwide impacts such a terminus could have on increased coal production, export, and use. The environmental impacts on increased carbon production cannot be ignored. (2437)

### Response to SCOPE-7

Draft EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, estimated greenhouse gas emissions that would result from construction and operation of the Proposed Action, including coal energy market changes, coal combustion, and assessed potential climate change impacts on the Proposed Action.

## Comment SCOPE-8

The analysis employed in the Draft EIS ventures far beyond these well-established statutory constraints into uncharted territory. The unprecedented and expansive scope of this Draft EIS-which focuses on impacts from the end-use of the commodity being shipped instead of the act of transloading across the docks that MBT-Longview proposes to construct, invites a discriminatory approach to SEPA implementation for unpopular and/ or particularly "controversial" projects. The Final EIS should correct this significant legal error, and refrain from employing this sort of speculative approach and patently invalid geographic scope that goes well beyond state boundaries.

Most, fundamentally, SEPA calls for a simple and uniform approach for impact analysis. Portions of the Draft EIS go well beyond the simple and uniform approach by evaluating potential impacts that (a) are not proximately caused by the Project, (b) are not "likely or reasonably likely to occur" or speculative, and may not happen at all, and (c) may happen whether or not the Project goes forward. In these instances, the substantial uncertainty in these studies was not properly disclosed. The inclusion of potential mitigation measures for impacts that are not proximately caused by the Project invites the agencies to exceed their regulatory authority. (3070)

### Response to SCOPE-8

The Master Response for Purpose and Focus of the EIS explains the scope and focus of the EIS. Refer to Response to SCOPE-1 regarding the geographic scope of the EIS.

# Comment SCOPE-9

In reviewing the Millennium Bulk Terminal Longview DEIS, we believe that it does not adequately acknowledge the significant of the Columbia River Gorge National Scenic Area as a region of special concern and consideration. It states that the Columbia River Gorge Commission will receive information on an annual basis about the proposed project, but not sufficiently or specifically address the potential impacts that could significantly degrade the economy, nor the scenic, natural, cultural and recreation resources from rail operations and accidents. It also does not adequately address the cumulative effect of these impacts over time. In addition, there are many other state and tribal protected and sensitive areas within and adjacent to the NSA such as parks, federal wildlife refuges, tribal fishing areas critical fish habitats and wetlands that could be harmed by the expansion of the rail lines and additional transport of coal through these areas. (3107)

## Response to SCOPE-9

Refer to Response to SCOPE-1 regarding the scope of analysis and geographic study areas. The Proposed Action does not involve expanding or developing any new rail lines, including in the Columbia River Gorge National Scenic Area. Refer to the Master Response for Connected or Similar Actions for a discussion of why potential future rail line improvements separate from the Proposed Action are not evaluated in the EIS.

# Comment SCOPE-10

The Columbia River Gorge National Scenic Area Act establishes land use development standards for all land within the National Scenic Area, excluding certain designated Urban Areas. Independent of the National Scenic Area's mandates, SEPA requires that the EIS must include analysis of the likely increase in rail traffic and any accompanying expansions of railroad facilities within the National Scenic Area. Since the project would require extra rail capacity through the NSA, the EIS must identify where new construction would likely occur in the NSA and the impacts that would occur to resources protected by the Act, the Management Plan, and local implementing ordinances. Deferring this analysis to later study does not satisfy SEPA requirements. (3107)

## Response to SCOPE-10

Refer to Response to SCOPE-1 regarding the scope of analysis and geographic study areas. Refer to Response to SCOPE-9 regarding consideration of rail line expansions**.**

# Comment SCOPE-11

In summary, it is important that there be much more rigorous analyses of potential impacts within the NSA from increased rail traffic. The analyses of impacts in the DEIS are vague at best and should be much more detailed, with special emphasis on the risks within the National Scenic Area. We request that the final EIS analyses consider the very unique and special geographic and meteorological characteristics of the NSA and address how the cultural, scenic, natural and cultural resources, and Gorge economy, will be protected and in compliance with the NSA Act. First and foremost, there must be a more rigorous assessment of the risks and benefits of coal transport through the Gorge. Second, adverse effects identified in the evaluation must be avoided, minimized, and mitigated throughout the Gorge area. The Gorge must be fully protected and rigorously managed under federal and interstate standards. (3107)

## Response to SCOPE-11

Refer to Response to SCOPE-1 regarding the scope of analysis and geographic study areas.

Refer to Response to SEPA-19 regarding the consideration of economic impacts of the Proposed Action.

# Comment SCOPE-12

Setting aside the impacts associated with a spill, fire, explosion or other rail incident, the DEIS analysis of impacts associated with an increase in rail traffic through the Gorge does not assess the potential for impacts to the CRGNSA's unique scenic, natural, recreational and cultural resources, or the potential economic effects to gorge communities. Rail traffic can block or hinder access to popular recreation sites. It can be a deterrent to recreation and tourism-related economic activity. Rail traffic blocks scenic views of the Columbia River and the Oregon side of the Gorge from the SR 14 corridor in Washington. The DEIS acknowledges that the increase in rail traffic associated with the proposed action would exceed the capacity of the current BNSF rail infrastructure in Washington State. What additional rail infrastructure would be needed in the foreseeable future were the proposed Millennium terminal to be approved and become fully operational? How do the social and environmental effects of the proposed increase in Millennium-related rail traffic through the CRGNSA interact cumulatively with other current proposals for increased terminal capacity along the same rail lines - for instance, the proposed Tesoro-Savage petroleum terminal in Vancouver, Washington that is currently under analysis?

We request that the final DEIS for the Millennium Bulk Terminals- Longview proposal include an analysis specific to the potential impacts of the project to the resources, communities, and economy of the Columbia River Gorge National Scenic Area. The Scenic Area is unique as a congressionally designated area with a high concentration of important and sensitive scenic, natural, cultural and recreational resources and a local economy that is closely tied in with the protection and enhancement of those resources. (2501)

## Response to SCOPE-12

Refer to Response to SCOPE-1 regarding the scope of analysis and geographic study areas.

Draft EIS Chapter 5, Section 5.1, *Rail Transportation*, identified the potential for future improvements along main line routes in Washington State. These upgrades may address capacity, safety, and/or speed, but they are not necessary to serve the Proposed Action-related train traffic. Refer to Response to SCOPE-9 regarding consideration of rail line expansions in the Columbia River Gorge.

Draft EIS Chapter 6, *Cumulative Impacts*, presented the analysis of the incremental addition of impacts from the Proposed Action to impacts from past, present, and reasonably foreseeable future actions, including the proposed Vancouver Energy project.

# Comment SCOPE-13

How will sensitive areas be protected? Impacts to protected areas along rail and barge lines are a particular concern. The Columbia River Gorge National Scenic Area is just one of many protected and sensitive areas that would be negatively impacted by coal trains that would service this facility.

Wetlands, wildlife refuges, state parks, tribal fishing areas, critical fish, wildlife and plant habitat, recreation, and scenic resources would be harmed by the impacts of this facility, its trains, and the expansion of rail lines needed to accommodate the increase in rail traffic. (3253)

### Response to SCOPE-13

Refer to Response to SCOPE-1 regarding the scope of analysis and geographic study areas. Refer to Response to SCOPE-9 regarding consideration of rail line expansions in the Columbia River Gorge.

## Comment SCOPE-14

In our scoping comments on this proposal, dated November 8, 2013 the Tribe asked: If said proposal(s) is to be considered, the Coeur d'Alene Tribe calls for a regional Programmatic Environmental Impact Statement (PEIS) pursuant to the National Environmental Policy Act (NEPA) for all of the proposed export terminal applications in Longview, Bellingham and Belleview Washington. Stand-alone, disconnected studies at each site are not acceptable. (3213)

### Response to SCOPE-14

The Proposed Action is not part of a broader plan, policy, or program that could be evaluated as a nonproject (i.e., programmatic) proposal under SEPA (WAC 197-11-774). Refer to the Master Response for Connected or Similar Actions. A separate EIS was prepared by the U.S. Army Corps of Engineers under NEPA (33 CFR 230) to support federal permit decisions related to the Proposed Action. The NEPA Draft EIS was published on September 30, 2016.

## Comment SCOPE-15

The DEIS does not adequately respond to our concerns as a Tribal nation, and as such, is not regional. It does not make sense to limit the study area to the terminal; the study area should include all rail routes to and from the places where the trains would originate and all potential impacts. The DEIS is not adequate in its analysis of the impacts on tribes in the region, especially in terms of Tribal resources such as fish, wildlife, water and health impacts specific to tribes. (3213)

### Response to SCOPE-15

The commenter has not specifically identified how the Draft EIS analysis of tribal resources is inadequate. The study areas considered for direct and indirect impacts on tribal resources are described in Draft EIS Chapter 3, Section 3.5.2, *Study Area*, and are not limited to the terminal.

## Comment SCOPE-16

The coal companies that own Millennium will receive most of the short and long-term benefit from the proposed project. Similarly, in both the short and long-term, Asian importers will benefit from coal prices that are lower than the current norm in their market. According to the DEIS, most of the 44 million tons of coal exported by the terminal will be bought by the Chinese. However, these lower coal prices will not benefit the Asian population in the long term because they will incentivize more use of coal in power plants. This in turn will create more pollution of Asian, especially Chinese, air and soil from particulates, mercury, and sulfur dioxide, and will prolong and increase well-documented adverse health effects on their human and wildlife populations. In effect, the U.S. is off-

shoring the adverse health effects of Millennium's project. No mitigation measures are proposed in this DEIS, but in the future Washington's laws should address this kind of externalizing of environmental destruction. (3465)

### Response to SCOPE-16

The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS. Refer to the Master Response for the Coal Market Assessment for information on the methods, assumptions, and model used in the analysis; sources of data; scenarios considered; and conclusions related to impacts of the Proposed Action on U.S. and international coal markets. For information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

## Comment SCOPE-17

The DEIS should also include in its analysis impacts beyond the river and the estuary—i.e., the Pacific Ocean and west coast. (3302)

### Response to SCOPE-17

Refer to Response to SCOPE-1.

## Comment SCOPE-18

Another critical flaw that merits serious attention is the failure of the DEIS to place the rail-related impacts in the context of the Columbia River Gorge National Scenic Area. As explained in the separate comments of Friends of the Columbia River Gorge, the National Scenic Area is a national treasure. While the rail-related impacts of this project would be unacceptable virtually anywhere, they are even more egregious in light of the special resource values, economic values, and national interests in preserving and protecting this special place. We ask that you devote a separate chapter to the National Scenic Area and which of its values would be compromised by approval of this project. (3277)

### Response to SCOPE-18

Refer to Response to SCOPE-1.

## Comment SCOPE-19

The DEIS reveals that some of the coal shipped through the Terminal could be mined in the Uinta Basin. The Uinta Basin is a geologic basin that includes much of the northeastern corner of Utah, extending into northwestern Colorado. As we have previously discussed, mining-related impacts have been erroneously omitted from consideration in this DEIS. (3277)

### Response to SCOPE-19

The Proposed Action is not dependent on new sources of coal. Environmental reviews were done under NEPA requirements for coal mines in the Powder River Basin and Uinta Basin. Refer to the Master Response for Connected or Similar Actions.

# Comment SCOPE-20

SEPA specifically requires analysis of impacts to designated sensitive areas. WAC 197-11-330(3)(e)(i). In addition to the National Scenic Area being a sensitive area that must be addressed in the EIS, the Columbia River Gorge has a remarkable concentration of local, state, and federally designated parks, recreation areas, wild and scenic rivers, and historic trails. The following state and federally designated areas are located within or near the Scenic Area:

- The Lewis and Clark National Historic Trail
- The Oregon Pioneer National Historic Trail
- The Historic Columbia River Highway (designated as a National Historic District on the National Register of Historic Places, as well as a National Historic Landmark)
- The Ice Age Floods National Geological Trail
- The White Salmon and Klickitat Wild and Scenic Rivers in Washington
- The Deschutes, Hood, and Sandy Rivers in Oregon
- Numerous "in lieu" and treaty fishing access sites
- Numerous state and local parks
- Hundreds of miles of hiking trails on federal, state, local, and private lands
- Three National Wildlife Refuges (Steigerwald, Franz Lake, and Pierce).

The proposed MBTL coal export terminal would accept an average of eight unit coal trains per day. DEIS at 5.0-3. The facility would generate an additional 2,920 fully loaded coal trains through the Columbia River Gorge per year. The major increase in rail traffic would pass through multiple sensitive locations in the Gorge, including the following:

- Nine designated urban areas where populations are concentrated in proximity to the BNSF rail line: North Bonneville, Stevenson, Carson, Home Valley, White Salmon, Bingen, Lyle, Dallesport, and Wishram.
- If the Union Pacific line is utilized, four designated urban areas in Oregon: The Dalles, Mosier, Hood River, and Cascade Locks.
- Numerous popular recreation sites, including Columbia Hills State Park, Doug's Beach State Park, Klickitat-Balfour Day Use Area, Spring Creek Hatchery State Park, Drano Lake Boat Launch, Home Valley Park, Wind River Boat Launch, and Beacon Rock State Park.
- Numerous sensitive riverine habitats, including the mainstem Columbia River and major tributaries such as the Klickitat River, the White Salmon River, the Little White Salmon River, and Wind River.
- Numerous sensitive wildlife sites, including three National Wildlife Refuges: Steigerwald NWF, Franz Lake NWF, and Pierce NWF.

The proposed facility would cause significant adverse impacts to these areas. First, the substantial increase in coal by rail would create an unacceptable risk of a major derailment and spill. Such an accident would be harmful to residents in the Gorge and to the scenic, natural, cultural, and recreation resources of the Gorge. Second, the substantial increase in rail traffic would cause significant adverse impacts from increased delays at railroad crossings, increased noise, and

increased air pollution. The increased rail traffic would also likely contribute to the need for additional railroad construction in the Gorge. (2508)

### Response to SCOPE-20

Refer to Response to SCOPE-1 regarding the scope of analysis and geographic study areas. Refer to Response to SCOPE-9 regarding consideration of rail line expansions in the Columbia River Gorge.

## Comment SCOPE-21

The DEIS also excluded the impacts of the new construction of railroad infrastructure in the Gorge by restricting the environmental resource area study areas in Chapters 3 and 4. The entire point of an EIS is to disclose all of the direct and indirect impacts of a proposed project. Excluding the foreseeable indirect impacts on the protected resources of the Gorge is impermissible and baffling. WAC 197-11-060(4)(b). Some of the environmental resource areas that have under-inclusive study areas and/or exclude the foreseeable railroad construction activities that would take place in the Gorge and would negatively impact the scenic, cultural, recreational, and natural resources protected by the Gorge Act, the Gorge management Plan, and local ordinances include:

- Section 3.1 Land and Shoreline Use
- Land and Shoreline Use, including Zoning and Consistency with Comprehensive Plans
- Parks and Recreation Facilities
- Agricultural Land
- Section 3.2 Social and Community Resources
- Social and Community Cohesion and Public Services
- Local Economy
- Minority and Low-Income Populations
- Section 3.3 Aesthetics, Light, and Glare
- Section 3.4 Cultural Resources
- Section 3.5 Tribal Resources
- Section 4.2 Surface Water and Floodplains
- Section 4.3 Wetlands
- Section 4.5 Water Quality
- Section 4.6 Vegetation
- Section 4.7 Fish
- Section 4.8 Wildlife

The EIS must disclose and analyze the adverse effects of the rail construction on these resources areas in the Gorge. Where there will be significant adverse effects, the EIS should propose mitigation measures to comply with the Gorge Act, the Gorge Management Plan, and with local ordinances implementing the Plan. (2508)

### Response to SCOPE-21

Refer to Response to SCOPE-9.

## Comment SCOPE-22

The EIS must disclose the direct, indirect, and cumulative impacts of the proposal. The DEIS, despite its flaws, documents that the MBTL coal export terminal would cause unavoidable significant adverse impacts to the Columbia River Gorge and that there are no feasible mitigation measures that would reduce those impacts to acceptable levels. Based on this information, Ecology and the County have sufficient information to reject the proposal. To clarify the basis for denying the application, the EIS should be revised to provide adequate disclosure of the full extent of impacts to the Columbia River Gorge. (2508)

### Response to SCOPE-22

Refer to Response to SCOPE-1 regarding the scope of analysis and geographic study areas. Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used along with other information by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

## Comment SCOPE-23

We believe that the proposed Millennium Bulk Terminals-Longview Project will have a detrimental effect on the health, safety, environment and quality of life for the thousands of people who live along the Montana Rail Link and BNSF rail lines that carry Powder River Basin coal through Idaho. And while we recognize that the U.S. Army Corps is taking a narrow scope in this review, and that the Department of Ecology and Cowlitz County are Washington state entities, we urge you to consider the impacts of this proposal beyond the state's borders. Many of our concerns are similar to those of Washington state residents who also live along the rail lines that will carry coal to this terminal. One key difference is that while Washington state may enjoy some economic benefits from the proposal- job creation at the terminal site, for instance- Idaho will enjoy none of those benefits. We are left with the risks alone. (3492)

### Response to SCOPE-23

Refer to Response to SCOPE-1.

## Comment SCOPE-24

The federal government has predicted 10 derailments per year of trains carrying highly volatile cargo such as Bakken crude oil, which travel these same tracks. The study estimated a severe accident could cause $6 billion in damages and kill 200 people in a populated area. 3 An oil train derailment would be catastrophic, as well, in the more rural North Idaho. There also can be no way to mitigate for an explosive oil train derailment if it were to happen in one of Idaho's rural communities, where many homes, businesses and schools are in the blast zone. (3492)

### Response to SCOPE-24

The Proposed Action does not involve transporting oil by rail. Refer to Final EIS Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, for a description of the Proposed Action.

## Comment SCOPE-25

The DEIS fails to provide a full and accurate assessment of direct and indirect impacts on traffic, public safety, air and water quality, protected areas, fishing access, and economic development across the region impacted by related rail and barge traffic. (2449)

### Response to SCOPE-25

The Draft EIS Chapter 3, Section 3.5, *Tribal Resources*, Chapter 4, Sections 4.5, *Water Quality*, 4.6, *Vegetation*, 4.7, *Fish*, and 4.8, *Wildlife*, assessed potential impacts on the resources referenced in the comment.

## Comment SCOPE-26

In particular, the additional mining of 48.5 million short tons of coal that would supply the terminal and the effects of that rail haul on communities along the route between the mines and the port receives very little attention in the DEIS. (2268)

### Response to SCOPE-26

Refer to Response to SCOPE-19 regarding the analysis of impacts of coal mining. Refer to Response to SCOPE-1 regarding the scope of analysis and geographic study areas.

## Comment SCOPE-27

If permitted and constructed, the MBTL facility would result in increased coal strip mining in Montana with significant and deleterious consequences for the land, air, water, wildlife, and people in those areas. However, the analysis presented in the MBTL DEIS does not include the connected and cumulative impacts this project would have on Montana (see below for details). (2504)

### Response to SCOPE-27

Refer to Response to SCOPE-19.

## Comment SCOPE-28

Ecology and Cowlitz County declared that they would not consider mining impacts induced by MBTL in the DEIS for the project. Respectfully, we do not believe that the Washington State Department of Ecology and Cowlitz County can adequately complete a thorough and accurate environmental analysis for MBTL without considering the cumulative and connected impacts of additional coal mining induced by the proposed action. The final EIS should include this consideration of mining impacts. (2504)

### Response to SCOPE-28

Refer to Response to SCOPE-19.

## Comment SCOPE-29

If the Proposed Action is permitted, the landowners, neighbors, and public land users at or near the Decker Mine face rapidly expanding impacts to the land and water of southeastern Montana with no promise of timely reclamation of the disturbance. This is a cumulative and connected impact of permitting the MBTL project, and this issue must be considered and analyzed in this environmental analysis. (2504)

### Response to SCOPE-29

Refer to the Master Response for Connected or Similar Actions.

## Comment SCOPE-30

We believe that the Washington State Department of Ecology and Cowlitz County must fully consider the consequences of all the connected and cumulative impacts that would result to Montana and Montanans if a permit is granted for the proposed MBTL coal export terminal. (2504)

### Response to SCOPE-30

Refer to the Master Response for Connected or Similar Actions.

## Comment SCOPE-31

Rail traffic impacts upon neighboring states were not evaluated in the DEIS. Although the DEIS is thorough and well documented for Washington State, impacts outside the State are not considered. While this omission is inherent in an action that is a fulfillment of Washington State law, it is a serious shortcoming in the DEIS process because it ignores impacts upon neighboring states. Impacts of one's actions upon neighbors are essential considerations. (2233)

### Response to SCOPE-31

Refer to Response to SCOPE-1 regarding the scope of analysis and geographic study areas. As described in Draft EIS Chapter 5, Section 5.1, *Rail Transportation*, the addition of 16 Proposed Action-related trains per day could result in rail traffic on some main line route segments beyond Washington State exceeding projected capacity if no capacity improvements or operating changes were implemented.

## Comment SCOPE-32

But the DEIS fails to disclose likely injuries and death from accidents at all at-grade crossings and along transportation corridors in Washington and fails to disclose similar impacts, including potential public health emergencies, to rail line communities in Utah, Colorado, Wyoming, Montana, Idaho, and Oregon. (3327)

### Response to SCOPE-32

Refer to Response to SCOPE-1.

## Comment SCOPE-33

The 1977 Clean Air Act amendments have requirements to protect air quality in 156 mandatory Class I national parks and wilderness areas, including Glacier NP. The Clean Air Act also directs the NPS to protect air pollution-sensitive resources such as visibility, streams, lakes, vegetation, soils, and wildlife in Class I areas. The FEIS should assess the impact of coal dust and train emissions associated with MBTL on air quality in Glacier NP. (2432)

### Response to SCOPE-33

As shown in Draft EIS Chapter 5, Section 5.1, *Rail Transportation*, Proposed Action-related trains would travel along a rail route that would pass through Missoula, Montana. This route is approximately 90 miles from Glacier National Park. The Proposed Action would not have the potential for direct impacts on Glacier National Park. Refer to the Master Response for Geographic Study Areas of the EIS. Draft EIS Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, estimated greenhouse gas emissions from Proposed Action-related trains beyond Cowlitz County.

## Comment SCOPE-34

Definition of "INDIRECT IMPACT" on page 4.0-3 is lacking. Not only are indirect impacts considered those impacts that are "beyond the project area" as stated in the draft DEIS, but also those impacts that occur later in time, and beyond boundaries of site to include systems affected by project (U.S. Department of Transportation). (2691)

### Response to SCOPE-34

The commenter’s definition is from federal regulations (40 CFR 1508.8), which is not applicable to a SEPA EIS. The Draft EIS evaluated potential indirect impacts for each resource area, as applicable under SEPA. The Draft EIS evaluated impacts that occur later in time as indirect impacts, as appropriate, such as impacts related to maintenance dredging discussed in Draft EIS Chapter 4, Sections 4.7, *Fish*, and 4.8, *Wildlife*.

## Comment SCOPE-35

COSTS TO MONTANANS ARE NOT CONSIDERED The DEIS fails to account for threats posed by this project to human and animal health, water quality and ecosystem integrity along Montana’s rails lines. In Missoula alone, the project would increase health threats in our frequently inverted valley, increase delays at railroad crossings and threaten the integrity of the newly-restored Clark Fork of the Columbia River. (1157)

### Response to SCOPE-35

Refer to Response to SCOPE-1.

# Comment SCOPE-36

Your EIS is alarming to say the least. You point out significant impacts to the Columbia River Basin and to Washington State, but I would suggest you don't go far enough. The impacts extend to the whole length of the transportation route from the Power River coalmines to the site of the export facility. (1162)

## Response to SCOPE-36

Refer to Response to SCOPE-1.

# Comment SCOPE-37

This proposal would add 16 coal trains a day, half loaded, half empty. The increased trains will affect more than Cowlitz County and more than Washington State. They will exceed current capacity in Idaho and in my home state of Montana, and, since the trains go through the middle of many towns and cities, the increase in coal dust and diesel fumes will adversely affect the health of all humans in residential neighborhoods next to the tracks. (1162)

## Response to SCOPE-37

Refer to Response to SCOPE-1.

# Comment SCOPE-38

I was shocked to learn that though the coal will be mined in the Powder River Basin of Montana and Wyoming, the statement does not account for the impacts of such a project in Montana. Building this terminal could mean up to sixteen coal trains, passing through Montana each day. Transporting coal in this manner: will have delirious effects on our air quality, public health, especially for children exposed to coal dust, and increase the likelihood of accidents with potentially devastating consequences for towns along the rails and our rivers. This kind of rail traffic will increase delays at rail crossings, potentially putting people at risk as they wait for emergency vehicles (1203)

## Response to SCOPE-38

Refer to Response to SCOPE-1.

# Comment SCOPE-39

Delays of emergency vehicles at rail crossings outside Washington State were not evaluated. In our community there are four MRL/BNSF rail crossings, two of which have no alternate road to residential areas. Using the 6,844 foot length of a coal unit train traveling at 50mph for calculation, the 16 trains/day (8 loaded, 8 empty) will add a half hour's delay every day to each crossing. Train speeds at some of these crossings will be slower, adding time to the delay. Local emergency services have had no opportunity to evaluate potential consequences of this added delay, which would be longer if train speeds are slower. (2233)

### Response to SCOPE-39

Refer to Response to SCOPE-1.

## Comment SCOPE-40

Please expand your analysis to consider the potential impacts of additional coal trains passing through Whitefish. We maintain the following concerns about increased coal traffic through Whitefish:

- Delays and adverse rescheduling of Amtrak's Empire Builder route. Whitefish is a major destination for Amtrak's passengers. Residents and visitors utilize Amtrak for pleasure and business, and Amtrak service is an important part of our economy. Service has deteriorated in recent years due to increased freight and oil traffic. Additional coal trains will likely exacerbate the problem;
- Increased delays at three at-grade crossings (Birch Point, Second Street and State Park Road). Increased delays can inconvenience residents and park visitors, especially at two of the crossings where residents have no other ingress and egress to city neighborhoods. Increased traffic could block access for emergency service vehicles to those neighborhoods as well, creating health and safety risks;
- The addition of loaded coal trains to the existing mix of freight traffic increases the risk that a derailment could dump loaded railcars of coal or crude oil (in the case of mixed · trains) in or around Whitefish. A spill of coal or oil into Whitefish Lake would have farreaching impacts to the community. Up to thirty percent of Whitefish's municipal water supply comes from Whitefish Lake, and the lake itself is a primary driver behind our tourist economy. These impacts would adversely affect the health and quality of life of Whitefish residents; and
- Additional public health and safety issues from diesel emissions and fugitive coal dust. It should be noted that the Whitefish Middle School is less than 100 yards from the BNSF tracks.

Many of these impacts to Whitefish cannot be mitigated. But even in the case in which these challenges have potential solutions, we would note that the Whitefish community lacks the funding to mitigate those impacts through the creation of quiet zones and construction of underpasses or overpasses. (2247)

### Response to SCOPE-40

Refer to Response to SCOPE-1.

## Comment SCOPE-41

The draft EIS is deficient in its coverage of Missoula and the state of Montana. The document acknowledges that there will be rail impacts to Montana, but provides no details which to me means you haven't really thought it through or worse, you have dismissed Montanans as being of your concern. (2258)

### Response to SCOPE-41

Refer to Response to SCOPE-1.

# Comment SCOPE-42

Upon review of the Draft Document it was noted that the operational and environmental impacts focused primarily on the regional impacts in Washington State and did not adequately address the down rail impacts to other areas, specifically those in Montana. (2444)

## Response to SCOPE-42

Refer to Response to SCOPE-1.

# Comment SCOPE-43

The EIS did not look at impacts that will result solely from approval of this project but beyond Washington State's borders. This is a serious flaw. (2487)

## Response to SCOPE-43

Refer to Response to SCOPE-1.

# Comment SCOPE-44

In Billings, low income housing, which includes most of our minority population, is located from less than a tenth of a mile, to a mile and a half from the tracks. The addition of 16 trains per day at all hours will certainly result in sleep disruption, and associated health impacts.

All emergency medical services are located north of the tracks. The low income population is mostly housed south of the tracks. There are four access routes above or below grade. The rest, including the most direct access from the South Side, are at grade. Even after a train has passed there is considerable delay in clearing the gridlock through the intersections north of the tracks. In an emergency situation the delay in either waiting or rerouting could have serious consequences. With 16 trains per day that effect, as well as the lost productivity to businesses using those routes could result in significant losses.

But there is extremely little likelihood that BNSF or any of the coal companies will contribute anything to the tremendous capital cost needed to reconnect Billings or any of the other rail communities that would be seriously affected by this project. (2487)

## Response to SCOPE-44

Refer to Response to SCOPE-12.

# Comment SCOPE-45

Recognizing Missoula could experience significant adverse effects from the proposed operation of these terminals, the Board requested that a comprehensive programmatic environmental impact statement be conducted and include analyses of the terminals' indirect and cumulative impacts on Missoula and other Montana cities and counties. We understand this was given some consideration, as Montana is part of the study for the Longview Draft Environmental Impact Statement (DEIS). However, the document's coverage of Montana is cursory and deficient. (2497)

### Response to SCOPE-45

Refer to Response to SCOPE-1.

## Comment SCOPE-46

The primary area where coal to be mined for the market for the proposed terminal is the PRB, where approximately 80% of coal produced is from a federal lease. Yet the MBTL DEIS does not acknowledge or consider the current programmatic EIS being prepared by the Department of the Interior to examine the federal coal leasing program. One of the significant issues being examined in that EIS is a review of the export of coal that is a product of federal coal leases. Outcomes of the PEIS may create significantly different alternative scenarios that would impact filling the export capacity at the proposed MBTL terminal. (2547)

### Response to SCOPE-46

The Programmatic Environmental Impact Statement (PEIS) on the Federal Coal Program is separate and independent from the Proposed Action. Coal mining under existing leases is not affected. Existing federal leases are estimated to have 20 years of recoverable coal reserves (Bureau of Land Management 2016).

## Comment SCOPE-47

While the MBTL DEIS examines increased train traffic in Washington, those trains do not simply appear at the Washington state border; they come from somewhere. In fact, those trains originate at PRB coal mines in Wyoming and Montana and traverse Montana on their way to the proposed facility as well as on the way back to the PRB. The DEIS states that there will be 16 additional trains each day traveling the rails if MBTL is approved. There would be numerous impacts to Montanans and Montana communities from this increase in the number of trains – and those impacts are not just "inconveniences." There would be health, safety, quality of life, as well as actual financial costs to Montana citizens and communities as well as to our rural areas that would result from this increase in coal train traffic. (2547)

### Response to SCOPE-47

Refer to Response to SCOPE-1.

## Comment SCOPE-48

The Washington State Department of Ecology and Cowlitz County must fully consider the consequences of all the connected and cumulative impacts that would result to Montana and Montanans if a permit is granted for the proposed MBTL coal export terminal. Until that happens, this DEIS is deficient and inadequate. (2547)

### Response to SCOPE-48

Refer to Response to SCOPE-1.

# Comment SCOPE-49

The DEIS fails to include studies, analysis, and full disclosure of significant adverse impacts the project would have on the resources dependent upon and protected by Washington and Alaska's National Wildlife Refuges. The following provisions of SEPA and the rules implementing it are especially relevant to assessing impacts upon these refuges and their fish and wildlife resources: SEPA's purpose statement, RCW 43.21C.010 ("prevent or eliminate damage to the environment and biosphere,"… "enrich the understanding of the ecological systems and natural resources "important to the state and nation"); SEPA's Guidelines for State Agencies and Local Governments, RCW 43.21C.030(f) ("[r]ecognize the worldwide and long-range character of environmental problems… "); and WAC 197-11-060(4)(b) (consideration of a proposal's impacts shall not be limited to "only those aspects within [lead agencies'] jurisdiction"). Even if the agencies conclude that some the project's impacts on Washington and Alaska's coastal oceans, coastlines and National Wildlife Refuges would have a low chance of occurring, these impacts must be included in the EIS if the resulting environmental consequences would be severe. WAC 197-11-794(2). ("An impact may be significant if its chance of occurrence is not great, but the resulting environmental impact would be severe if it occurred.") As one example, the risk of a vessel accident involving a spill of vessel bunker fuel in any particular location may be low but its occurrence could cause severe, even permanent, harm to marine and bird species. The fish and wildlife species and their habitats protected by Washington and Alaska's National Wildlife Refuges are held in the public trust for the benefit of future generations pursuant to the laws establishing the various refuges. (2589)

## Response to SCOPE-49

Draft EIS Chapter 5, Section 5.4, *Vessel Transportation*, acknowledged that, if a vessel incident occurred, the impacts could be significant, depending on the nature and location of the incident, the weather conditions at the time, and whether any oil is discharged. Although the likelihood of a serious incident is very low, there are no mitigation measures that can completely eliminate the possibility of an incident or the resulting impacts. The Proposed Action would increase vessel traffic, which would incrementally increase the likelihood of vessel incidents, and impacts from a vessel incident could affect national wildlife refuges within the vessel transportation study areas along the Columbia River. However, given the existing vessel traffic in the Columbia River, potential impacts from a vessel incident involving a Proposed Action-related vessel would be similar to impacts that could occur under existing conditions, or the No-Action Alternative. Therefore, such impacts are not analyzed in the EIS. Washington and Alaska's coastal oceans are outside the Draft EIS study areas. Refer to Response to SCOPE-1.

# Comment SCOPE-50

With its 44 million ton export capacity, MBTL would lead to an additional 16 coal trains (8 full, 8 empty) per day through our town. In failing to conduct a detailed analysis of rail impacts in Montana, the State of Washington has ignored significant impacts to our community. Namely, an increase in coal train traffic through Missoula would

- Increase congestion and traffic delays, in particular at the at-grade crossing at Madison and Greenough. This crossing is one of two means to entry to and exit from our Rattlesnake neighborhood, and is notably the most convenient path from fire station 1 to the adjacent neighborhoods. Increased rail traffic would constrict pedestrian, vehicular, and emergency service.

- Exacerbate air quality issues in the Missoula Valley, especially during air inversions. A large part of Missoula is located in an EPA-designated air stagnation zone and is dangerously close to exceeding current EPA PM2.5 standards. Increased diesel particulate matter and coal dust are serious concerns for people living in residential neighborhoods near the rail line, including a significant portion of our city's population.
- Increase risk of derailments. The State of Washington has found that building MBTL will lead to more derailments. Like many Montana towns that grew around the railroad, the rail line runs immediately adjacent to our downtown as well as through dense residential neighborhoods. There were two separate locomotive crashes in or near our town in 2014, including a collision in the Missoula train yard that resulted in the derailment of 30 tank cars.
- Exacerbate climate change problems. Like many western towns, parts of Missoula are surrounded by forest. Increasing incidences of wildfires caused by climate change are therefore a threat to our community. Additionally, droughts represent a threat to our community's river economy. Shipping tens of millions of tons of additional coal through our community each year for combustion in Asia will exacerbate these risks, which Missoula cannot afford.

Many of these impacts cannot be mitigated. Even the ones that can (via, for instance, construction of a new overpass or underpass) would impose significant new costs to Missoula taxpayers. (2599)

### Response to SCOPE-50

Refer to Response to SCOPE-1.

## Comment SCOPE-51

The DEIS fails to include studies, analysis, and full disclosure of significant adverse impacts the project would have on the resources dependent upon and protected by Washington and Alaska's National Wildlife Refuges. (2712)

### Response to SCOPE-51

Refer to Response to SCOPE-49.

## Comment SCOPE-52

Transporting the coal to the Washington border was not examined. Eliminating a large part of the trip does not provide the full disclosure required by SEPA. (2980)

### Response to SCOPE-52

Refer to Response to SCOPE-1.

## Comment SCOPE-53

The Scope of Environmental Assessments should be comprehensive and analyze all potential human and natural environmental effects caused or generated by the construction of coal export terminals: Mining coal for transport and export from the Gateway Pacific Terminal and all other proposed facilities on the West Coast; (2980)

## Response to SCOPE-53

Refer to Response to SCOPE-1 regarding the geographic scope of the EIS and Response to SCOPE-19 regarding the analysis of impacts of coal mining.

Draft EIS Chapter 6, *Cumulative Impacts*, presented the analysis of the incremental addition of impacts from the Proposed Action with impacts from past, present, and reasonably foreseeable future actions. Table 6-2 presented the reasonably foreseeable future actions considered in the cumulative analysis, including reasonably foreseeable fossil fuel projects.

# Comment SCOPE-54

The Scope of Environmental Assessments should be comprehensive and analyze all potential human and natural environmental effects caused or generated by the construction of coal export terminals: Identifying all cities, towns and counties through which coal trains will transport coal mined in Montana and Wyoming or other location for export. (2980)

## Response to SCOPE-54

Refer to Response to SCOPE-1.

# Comment SCOPE-55

The mining of coal in Montana and Wyoming for transportation to and export from coal export terminals on the west coast, including the Gateway Pacific Terminal at Cherry Point in Whatcom County, generates significant environmental impacts in every city, small town, rural community and county through which coal trains travel to transport coal for export to Asian markets for power generation. The areas of potential significant effects start at the point of mining. Handling, and loading coal on rail cars for transport through Wyoming. Montana, Washington and Oregon to reach coal export terminals proposed on the west coast. The potential significant negative effects are then generated with each mile in transport through shedding of coal dust and the potential for major spills and derailments and the unloading of coal at export terminals for transfer to ships destined to Asian markets. The area of potential effects then shifts to the consumption, burning of coal by Asian power producers through coal fired plants that generate C02 emissions that further pollute the earth· s atmosphere. The areas of potential effects, therefore, begin at the mining of the coal transportation and export and end with the resulting consumption through burning of American coal by Asian power producers which adds to generation of C02 and pollution of the earth's atmosphere. A comprehensive EAR and final environmental statement must cover and encompass the entire area of impacts from mining to final consumption for the generation of power. All the effects on cities. towns, counties, and the human and natural environments arc impacted in significant measure through the coal train or barge transportation and the ultimate negative effects of increased coal production and consumption. (2980)

## Response to SCOPE-55

Refer to Response to SCOPE-53

# Comment SCOPE-56

I believe they need to add an accounting for city centers, all of the city centers minimally from state line all the way through Spokane, Pasco, and to Longview minimally. An accounting for all highly populated entities such as hospitals, schools, federal buildings, city halls, wherever there's high density populations. (TRANS-SPOKANE-Q4-00006)

## Response to SCOPE-56

Refer to Response to SCOPE-1.

# Comment SCOPE-57

The draft environmental impact statement for the Millennium Bulk Terminals proposal completely ignores the grave consequences increased traffic would have on me, my community, and all the other cities, towns, and residences outside of Washington State. From extra train noise, diesel exhaust, and coal dust I'd have to deal with as I ride my bicycle into town, to the ambulance delayed by coal trains that might not reach the stroke victim in time, to the baby woken in the night by 125 more coal cars shaking the house. (TRANS-SPOKANE-Q1-00011)

## Response to SCOPE-57

Refer to Response to SCOPE-1.

# Comment SCOPE-58

Where in your Draft EIS do you analyze the risks and effects of toxic coal dust and carcinogenic diesel fumes on residents in Sandpoint and North Idaho where our office is located within only a few blocks of the BNSF rail line?

Where does your 3300-page study, the well-documented accumulation of coal chunks and diesel soot in water's habitats and species of America's fifth deepest lake, Lake Ponderay? Where does it weigh the damage to rails and bridges from coal trains and the clogging of that ballast that causes rails to shift in saturated weather. This being Idaho derailments are even more hazardous freight.

Please issue a supplemental, programmatic Draft EIS like the one initiated for the once largest coal export terminal in North America, Gateway Pacific, with Millennium now claiming that distinction. (TRANS-SPOKANE-M2-00064)

## Response to SCOPE-58

Refer to Response to SCOPE-1.

# Comment SCOPE-59

I'm also here to express concerns about inadequacies in the EIS. All impacts from the lines to the coal-fired power plant emissions overseas must be addressed. Coal mining occurs on some of the most fragile lands in the Western United States and threatens wildlife, waters, and aquatic life. Those impacts must be addressed. Coal trains lose hundreds of pounds of coal dust en route to the Pacific coast, despite the use of surfactants. That is coal dust ends up in the waters, along the rail

lines, and threatens our already stresses aquatic life and fishing, sporting, and tourism economies from the Powder River Basin to Longview and the Pacific. The fishing economies are probably in the billions. I know Washington state is billions of dollars. The impacts to these facilities are not confined to Longview or Washington, however, but extend from the mines in the Powder River Basin to the Pacific coast and beyond. (TRANS-SPOKANE-M2-00009)

### Response to SCOPE-59

Refer to Response to SCOPE-1.

## Comment SCOPE-60

The Draft EIS is deficient in its coverage of the impact to Montana. As a member of Northern Plains Resource Council, we have organized two people's hearings and collected and submitted written comments, verbal comments, and brought 21 Montanans here today. Personally I am deeply affected and care deeply about our rail community. I work an alternate schedule even now in part to avoid rail crossing delays twice a day. The EIS should include impacts to Montana or the no-action alternative. (TRANS-SPOKANE-M1-00073)

### Response to SCOPE-60

Refer to Response to SCOPE-1.

## Comment SCOPE-61

The Draft Environmental Impact Statement for the Millennium Bulk Terminals proposal completely ignores the grave consequences increased train traffic would have on me, my community, and all of the other cities and towns and residents outside of Washington State.

From the extra train noise, diesel exhaust, and coal dust, I'd have to deal with as I ride my bicycle into town to the ambulance delayed by coal trains that might not reach the stroke victim in time to the baby woken in the night by a 125-car coal train shaking the house. (TRANS-SPOKANE-M1-00072)

### Response to SCOPE-61

Refer to Response to SCOPE-1.

## Comment SCOPE-62

In 2013 and '15, I visited Washington, D.C. with local farmers from the Powder River Basin whose land is hopelessly polluted by the coal extraction. Reclamation has not been happening and will only get worse. The DEIS does not address this and needs to look at the source and its impact on the environment. (TRANS-SPOKANE-M1-00052)

### Response to SCOPE-62

Refer to Response to SCOPE-19 regarding the analysis of impacts of coal mining.

# Comment SCOPE-63

First, cost of Montanans are not adequately considered. The DEIS acknowledges but fails to evaluate threats posed by this project to human and to animal health, water quality, and ecosystems all along Montana's rail line. In Missoula alone, the project would increase health threats in our frequently inverted valley, increase delays at railroad crossings, and threaten to endanger the newly restored Clark Fork of the Columbia River. Approval of any action alternative would pass on all of these costs to Montanans as a hidden tax unacknowledged by Washington officials and unapproved by any Montana citizens. (TRANS-SPOKANE-M1-00048)

## Response to SCOPE-63

Refer to Response to SCOPE-1.

# Comment SCOPE-64

The Draft Environmental Impact Statement is incomplete and inadequate in discussing local rail impact outside of the state of Washington. Here's what it misses.

Increased diesel fumes, our city is subject to wind and air inversions when people are encouraged not to drive cars or sometimes even venture outside. What will be the effect of 16 more trains running per day through our town. Increased coal dust, the tracks run right through our historic downtown and residential neighborhoods. The DEIS calls coal dust a nuisance. It's a nuisance we don't want. Noise, we have too much already. We don't want more. Traffic congestion and blockage to neighborhoods, we don't want it. There's critical on-grade crossings already causing problems in Missoula. Increased chance of derailment. This railroad follows the Clark Board River for over 200 miles through Montana. We don't want to risk this precious resource to possible derailments and coal spills. Worse than the impact, local impact, of rail traffic is the climate changing impacts which are terrifying and they're happening now. (TRANS-SPOKANE-M1-00037)

## Response to SCOPE-64

Refer to Response to SCOPE-1.

# Comment SCOPE-65

The EIS report does not represent the entire route coal trains take within the Washington state border. It totally disregards the citizens affected by the coal dust coming off the coal trains. This report is flawed and should be completed to include the same Washington route. (TRANS-LV-M1-00025)

## Response to SCOPE-65

Refer to Response to SCOPE-1.

# Comment SCOPE-66

I'm asking that the EIS fully analyze and consider the impacts of this port and the increased coal train traffic would cause here in Missoula and across Montana especially as it relates to the above

sited impacts. The proposed project's impacts are real and significant to Montanans and are connected in cumulative result of what happens if this project is approved.

The EIS prepared by the court in the Washington Department of Ecology in Cowlitz County must include all the connected and cumulative impacts in Montana that will result if the MBTL facilities are approved and constructed. These include the significant connected and cumulative impacts on the project all the way back through Montana to the Power River Basin Coal Mines in Montana and Wyoming.

The increased rail traffic in Montana must be addressed, analyzed, and its consequences fully considered in the EIS. More trains in Montana will mean an increase in the amount of airborne pollutants, from diesel engines as well as from coal dust. Medical studies have shown a clear link between both diesel air pollutants and coal dust and disease. (3829)

### Response to SCOPE-66

Refer to Response to SCOPE-1.

## Comment SCOPE-67

In addition, coal exports create added pressure for new Montana mines, in a region where coal seams are aquifers and increased mining threatens our land, water, and climate. These impacts are significant and must be taken into account. (3823)

### Response to SCOPE-67

Refer to Response to SCOPE-19 regarding the analysis of impacts of coal mining.

## Comment SCOPE-68

The Draft Environmental Impact Statement should address more closely the practical impacts for people who live in the communities in the Columbia River Gorge. It is well documented that coal discharge from existing coal trains is contaminating the air, land, and water in the National Scenic Area. In some locations coal accumulates in layers several inches deep along the banks of the Columbia River. The DEIS fails to adequately consider the impacts of coal train traffic and the associated coal dust on the scenic, natural, cultural and recreation resources of the National Scenic Area. We have spent millions of dollars recovering salmon in the Columbia River and protecting tribal harvest. This project will reduce access to the river for tribal fishers because of the sheer increase in the volume of train traffic, in addition to harming salmon habitat.

Trains from the coal mines to the terminal will go through other communities besides the ones in Washington. Those communities too will face delays, traffic problems, and pollution issues. Yet those problems are not identified in the EIS. (3643)

### Response to SCOPE-68

Refer to Response to SCOPE-1.

# Comment SCOPE-69

The report does not represent the entire route coal trains take within the Washington State borders. It totally disregards the citizens affected by the coal dust coming off the coal trains. This report is flawed and should be completed to include the entire Washington route. (3641)

## Response to SCOPE-69

Draft EIS Chapter 5, Section 5.7, *Coal Dust*, presented modeled maximum and average monthly coal dust deposition along the BNSF main line routes for Proposed Action-related trains in Washington State. Final EIS Chapter 5, Section 5.7, *Coal Dust*, presents updated deposition levels to reflect additional information as described in the Master Response for Particulate Matter and Coal Dust Analyses. The master response summarizes findings.

# Comment SCOPE-70

The DEIS did not do a good enough job of taking into consideration the impacts of coal dust and traffic delays on rail communities like Washougal and Camas. These are major health and safety concerns that simply were not addressed sufficiently.

I'm asking you to take a very serious look at the potential impacts along the ENTIRE proposed transport route. (3639)

## Response to SCOPE-70

Refer to Response to SCOPE-69 regarding the analysis of potential impacts of coal dust. Refer to Response to SCOPE-1, regarding the geographic scope.

# Comment SCOPE-71

A major deficiency of the draft EIS is that the study area needs to be expanded to cover beyond the very limited "project area" to address the entire train route along the Columbia River. The impacts (on water, aquatic life, wildlife, etc.) needs to be addressed for the entire Columbia River route for both normal operations and accidents (e.g. derailments resulting in fire or train cars going into the River). The potential adverse impacts of noise pollution needs to be expanded (e.g. Bighorn sheep herd, waterfowl, campgrounds, etc.). (3487)

## Response to SCOPE-71

Refer to Response to SCOPE-1.

# Comment SCOPE-72

As the deputy mayor of Tacoma I still have many environmental concerns which I am not confident were fully addressed in the DEIS. Transporting coal through our region by train will significantly increase our already substantial rail traffic. Pierce County continues to struggle with air quality, and increased traffic congestion and additional idling times at crossings will only serve to exacerbate the situation. A further increase of diesel-powered coal trains will continue to degrade our air quality

and will push back the progress we have made in achieving Attainment for Particulate Matter 2.5 emissions.

Increased track use also present a public safety issue as emergency responders may be delayed waiting for additional trains to pass. The ability of fire and police to respond quickly is critical to emergency services, and I am concerned increased rail and vehicle traffic near train crossings could cause serious delays.

I also worry that increased noise, air pollution, vibration, and other issues might negatively affect our waterfront and hurt property values. We have worked bard to restore our water ways and make them a world class destination, and I fear that the negative impact to property values and decline in quality of life to residents living beside the tracks would hurt our already struggling economy.

Being located on the Sound, water quality is a top issue for Tacoma residents. I share concerns that increased pollution would affect not just our population who enjoy the water recreationally, but also threaten the local fishing economy and the health of Puget Sound.

We are still paying to clean up the scars of our region's industrial past, and as we move forward I hope we will not make the same mistakes again. We need to shift our focus to green and renewable energy sources as we look to the future.

I am not convinced the impacts this project will have on communities through which the trains run have been fully mitigated, and I would encourage Cowlitz County and the Washington Department of Ecology to critically examine the environmental costs to our region. (3455)

### Response to SCOPE-72

Refer to Response to SCOPE-1.

## Comment SCOPE-73

If the analysis includes all onsite and offsite impacts of this project, it must be concluded that the no-action alternative is the preferred alternative. While the purpose and need, to provide a coal export terminal, may provide some economic benefit to those employed there, is not only directly opposed to our state and national interests, by sending coal to China so that we may further increase the CO2 in the atmosphere and be subject in Washington State to the returning particulant-polluted air; it also directly conflicts with regional economic growth and numerous State and regional economic studies and initiatives. It cannot be concluded that the national, regional and statewide impacts are outside the scope of this EIS in that they are a direct and predictable result of the permitting of this facility. (3426)

### Response to SCOPE-73

An EIS is not a decisional document; in other words, the approval or denial of a proposal is not within the scope of an EIS. Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used along with other information by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

Refer to Response to SEPA-19 regarding economic impacts.

Refer to Response to SCOPE-1 regarding the geographic scope of the EIS.

# Comment SCOPE-74

Any infrastructure improvements necessary to facilitate coal trains — such as the proposed SR 432 re-alignment project and a new overpass at the foot of the Lewis & Clark Bridge — should be part of the EIS review. (3426)

## Response to SCOPE-74

The Proposed Action does not require off-site rail line improvements to receive coal by rail. Refer to the Master Response for Connected or Similar Actions.

# Comment SCOPE-75

First, it is unconscionable that the DEIS primarily focused on the project site and essentially ignored the significant and harmful impacts of this proposed project on Eastern Washington and rail communities outside Washington State. (3382)

## Response to SCOPE-75

Refer to Response to SCOPE-1.

# Comment SCOPE-76

For those of us who live on the other side of the Columbia River but frequent the river, this is not just a Washington issue. The DEIS cannot ignore the regional implications of this project. (3319)

## Response to SCOPE-76

Refer to Response to SCOPE-1.

# Comment SCOPE-77

Transporting the coal to the Washington border was not examined. Eliminating a large part of the trip does not provide the full disclosure required by SEPA. (3223)

## Response to SCOPE-77

Refer to Response to SCOPE-1.

# Comment SCOPE-78

The DEIS demonstrates that this project, if approved, would lead to mile-long uncovered coal trains passing through the City of Portland en route to Longview, Washington. The DEIS does not consider potential impacts to Portland and the State of Oregon. (3068)

## Response to SCOPE-78

Refer to Response to SCOPE-1.

# Comment SCOPE-79

Transporting the coal to the Washington border was not examined. Eliminating a large part of the trip does not provide the full disclosure required by SEPA. (2990)

## Response to SCOPE-79

Refer to Response to SCOPE-1.

# Comment SCOPE-80

The impacts to Oregonians and Oregon communities from increased coal train traffic are a problem – and these impacts will go far beyond "inconveniences." The MBTL facility is only one part (albeit a major part) of an overall plan by coal and rail corporations. Based on PRB coal company projections, coal export will amount to at least 75 million tons of coal and as much as 170 million tons each year through Oregon. Coal trains (today) are 120–125 cars long, and each car holds 115 tons of coal. [NOTE: Coal trains are transitioning to 150 cars in length.] At the lower level of coal exports studied in the report, Oregon would likely see at least 30 more coal trains each day (15 loaded going west and 15 empty returning to the coal fields) – in addition to all the train traffic we currently experience. And, if all the West Coast ports were built or expanded and the high-end coal company projections are met, Oregon could potentially experience as many as 64 more coal trains (total east and west) each day. There will be health, safety, quality of life, as well as actual financial costs to Oregon citizens and communities from this increase in coal train traffic. Oregon cities along the train routes will be most affected by this increase in the number of coal trains. The increased number of trains in Oregon will mean more noise, a greater potential that emergency responders will be delayed in reaching residents when there is a medical emergency (or a fire or the need for police), and a greater potential for vehicle collisions with trains and for pedestrian accidents. These issues must be addressed, analyzed, and their consequences fully considered in the EIS being prepared. More trains in Oregon will mean an increase in the amount of airborne pollutants (particulate matter) from diesel engines as well as from coal dust. Medical studies have shown a clear link between both diesel air pollutants and coal dust and disease. Additionally, more trains will mean more vehicles idling at train crossings when trains are passing – and adding their exhaust (containing particulate matter and other pollutants) into the air. While those with chronic disease, the elderly, young children, and pregnant women are most at risk, the health effects from particulate matter exposure may occur years later, so even healthy individuals need to be concerned. These issues must be addressed, analyzed, and their consequences fully considered in the EIS being prepared. (1533)

## Response to SCOPE-80

Refer to Response to SCOPE-1.

# Comment SCOPE-81

At the DEIS hearing on May 24, 2016, in Longview, WA, Department of Ecology (DOE) officials stated that further studies may be undertaken before a Final EIS is published. We ask that third-party studies or DOE-sponsored studies be completed. (3465)

### Response to SCOPE-81

The SEPA EIS process provides opportunities for public input during EIS scoping and public review and comment on the Draft EIS. Information collected during the SEPA review process, including information provided by the public, organizations, tribes, and other agencies, helps to inform the analysis of environmental impacts and develop the Draft and Final EISs. The co-lead agencies published the Draft EIS on April 29, 2016. The Final EIS has been revised to provide additional information, update and expand analyses, update analyses per the findings presented in the NEPA Draft EIS as appropriate, include additional analyses, refine measures to mitigate potentially significant impacts, and correct inadvertent errors. Notable substantive revisions are identified in Final EIS Chapter 1, Section 1.3, *Notable Changes to the Final EIS*.

## Comment SCOPE-82

The proposed rail transport of Powder River Basin (PRB) coal from and through Montana to the MBTL export terminal on the West Coast will have real and significant impacts to Montanans. these impacts are a connected and cumulative result of this project. The DEIS is overly vague and generic in addressing the impacts to Montana and Montanans that increased coal train traffic would have and cause. No specific information on Montana is included or information is inaccurate. For example, there are two rail routes through Montana currently handling coal train traffic, and the DEIS does not even acknowledge the northern route along Montana's "Hi Line." (2547)

### Response to SCOPE-82

Refer to Response to SCOPE-1 regarding the scope of analysis and geographic study areas. Final EIS Chapter 5, Section 5.1, *Rail Transportation*, and the *SEPA Rail Transportation Technical Report* have been revised to provide additional information about the potential impacts of the Proposed Action on the capacity of rail line segments outside of Washington State.

West of Mossmain, Montana, there are two rail routes to Sandpoint, Idaho: the southern Montana Rail Link (MRL) and the northern BNSF route using the Shelby and BNSF Hi Line routes (Shelby/Hi Line). The MRL route is 95.4 miles shorter than the Shelby/Hi Line route and is the primary route for the current BNSF coal unit trains. The Draft EIS assumed Proposed Action-related trains would use the MRL. The Applicant also confirmed this route is the most likely route for Proposed Action-related trains.

# 7.3 Public and Agency Outreach

## Comment PA-1

The SEPA DEIS is available at eight locations for public review. However, it missed the most populated Communities that will be impacted by the rail system and also the river systems. Additional copies need to be provided in Vancouver, Washington, Portland Oregon, and Astoria, Oregon. Also beyond the local region, copies need to be provided for the major communities in Idaho, Montana, Wyoming, Colorado, and Utah. This project is a game changer on transportation in the entire Western States of the USA. (2572)

### Response to PA-1

The issuance of the Draft EIS complied with the requirements of WAC 197-11-455 (Issuance of DEIS). In addition to the eight locations noted by the commenter, the Draft EIS was available for review on the project website (www.millenniumbulkeiswa.gov) and a printed copy or DVD of the Draft EIS was available per the instructions in the Draft EIS Fact Sheet. All of the entities identified in Draft EIS Appendix B, *Distribution List*, and subscribers to the project LISTSERV received notification of the availability of the Draft EIS and methods to review and comment on the Draft EIS. This notification of availability included all parties that commented during the EIS scoping period for the Proposed Action.

# 7.4 Agency Coordination and Consultation

## Comment ACC-1

There is no mention at all of DNR approval in Table 8.1 for new or updated lease authorization under state approvals or permit list. There is no mention at all of DNR approval for new or updated lease authorization under state approvals or permit list Intro Materials FS-4. Reference to DNR approval necessary for dredging on state owned aquatic lands (both within and outside the lease area) should also be included. (2691)

### Response to ACC-1

Final EIS Chapter 8, *Required Plans, Permits, and Approvals*, and the Final EIS Fact Sheet have been revised to note the following would be required from the Washington State Department of Natural Resources (WDNR).

- A Site Use Authorization or Flow Lane Disposal Authorization.
- An Aquatic Lands Lease.

As noted in the Final EIS Chapter 8, the project area landowner (Northwest Alloys) holds a 30-year aquatic lands lease (20-B09222) with WDNR. According to WDNR, under the terms of the lease, Northwest Alloys must obtain WDNR's written consent prior to construction of improvements. Northwest Alloys has not yet requested and WDNR has not provided its consent to the improvements proposed by the Applicant.

# 7.5 Comment Period Extension

## Comment CP-1

We are very disappointed that you provided 95 days for comments on the scoping process for this proposed development but for the comment period for the subsequent Draft EIS, you are only allowing a 45 day comment period. Given that the scoping process produced a significant number of comments (217,500 comments), it should be obvious to the Applicant of the serious attention and concern that their proposal is having to the region. If they were genuine in regards to their assertions of trying to positively work with the region, they should have at least matched the same

comment period length as with the scoping period of 95 days. Scoping processes are normally shorter in length in regards to Draft EIS comment periods because there is normally less documentation to review. Shame on the Applicant as their obvious intent in our opinion, of which to our Tribe is interpreting it as trying to limit substantive comments regarding the Draft EIS. It is likely to us that they are doing so as a way to improve their position regarding future potential litigation regarding the adequacy of the Draft EIS and proposed action. (3227)

The inadequate comment period undermines the quality and content of the DEIS and prevents the public from fully reviewing and responding to it. We understand that Cowlitz County and Ecology agree that a longer comment period should have been adopted but that the proponent refused to agree. We assume that its intransigence was a strategic effort to prevent thorough analysis. The Coalition has worked hard to do the best review it could in the time available but additional and more useful comments. The problem was particularly pronounced with respect to GHG analysis and air modeling sections discussed below, in which we did not receive critical information until a short time before the close of the comment period. While we appreciate the Co-leads and consultant providing us with this information, it significantly hampered our ability to provide useful comments. We reserve the right to supplement this letter if necessary. (3277)

The short 45 Day Comment Period is considered extremely short for the detailed review of the 3,723 page document and additional review time is recommended. In a business environment where a maximum of 4 hours a day is typical for review of this document there are only 29 work days for the period April 29 to June 13 as there is a holiday for Memorial Day during this period. This requires an average of 129 pages a day of very complex and technical information to Read, Understand, and to formulate a Comment. If the Applicant is serious about this proposal, additional review time is recommended. (2572)

An Extension to the comment period would be beneficial for the Agencies, Tribes, and Citizens to do a more in depth review. (0013)

The co-lead agencies invited local agencies, state agencies, federal agencies, tribes, organizations, and members of the public to comment on the scope of the EIS during a 95-day scoping period. The scoping period began on August 16, 2013, and closed November 18, 2013. Approximately 217,500 comments were received. The SEPA DEIS has only a 45 day Comment Period and does not allow adequate review of such an important document. (2572)

First, I want to state for the record to the agencies reviewing these comments, that giving the public only 45 days to comment on the Draft EIS for the MBTL project is unfair and unacceptable. (3413)

More time is needed for public review. The standard 45-day comment period may be appropriate for rule updates, but this audience is particularly skewed toward the lay public and these documents are massive by all comparison. (3384)

## Response to CP-1

Pursuant to WAC 197-11-455, the lead agency for a SEPA proceeding shall provide 30 days for review of and comment on a Draft EIS. A lead agency may extend the comment period by up to 15 days upon request. The co-lead agencies provided a 45-day comment period for review of the Draft EIS. The comment period can be extended beyond these regulatory requirements with agreement from the Applicant. A request was made to the Applicant to extend the comment period to 60 days but the Applicant declined.

## Comment CP-2

The DEIS itself and the SEPA Air Quality Technical Report are largely based on an analysis using a computer model to predict air pollution levels. The analysis was done using the AERMOD computer modeling system. Despite the AERMOD analysis being the heart of the air quality analysis, the Department of Ecology and Cowlitz County did not make the AERMOD files available to the public. This created a highly non-transparent process. Sierra Club submitted a public information request for the AERMOD modeling files and other documents used to prepare inputs into the AERMOD modeling files. Cowlitz County and the Department of Ecology eventually provided these modeling files to Sierra Club but not until June 1, 2016. Thus, Sierra Club only really had a 13-day public comment period with regard to the air quality issue which is a technical, time-consuming issue. Such a short comment period on such a technical issue is inconsistent with SEPA. (3277)

### Response to CP-2

Volume III of the Draft EIS included the *SEPA Air Quality Technical Report* (ICF International 2016). The findings of the air quality analysis, including the AERMOD analysis, were presented in the technical report for review and comment during the 45-day Draft EIS comment period. The co-lead agencies responded to all formal public disclosure requests as quickly as possible. All requests for information were provided within the 45-day Draft EIS comment period.

# 7.6 General Mitigation

## Comment MIT-1

Weak & Unenforceable Mitigation: In some instances, the Draft EIS claims mitigation can reduce coal dust, rail traffic, and other project impacts. For example, to mitigate coal dust from the terminal, the Draft EIS proposes a reporting process for coal dust complaints. This is unacceptable. A phone call or email to complain about coal dust fouling a person's lungs, home, and river is not "mitigation." The agencies should revise the Draft EIS and remove inadequate, unsupported, and unenforceable mitigation statements from the Environmental Impact Statement (EIS). (3818)

### Response to MIT-1

As described in WAC 197-11-440 (6) EIS Contents, an EIS describes the existing environment that will be affected by the proposal, analyzes significant impacts, discusses reasonable mitigation measures that would significantly mitigate these impacts and summarizes significant adverse impacts that cannot be mitigated. The Draft EIS identified potential mitigation measures to address potentially significant impacts remaining after regulatory compliance and voluntary mitigation were considered. The Final EIS identifies proposed mitigation measures for impacts identified in each resource area. If proposed mitigation measures would not reduce the impacts below a level of significance, the impacts are identified in the EIS as "significant and unavoidable." If impacts are not significant, mitigation may still be proposed to address impacts according to WAC 197-11-768 Mitigation.

The potential mitigation measures identified in the Draft EIS were developed within the limits of the SEPA regulatory framework described in the Master Response for Mitigation Framework. In general

and to the extent practicable, measures proposed in the Final EIS have been revised to provide greater specificity (e.g., timing of initiation and completion) with the intent of improving the effectiveness of the measures. As appropriate, measures have been revised to clarify parties who would participate in their execution Mitigation measures included in permit conditions would become legal requirements of the Applicant. The Final EIS has been updated to include mitigation monitoring and reporting requirements for the Applicant to provide proof of compliance with the mitigation requirements. Mitigation monitoring reports would be part of the public record. For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

In regard to coal dust analyses, the EIS found that coal dust emissions would not exceed air quality standards. The mitigation measure referenced by the commenter to establish a coal dust reporting process, along with other measures, could reduce impacts from coal dust. Operation of a complaint line would provide a rapid reporting process for notifying SWCAA and the Applicant of coal dust problems. The mitigation measure reduces impacts because the sooner a problem would be reported and investigated, the faster it could be addressed and potentially prevented from reoccurring.

# Comment MIT-2

In some instances, the Draft EIS claims mitigation can reduce coal dust, rail traffic, and other project impacts. For example, to mitigate coal dust from the terminal, the Draft EIS proposes a reporting process for coal dust complaints. This borders on offensive. A phone call or email to complain about coal dust fouling a person's lungs, home, and river is not "mitigation." The agencies should revise the Draft EIS and remove inadequate, unsupported, and unenforceable mitigation. (2590)

## Response to MIT-2

Refer to Response to MIT-1.

# Comment MIT-3

As the DEIS notes, 23 resource areas were analyzed, with "potential significant impacts" identified for 18 areas, and 8 areas with "unavoidable" significant impacts listed. While 30 mitigation measures are proposed "to reduce or offset" impacts, it is not certain how effective many of them will be, or whether they will receive all necessary support or funding to be implemented, both near- and long-term. In our experience, much harm to natural resources has been authorized in the past based on unduly optimistic scenarios and proposals for mitigation that turned out to be either unfunded or woefully insufficient. Mitigation for environmental harm that is not in-kind, in-place often fails its intended purpose. (3302)

## Response to MIT-3

Refer to Response to MIT-1.

# Comment MIT-4

It is obvious to us that the Draft EIS is biased in support of the proposed project. We believe concerted effort was made to downplay any potentially significant impacts and places the document

in context of a major action that would only have minor environmental impacts. We disagree with this assertion and believe the intent is to try and sway the action agencies in their favor as well as to set up as little mitigation as possible towards their development. The proposed mitigation measures within the document are severely lacking or non-existent. How are we to ascertain if this is good for our community when we can't understand what is proposed to offset potentially significant impacts? (3227)

### Response to MIT-4

The Draft EIS identified resource areas that would experience "potential significant impacts" from the construction and operation of the Proposed Action. The Draft EIS acknowledged the Proposed Action has the potential to cause "unavoidable" significant impacts.

Mitigation measures were proposed to reduce or offset potential impacts. The measures were developed following the SEPA Rules. For information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

## Comment MIT-5

Due to the large scope of this project, I don't feel that the mitigation that is proposed is adequate. (1929)

### Response to MIT-5

For information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

## Comment MIT-6

Weak and unenforceable mitigation: In some instances, the draft EIS claims mitigation can reduce coal dust, rail traffic and other project impacts. For example, to mitigate coal dust from the terminal, the draft EIS proposes a reporting process for coal dust complaints. This borders on offensive. A phone call or email to complain about coal dust fouling a person's lungs, home and river is not "mitigation." The agencies should revise the draft EIS and remove inadequate, unsupported and unenforceable mitigation (2255)

### Response to MIT-6

Refer to Response to MIT-1.

## Comment MIT-7

The Draft EIS identifies significant impacts on human health and the environment, and suggests mitigation measures without persuasive evidence that any such measures would be feasible, affordable, or effective. The Final EIS should make sure that all discussions of mitigation options are presented with full acknowledgement of their limitations should they be employed, and an analysis of mechanisms for enforcement. It should also assess means of assuring that all attendant costs of mitigation would be borne by the operators, not by the public. Research by the Sightline Institute (http://www.sightline.org/2016/05/04/coal-trains-mean-coal-dust-period/) and others

demonstrates the unlikelihood of significant mitigation measures being realized, thus reinforcing our conviction that the "no action" alternative should be selected. (2535)

### Response to MIT-7

Refer to Response to MIT-1.

## Comment MIT-8

The DEIS inappropriately finds that mitigation can reduce coal dust, rail traffic, rail noise, and other project impacts. For example, to mitigate coal dust from the project's terminal, the draft EIS proposes a reporting process for coal dust complaints. A phone call or email to complain about coal dust fouling a person's lungs, home or the Columbia River is not "mitigation." For noise impacts from trains, the DEIS proposes "quiet zones" for which local taxpayers would have to bear the cost. The public in communities along the rail line is not seeking these permits, and significant public expenditures is in no way mitigation by the applicant. The agencies must revise the draft EIS and consider impacts in light of a removal of all inadequate, unsupported and unenforceable mitigation. (2532)

### Response to MIT-8

With regard to the coal dust measure, refer to Response to MIT-1.

With regard to the implementation of quiet zones for moderate and severe noise impacts along the Reynolds Lead, in Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*, the mitigation measure (MM NV-2) states the Applicant will assist interested parties in the preparation and submission of the Quiet Zone application to the Federal Railroad Administration (FRA) and will fund all improvements if the Quiet Zone is approved. However, if a Quiet Zone is not implemented, and Proposed Action-related train horns are sounded for public safety, then the potential for exposure to moderate and severe noise impacts would remain and would be an unavoidable and significant adverse environmental impact.

For more information about the development, implementation, and enforcement of mitigation measures, refer to the Master Response for Mitigation Framework.

## Comment MIT-9

The MBT DEIS contains recommended mitigation measures, many of which are unenforceable and speculative. For example, to address the impacts of coal dust from trains, the DEIS states: "BNSF should conduct a dust monitoring study along BNSF main line in Cowlitz County to evaluate coal dust emissions from coal trains, and if necessary, take further actions to reduce such emissions." However, BNSF is not applying for any permits for the Millennium project.

No meaningful attempt is made on the part of the applicant to prevent exposures resulting from its projected activities. For example, MBT could enclose the predicted 85-foot high piles of coal at the terminal. Ambre Energy proposed such a plan for the Morrow Pacific project in Boardman, Oregon. But MBT has no intention to do so. It can therefore be predicted that adverse health impacts will result from the MBT project. Mitigation measures to address coal dust near the terminal include creating a system for people to report coal dust complaints. (DEIS Coal Dust Fact Sheet at 4.) This is unacceptable. Reporting will not reverse the negative health impacts already experienced and the

health care costs already incurred. The only mitigation for coal particulate pollution - a health hazard, an environmental issue, and a nuisance - is to eliminate the pollution. (3327)

## Response to MIT-9

The coal dust mitigation measure for BNSF to conduct additional dust monitoring referenced by the commenter is included in the *Other Measures to Be Considered* subsection of Draft Chapter 5, Section 5.7, *Coal Dust*. This subsection contains actions that could be implemented by parties other than the Applicant to further reduce potentially significant impacts associated with the Proposed Action. Although these measures are beyond the Applicant's control or authority and would not be enforceable through a permit specific to the Applicant's proposal, but they do provide information for others to consider.

The Draft EIS evaluated potential coal dust impacts from terminal operations as proposed by the Applicant. The Applicant's proposed terminal design would not enclose the coal piles. As described in Draft EIS Chapter 5, Section 5.7, *Coal Dust*, the facility would be required to obtain and comply with an air quality permit that included specific coal dust limits. Ongoing dust monitoring would be required to measure compliance with the permit. Dust monitoring reports to SWCAA would be required as part of the permit and the facility would be required to meet all regulatory air quality standards

In addition to project design measures, best management practices, and compliance with environmental permits, plans, and authorizations, the EIS includes three proposed Applicant mitigation measures to address coal dust including additional coal dust monitoring emissions near the project area and coordinating with regulatory agencies. In addition, the Applicant has committed to a voluntary measure to address coal dust from rail cars.

For more information about the development of mitigation measures, refer to the Master Response for Mitigation Framework.

# Comment MIT-10

Mitigation means stopping the exposure before it happens by using methods to neutralize that exposure. Where are the requirements to enclose coal piles at the terminal? Where are the requirements to enclose or capture coal dust rising from open conveyor belts? The DEIS suggests mitigation measures that are inadequate and largely depend on measurements of contamination after exposures to hazardous materials, physical agents, or harmful events have occurred. Significant health impacts will already have been experienced. Short term and intermittent exposures are not given appropriate consideration. This is exemplified by the discussions in the DEIS of potential noise exposures and coal dust exposures. In these cases, monitoring has been substituted for mitigation.

Monitoring complaints will serve to alert authorities to a problem only after the fact. How many children in the affected communities will have their sleep disturbed by unexpected and uncontrollable noise exposures, such as noise from train horns? What will be the impacts on learning and development? The DEIS states that 229 residences would experience moderate noise impacts and 60 residences would experience severe noise impacts from proposed action-related trains. How will this harmful-to-health noise exposure to these families be mitigated? The DEIS suggests monitoring complaints from the community and/or constructing FRA approved "quiet zones".

Thus, unavoidable and significant adverse impacts on the health of the community will result from this project. If a person is exposed to and inhales a blast of coal dust and/or DPM for five minutes, that person has already experienced health impacts. It is too late for mitigation. Added trains for this project will contribute to many rail segments exceeding capacity and increase the risk of train accidents. "While it is likely that rail companies would make investments or changes to accommodate the growth in rail traffic, it is unknown what these actions would be or when they would be permitted or built." What is suggested as mitigation for this increased risk? "Before each stage of operations that would increase the number of trains, Millennium would coordinate with the rail companies. A report will be prepared to document the coordination." (DEIS, Rail Transportation and Rail Safety Fact Sheet) Such a "report" cannot possibly mitigate the impacts of a train accident. (3327)

## Response to MIT-10

For both noise and coal dust, monitoring is one of several mitigation measures proposed to addressed the potential impacts of the Proposed Action. Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*, identified potential mitigation measures to reduce noise levels at residences closest to the project area and implement a Quiet Zone along the Reynolds Lead, as well as three voluntary measures. If a Quiet Zone is implemented along the Reynolds Lead, it would eliminate the moderate and severe noise impacts from Proposed Action-related trains. However, if a Quiet Zone is not implemented and Proposed Action-related train horns are sounded for public safety, then the potential for exposure to moderate and severe noise impacts would remain and would be an unavoidable and significant adverse noise impacts.

As described in Chapter 5, Section 5.7, *Coal Dust*, coal dust from the Proposed Action would not exceed air quality regulatory standards. In addition to project design measures, best management practices, and compliance with environmental permits, plans, and authorizations, Applicant mitigation measures are proposed to address potential coal dust emissions including monitoring emissions near the project area and coordinating with regulatory agencies. The Applicant also has committed to a voluntary measure to address potential coal dust emissions from rail cars of Proposed Action-related trains during transport.

Regarding mitigation for impacts on rail safety, as stated in the Master Response for Mitigation Framework, an applicant cannot be required to act beyond its legal authority or jurisdiction. Railroads are regulated by federal and state law. The Draft EIS acknowledged that without improvements to rail infrastructure to improve rail safety, the Proposed Action could result in an unavoidable and significant adverse impact on rail safety.

# Comment MIT-11

The DEIS should be revised to include a fiscal responsibility plan designating that the specific corporations that produce the coal and the specific corporations that load and transport the coal are responsible for fully reimbursing every public agency, business, non-profit organization, and private individual who participates in contamination clean-up response, and/or who is harmed or inconvenienced by this project from initial approval through complete clean-up of the site after cessation of operations. The corporations must obtain and show proof of bonds sufficient to cover the full extent of all these costs. The bonds must be from an independent insurance agency/entity with holdings certified and guaranteed to fully cover and dedicated to specific coal production and transport for specified date ranges. The coal producing, loading and transporting corporations

should not be allowed to "selfbond" especially amongst themselves or with affiliated or financially linked corporations. To a large extent, a financial responsibility plan could be designed by "reverse engineering" the financial responsibility plan established and implemented after the BP Deepwater Horizon oil spill that devastated ecosystems and lives of the Gulf Coast. The DEIS should be revised to include a mitigation measure requiring the establishment of a website so that when Millennium Bulk Terminals operations cause harm, public agencies, businesses, non-profits, volunteers and injured individuals can immediately log in to the site and submit records for their time, costs, and damages. (2554)

### Response to MIT-11

SEPA Rules do not require that an EIS analyze the economic or social policy impacts of an action (WAC 197-11-448). The Master Response for Purpose and Focus of the EIS lists the resources addressed in the EIS and describes the process for establishing the scope and the regulatory basis for the scope.

## Comment MIT-12

The agencies should revise the Draft EIS and remove inadequate, unsupported, and unenforceable mitigation statements from the Environmental Impact Statement (EIS). (0829)

### Response to MIT-12

Refer to Response to MIT-1

## Comment MIT-13

In some instances, the Draft EIS claims mitigation can reduce coal dust, rail traffic, and other project impacts. For example, to mitigate coal dust from the terminal, the Draft EIS proposes a reporting process for coal dust complaints. This borders on offensive. A phone call or email to complain about coal dust fouling a person's lungs, home, and river is not "mitigation." Similarly, stating that: "BNSF should conduct a dust monitoring study along BNSF main line in Cowlitz County to evaluate coal dust emissions from coal trains, and if necessary, take further actions to reduce such emissions," is an unenforceable mitigation measure and targets an entity (BNSF) which is not applying for a permit. The agencies should revise the Draft EIS and remove inadequate, unsupported, and unenforceable mitigation. (2513)

### Response to MIT-13

Refer to Response to MIT-1.

## Comment MIT-14

The DEIS identifies tens of millions of dollars in mitigation that will be needed to address pollution and community concerns. Where will that money come from and how will Ecology ensure that the public does not end up holding the bag? (TRANS-LV-M1-00071)

### Response to MIT-14

Refer to Response to MIT-1.

## Comment MIT-15

There is no mention in the DEIS of any minor mitigation possible for the effects of coal dust, derailment, increased train traffic, air pollution, noise harmful impacts on tribal culture and treaty fishing rights, and which delay at railroad crossing. (3721)

### Response to MIT-15

The Draft EIS identified potential mitigation measures to address potential impacts of the Proposed Action, including impacts on the resources referenced by the commenter. Refer to the Draft EIS, *Summary*, Table S-2, for a complete list of potential mitigation. Refer to the Final EIS, *Summary,* Table S-2, for the proposed mitigation measures. Draft EIS Chapter 3, Section 3.5, *Tribal Resources*, and Chapter 5, Sections 5.1, *Rail Transportation*, 5.2, *Rail Safety*, 5.3, *Vehicle Transportation*, 5.6, *Air Quality,* and 5.7, *Coal Dust*, evaluated potential impacts of the Proposed Action on the resources cited by the commenter, including potential indirect impacts from the increase in traffic on rail routes for Proposed Action-related trains in Washington State.

## Comment MIT-16

Mitigation methods are written from the perspective of the wealthy and entitled who are clueless about accessibility challenges of those who do not share their advantages. (3650)

### Response to MIT-16

Mitigation presented in the EIS has been developed within the limits of the SEPA regulatory framework described in the Master Response for Mitigation Framework. Refer to the Master Response for Mitigation Framework for more information about the development, implementation, and enforcement of mitigation measures.

## Comment MIT-17

The EIS cites 22 out of 23 Environmental Resource areas with adverse impact and potential for cumulative impacts. The EIS has inadequate mitigation measures to deal with the scale of the environmental impact. Many of these impacts have NO mitigation possible. the DEIS predicts 19 coal train accidents per year, impacts to Longview's economy and reputation due to coal dust and coal train traffic impacts, real estate values, loss of 48 acres of river estuary area, loss of monies invested in watershed and salmonid restoration, and increased emissions have no real mitigation proposed in the EIS. (3426)

### Response to MIT-17

Refer to Response to MIT-1.

SEPA Rules do not require that an EIS analyze the economic or social policy impacts of an action (WAC 197-11-448). Final EIS Chapter 3, Section 3.2, *Social and Community Resources,* has been revised to remove the analysis of potential impacts to the local economy. Refer to the Master

Response for Purpose and Focus of the EIS for a discussion of how the Final EIS will be used along with other information by Cowlitz County, Ecology, and other agencies for decision-making regarding permits for the Proposed Action.

## Comment MIT-18

The Millennium terminal will raise prices for Powder River Basin (PRB) coal in the U.S. This higher price in turn will cover the costs of deeper mining in the mine fields, mining at levels where there is more overhang. Without higher prices, many of the PRB fields will have to be abandoned (Bleizeffer 2015). The coal companies will benefit from the ability to continue to exploit the same fields as well as from higher prices and more demand for their product. However, the environment in the area of these mines has well-documented problems. Coal fields replace range land, and only 7% of that land has been restored to full use. Residents complain of not being able to drink well water because of its sulfur dioxide content (Braasch 2015). The DEIS mentions the potential for increased coal dust from loading coal at the mines and along rail lines between the mines and Washington State. Pollution problems in other states are not under the direct purview of Washington State's Department of Ecology. However, as part of the U.S. Corps of Engineers NEPA, the regional effects of the proposed Millennium coal terminal, the Washington Department of Ecology should be a partner in discussions about mitigation for the increase in pollution that will result from increased mining in the Powder River Basin mines. (3465)

### Response to MIT-18

Refer to Response to SCOPE-19 and Response to MIT-1.

## Comment MIT-19

I am concerned about excessive greenhouse gas emissions as well as weak and unenforceable mitigation. (0658)

### Response to MIT-19

Refer to Response to MIT-1.

# 7.7 Health Impact Assessment and Overall Health Concerns

## Comment HC-1

The Dept. of Ecology acknowledges that moving over 44 million tons of coal in uncovered trains and stockpiling it along the Columbia would harm people’s health and the river. In particular, the Health Impact Assessment agreed upon in June 2015 is missing from the DEIS. (2558)

### Response to HC-1

The Draft EIS evaluated potential impacts of the Proposed Action accordance with the SEPA Rules and Cowlitz County Code. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for this scope and focus.

Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a discussion of how health impacts related to air quality were considered in the EIS.

A Health Impact Assessment (HIA) for the Proposed Action is being prepared separately from the SEPA environmental review. A HIA Steering Committee was formed and determined the topics to be addressed in the HIA, with input from focus groups. Refer to the Master Response for the Health Impact Assessment for information on the HIA process, including the study area for the assessment, the selection of topics analyzed, and opportunities for public review and comment.

## Comment HC-2

The Draft EIS reveals many intolerable serious impacts to human health and the environment. It dismisses other impacts without a valid basis. The agencies should incorporate the best available science, real world examples, and the Health Impact Assessment in the Final EIS. (1136)

### Response to HC-2

Each resource area analysis in the Draft EIS (Chapters 3, 4, and 5) included a subsection describing methods and information sources. The commenter has not identified which impacts they believe have been dismissed without a valid basis. Refer to Response to HC-1 regarding the development of an HIA**.** Also refer to the Master Response for the Health Impact Assessment.

## Comment HC-3

The Final EIS should incorporate the best available science, real world examples, and a comprehensive Health Impact Assessment. The agencies undercut public, tribal, and agency input by failing to complete a Health Impact Assessment before releasing the Draft EIS. (2590)

### Response to HC-3

Refer to Response to HC-1 and Response to HC-2. Refer to the Master Response for the Health Impact Assessment.

## Comment HC-4

The project will have disproportionate negative impacts on low-income, minority, and tribal communities along the rail route and near the terminal. I request that a comprehensive Health Impact Assessment with a public review process be included in the Final EIS. (2590)

### Response to HC-4

Draft EIS Chapter 3, Section 3.2, *Social and Community Resources*, discussed considerations and impacts on low-income and minority communities along the rail routes in Cowlitz County. Draft EIS Chapter 3, Section 3.5, *Tribal Resources*, evaluated potential impacts on tribal resources. Refer to

Response to HC-1 regarding the development of an HIA**.** Also refer to the Master Response for the Health Impact Assessment.

# Comment HC-5

The fact sheet on "Social and Community Resources" on the project says that "A separate report, a Health Impact Assessment, is being prepared for the proposed project. This report will use the analysis in the environmental study to consider impacts on human health." The HIA should have been done by the time the DEIS was released. Human health impacts are of deep concern to the Tribe. (3213)

## Response to HC-5

Refer to Response to HC-1. Refer to the Master Response for the Health Impact Assessment.

# Comment HC-6

We request that the HIA, when completed, thoroughly looks at the following impacts and includes a public comment process:

1. Please show a pollution contours map (isopleths) that will look at the Diesel Particulate Matter (DPM) and other toxins that people will be exposed to up to two miles from the track at various distances, that is, 50 feet, 100 feet, 200 feet etc.
2. Please show how many people live within the above feet distances along the entire transportation routes, and have that analysis also include projected populations. How many of them are children, the elderly, people of color, and have underlying diseases, and live in poverty?
3. List the number of schools, hospitals, assisted living facilities, libraries, and other places that people congregate on a daily basis within two miles of the tracks along the transportation routes.
4. Show the increased risks for heart attacks, strokes, COPD exacerbations, pulmonary and cardiovascular disease, cancer, asthma, ER visits, etc. from increased DPM on current and projected populations. Who pays for the costs and what are the economic costs? (3213)

## Response to HC-6

Refer to Response to HC-1 regarding air quality-related health impacts evaluated in the EIS and the development of an HIA. Also refer to the Master Response for the Health Impact Assessment.

Draft EIS, Section 3.2, *Social and Community Resources*, described the demographics within 0.5 mile of the rail route for Proposed Action-related trains in Cowlitz County, identified minority and low-income populations and listed public service facilities in Cowlitz County, and evaluated impacts on minority and low-income populations.

# Comment HC-7

The 16 trains generated by the proposed MBT in uncovered cars could have real consequences for health along the rail routes. In just over 400 miles of rail travel the average 125-car coal trains would emit 12,125 pound of coal dust, even under good conditions. We request the HIA to show:

1. The effects of coal dust and spills along the rail routes, especially on farmland, waters, and grazing animals used for human consumption.
2. How many children, elderly, those with health problems, etc. will be exposed to coal dust?
3. The life of the MBT terminal is 50 years. The study should look at the cumulative effects of coal dust and health during the operation life of the terminal along the rail ways.
4. Will the coal dust need to be cleaned up? If so, how much will it cost and who pays for it?
5. Look at the return cars on the way back to the mines. Carryback coal is in the hoppers since they are not completely emptied at the terminal. Please analyze the loss of the residual dust from the carryback coal. (3213)

## Response to HC-7

Refer to Response to HC-1 regarding the development of an HIA**.** Also refer to the Master Response for the Health Impact Assessment. Draft EIS Chapter 5, Section 5.7, *Coal Dust*, evaluated estimated maximum and average monthly coal dust deposition along the rail routes in Washington State that would be used by Proposed Action-related trains. The analysis concluded that coal dust deposition in these areas would be below the benchmark for sensitive areas used in the analysis. The potential impacts related to coal dust and coal spills were discussed in Chapter 4, Sections 4.5, *Water Quality*, 4.7, *Fish*, and 4.8*, Wildlife*, and in Chapter 5, Sections 5.6, *Air Quality*, and 5.7, *Coal Dust*.

# Comment HC-8

Noise pollution is a known contributor to health problems. According to Oregon Physicians for Social Responsibility it can cause sleep disturbance, cardiovascular disease, stroke and ischemic heart disease, cognitive impairment in children, hypertension, arrhythmia and increased rate of accidents and injuries along with an exacerbation of mental health disorders.

It is difficult to get a Federal Railroad Administration (FRA) approved quiet zone in train neighborhoods. The HIA should:

1. Determine which rail cities are at greater risk for noise and vibration, and who lives in those communities. Please use noise isopleths.
2. Look at squeaking wheels, train engines horn blasts within 50, 100 feet and so on for up to two miles along the entire transportation routes.
3. At grade crossings have horns blowing. How many at grade crossings are there on the rail routes? How many trains go through, of all kinds, are on the tracks. At what times? How many are during the typical sleeping hours?
4. Interviews should be conducted in higher risk communities for noise about sleeping patterns, concerns, and disturbances. Please also look at the research on noise pollution and especially train noise pollution.

5. What if train noise can't be mitigated who pays for health care increases that may result from increased noise pollution? (3213)

## Response to HC-8

Refer to Response to HC-1 regarding the development of an HIA**.** Also refer to the Master Response for the Health Impact Assessment.

Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*, evaluated potential noise impacts and identified mitigation to reduce those impacts. The section states that if the mitigation is not implemented, and Proposed Action-related train horns are sounded for public safety, then the potential for exposure to moderate and severe noise impacts would remain and would be an unavoidable and significant adverse environmental impact.

# Comment HC-9

Emergency Services: At grade crossings block vehicular traffic irritating drivers but sometimes causing delays in emergency services for fires, and most especially medical emergencies.

1. Look at at-grade crossings in all rail communities and determine the most vulnerable by calculating the number of all trains crossing the tracks.
2. Look at all the unprotected rail crossings that exist on the rail lines. Only 44 were studied in Washington State but there are hundreds on the rail lines.
3. Consider in the study that emergency vehicles have to often cross twice at at-grade crossings coming and going to an emergency. Some of the rail lines are doubletracked. That presents a situation that increases train traffic, even if one train has passed, another may stop a vehicle on the way back through the crossing. Double and triple train track crossings need to be inventoried.
4. Look at alternative crossings that emergency vehicles could use, and how long it would take them.
5. What are the anticipated coal train derailments along the routes?
6. Is there a system available for EMS vehicles to be notified of trains crossing atgrade? If so how much is it and who pays for it?
7. What are some of the foreseeable consequences if a fire burns down a building before first responders can get to it or someone dies enroute to hospital because trains are blocking the way?
8. What is the psychology of community members and first responders worried about at grade crossings and trains blocking it in emergencies? (3213)

## Response to HC-9

Refer to Response to HC-1 regarding the development of an HIA**.** Also refer to the Master Response for the Health Impact Assessment. Final EIS, Section 3.2, *Social and Community Resources*, describes emergency services in the study area. Sections 5.1, *Rail Transportation,* 5.2, *Rail Safety,* and 5.3, *Vehicle Transportation*, describe impacts on rail transportation, rail safety, and vehicle transportation that could result from construction and operation of the Proposed Action.

# Comment HC-10

Drinking Water: Communities can't live without drinking water. Often our drinking water also is part of water use in our activities of daily living.

1. Identify all sources of drinking water, domestic and municipal, for rail communities in the HIA.
2. How many people are served by the drinking water systems?
3. If drinking water is harmed due to derailments or pollutants, who pays for alternative sources of drinking water?
4. Who will pay for monitoring and clean up of the drinking water?
5. Identify all EPA sole source drinking aquifers. What are the consequences for a contaminated aquifer especially within the context of the EPA designation?
6. What would contamination of water do to recreation and fishing especially with water used for drinking, wildlife and recreating? (3213)

## Response to HC-10

Refer to Response to HC-1 regarding the development of an HIA**.** Final EIS, Sections 4.4, *Groundwater*, and 4.5, *Water Quality*, describe impacts on groundwater, drinking water, and water quality that could result from construction and operation of the Proposed Action.

# Comment HC-11

Health Impacts of Climate Change: The DEIS says that about 37.6 million metric tons of greenhouse gas emissions would occur over a 20 year period, if the terminal is built. This includes construction. The fact sheet states that possible impacts from greenhouse gas emissions are global. They could increase forest fires, melt more snow and ice, cause risks to forests, fish, wildlife, agriculture, freshwater supplies, tourism, irrigation and so forth.

These all have health risks. The HIA should:

1. Consider the impacts of increased forest, field and brush fires on rail communities.
2. Consider the impacts of increased heat on urban communities. Heat waves cause more deaths in the world than cold streaks.
3. What populations are most vulnerable to global climate change and why?
4. Will severe weather due to global climate change cause problems such as heavy winds and rain, landslides, etc. Who will pay for the deaths, injuries and the relocations of those who suffer from any of the above?
5. Will we see an increase of West Nile Virus or Lyme diseases or others as the climate warms?
6. What about impacts that is disproportionate on low income communities and communities of color? They need to be studied. (3213)

## Response to HC-11

Refer to Response to HC-1 regarding the development of an HIA**.** Final EIS, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, describes impacts related to greenhouse gas emissions and climate change.

# Comment HC-12

Surfactants: Coal is uncovered and at the mines it is applied to keep coal dust down. But we know little about it. The HIA should consider

1. Which surfactants will be used?
2. What are the hazards to humans who apply it, and who breathe it in during transit?
3. Have any of the surfactants been tested for chronic toxicity?
4. What are the longer term human and environmental health impacts?
5. Can it leach out of cars during rainstorms? (3213)

## Response to HC-12

Refer to Response to HC-1 regarding the development of an HIA**.** Draft EIS, Chapter 4, Section 4.5, *Water Quality*, describes surfactants that would likely be used on coal transported to the proposed export terminal and potential impacts.

# Comment HC-13

Drinking Water: Communities can't live without drinking water. Often our drinking water also is a part of water use in our activities of daily living.

1. Identify all sources of drinking water, domestic and municipal, for rail communities in the HIA.
2. How many people are served by the drinking water systems?
3. If drinking water is harmed due to derailments or pollutants, who pays for alternative sources of drinking water?
4. Who will pay for the monitoring and clean up of the drinking water?
5. Identify all EPA sole source drinking aquifers. What are the consequences for a contaminated aquifer especially within the context of the EPA designation?
6. What would contamination of water do to recreation and fishing especially with water used for drinking, wildlife and recreating? (2515)

## Response to HC-13

Refer to Response to HC-1 regarding the development of an HIA**.** Final EIS, Sections 4.4, *Groundwater*, and 4.5, *Water Quality*, describe impacts on groundwater, drinking water, and water quality that could result from construction and operation of the Proposed Action.

# Comment HC-14

I request that there be a Health Impact Study done for the increased train traffic with particular emphasis on the transport of this large amount of coal throughout the region. Despite an overall drop in WA states asthma rates over the last 7-8 year, Cowlitz county has consistently had higher than target rates in asthma hospitalization. This will not improve if this project is approved. (2047)

## Response to HC-14

Refer to Response to HC-1.

# Comment HC-15

The Draft EIS fails to incorporate a Health Impact Assessment (HIA). The failure to include an HIA (which is a critical component for decision making) is unacceptable and must be remedied prior to issuance of the Final EIS by including an HIA, with ample opportunity for public review and comment. (1763)

## Response to HC-15

Refer to Response to HC-1.

# Comment HC-16

Because of the health impacts that will be a direct result of the MBTL project, I respectfully request that the Final EIS include a Health Impact Assessment that addresses the following questions and includes a public comment process.

I. Health Impacts of Diesel Particulate Matter (DPM)

1. How much DPM and toxins will people be exposed at 50 feet, 100 ft, 200 ft, etc. up to 2 miles from the tracks when a train goes by? We request this data to be shown in an easy to-understand format, including maps with "pollution contours" (isopleths).
2. How much DPM and toxins will result from the ships, including ships that are at anchor (staging), at the dock, and in transit?
3. What will the impact of temperature inversion weather conditions be on air pollutants?
4. How many people live within 50 ft, 100 ft, 200 ft, 500 ft, 1000 ft, 1 mile, and 2 miles along the transportation routes from the Powder River Basin and the Uinta Basin to Longview, from there to the mouth of the Columbia River, and from Longview to Pasco via Stampede Pass, including current and projected populations?
5. How many of the people living, going to school, or working within the distances above are children (including current and projected populations), and elderly? How many and whom have any form of pulmonary or cardiovascular disease?
6. How many increased asthma attacks, ER visits, and hospitalizations will result, including current and projected populations, and including under temperature inversion conditions? What is the economic cost? Who pays for the costs?

7. How many increased strokes will result, including current and projected populations, and including under temperature inversion conditions? What is the economic cost? Who pays for the costs?
8. How many increased myocardial infarctions (heart attacks) will result, including current and projected populations, and including under temperature inversion conditions? What is the economic cost? Who pays for the costs?
9. How many COPD exacerbations will result, including current and projected populations, and including under temperature inversion conditions? What is the economic cost? Who pays for the costs?
10. How much cancer will result, including current and projected populations? What is the economic cost? Who pays for the costs?
11. How much acrolein, acetaldehyde, formaldehyde, heavy metals (including but not limited to mercury, lead, and arsenic), 1,3-Butadiene, polycyclic aromatic hydrocarbons, or other toxins will be deposited cumulatively? This should be analyzed in a cumulative fashion, (i.e. additive) over the next 50 years (the operating life of the terminal).
12. What are the effects of chronic exposure of the above compounds on: Neonatal and childhood development? Neuro Developmental disorders? Blood and lymphatic systems? Respiratory system? Cardiovascular system? Reproduction? Cancer? What are the economic costs of these? Who pays the cost?
13. What is the cost of cleanup of the cumulative environmental contaminants? How effective is the cleanup? Who pays the cost?
14. Medical research comes forth at an intense pace. When new health impacts are inevitably identified or quantified, how can the public be assured that their health will be weighed in the balance of ongoing risks/benefits to MBTL operations?
15. How many people in Cowlitz County, in Longview and in the Highlands neighborhood have pediatric asthma, adult asthma, COPD, cardiovascular disease, diabetes, are under 18 or over 65 years of age, and/or live in poverty?

II. Health Impacts of Coal Dust

1. How much coal dust from the mining and transportation of coal can be expected along each section of the transportation corridors from the Powder River Basin and Uinta Basin to the proposed terminal and then to the mouth of the Columbia River
2. How much accumulation will result after 50 years of transport or the operating life of the terminal
3. How many children and adults can be expected to have increased risk of asthma and other respiratory diseases, including current and projected populations
4. How many coal train derailments can be expected along the rail corridor per year of operation of the proposed export terminal?
5. What will be the effect of contamination from coal dust and spills on farmland along the rail corridor?
6. What will be the effect of contamination from coal dust and spills on grazing animals used for human consumption?

7. What will be the effect of contamination from coal dust and spills on fresh water supplies for humans and animals?
8. What will be the effect of contamination from coal dust and spills on marine habitat for fish and other seafood?
9. What is the cost of cleanup of the cumulative environmental contaminants? How effective is the cleanup? Who pays the cost?
10. How many people can be expected to be affected by the increased exposure to mercury and other heavy metal contaminants of coal, such as by cancer, including current and projected populations?
11. Medical research comes forth at an intense pace. When new health impacts are inevitably identified or quantified, how can the public be assured that their health will be weighed in the balance of ongoing risks/benefits to MBTL operations?
12. What is the loss of coal dust from residual dust still on the cars on the return journey back to the Powder River Basin and the Uinta Basin (so called "carryback coal")? How much of the "carryback coal" is expect to be lost in Cowlitz County in particular? If coal dust is, as is claimed by the proponents of the project, a near mine issue, is the terminal itself considered similar to a near mine site, with the coal lost from loose residual coal matter still on the rail cars from which most of the coal has just been shaken loose and dumped at the terminal site?

III. Health Impacts of Noise Pollution

1. How loud are train engines? Squeaking wheels? Hornblasts? Federal regulations require that the horns sound at levels of 96to110 dBA measured at 100 feet for 15 to 20 seconds in advance of all public grade crossings. How loud are horn blasts at 50 feet, 100 ft, 200 ft, etc. up to 2 miles from the tracks? We request this data to be shown in an easy-to-understand format, including maps with 11 sound contours(noise isopleths).
2. How much vibration does a coal train produce? How intense is this at 50 feet, 100 ft, 200 ft, etc. up to 2 miles from the tracks?
3. How many people live within 50 ft, 100 ft, 200 ft, 500 ft, 1000 ft, 1 mile, and 2 miles along the entire route from PRB to Longview and back to the PRB?
4. How much noise and/or vibration wakes an average person? A light sleeper?
5. How much noise or vibration distracts a working person? A concentrating student?
6. For each train along the entire route, how many at-grade crossings are there? How many horn blasts per crossing? How many horn blasts in total for a single train traveling from Montana to Longview? How many whistle blasts per day in all (x 16 trains)? How many of these are at night during sleeping hours ( )?
7. For each train, including engine noise, vibration, screeching wheels, and whistle blasts, how many people will be awakened, based on current and projected populations? How many children? How many adults? How many elderly? All calculations must include projected populations as well, since the terminal has an operating span of 50 years.
8. How many times per night will a person be awakened, from noise or vibration, who lives various distances from the tracks (including distances: 50 ft, 100 ft, 250 ft, 500 ft, 1000 ft, 0.5 miles, 1

miles, and 2 miles) in all areas and communities along the route to and from the PRB, including but not limited to Helena, Missoula, Spokane, Pasco, Camas, Hood River, Portland and Longview?

9. How many awakenings per night, including all people along the entire route up to 2 miles away from tracks, including all trains, based on current and projected populations?
10. Considering the noise and vibration, multiple awakenings and resultant fatigue, how many people may potentially have increased blood pressure, or elevated stress hormones, including current and projected populations?
11. What is the total economic cost of increased blood pressure, elevated stress hormones? Who pays for the economic costs?
12. Considering the noise and vibration, multiple awakenings and resultant fatigue, how many arrhythmias, or heart attacks could potentially result from the increased noise, including current and projected populations? What is the total economic cost of the arrhythmias, or heart attacks? Who pays for the economic costs?
13. Considering the noise and vibration, multiple awakenings and resultant fatigue, how many strokes could potentially result from the increased noise, including current and projected populations? What is the total economic cost of the strokes? Who pays for the economic costs?
14. Considering the noise and vibration, multiple awakenings and resultant fatigue, how much increased mental disease may result from associated stress, including but not limited to: depression, mental instability, neurosis, hysteria, and psychosis, including current and projected populations? What is the potential economic cost of the increased mental disease? Who pays for the economic costs?
15. What is the potential impact of noise, vibration, multiple awakenings, and fatigue on childhood learning? On childhood test scores? What is the total economic cost of the learning impairment? Who pays for the economic costs?
16. What is the potential impact of noise, vibration, multiple awakenings, and fatigue on workplace performance? What is the total economic cost of the impaired workplace performance? Who pays for the economic costs?
17. How many increased traffic accidents may result from fatigue-associated sleep disturbance, including current and projected populations? What is the total economic cost of the accidents? Cost in terms of human morbidity? Who pays for the costs?

IV. Health Impacts of Delays in Emergency Medical Services

1. How many rail crossings are there along potential rail corridors from the Powder River Basin and the Unita Basin to Longview and back to the Powder River Basin and Unita Basin? How many of these are at-grade crossings? Why did you only select 44 at-grade crossings in the state of Washington to review?
2. How many of these rail crossings are unprotected?
3. What are the costs to provide protective barriers at these crossings and who will bear these costs?
4. How often and for how long will each of these crossings be blocked by the increased rail traffic en route to MBTL? Delay should be calculated for each crossing to account for differences in local circumstances.

5. How many times daily do EMS vehicles, including police, fire and medic units, cross rail lines? Please note that an ambulance often needs to cross twice to get a patient to a hospital.
6. What will be the cumulative and per incident delay in access to these services caused by rail traffic en route to MBTL (including actual blockage of the crossing, as well as alleviation of resultant congestion)? Please again note that an ambulance often needs to cross twice to get a patient to a hospital.
7. How many people are affected at each crossing, based on current and projected population as shown in relevant planning documents?
8. What crossings and locations are most likely to result in significant delays at crossings
9. How often are there alternative crossings? How much time is lost to route through alternate crossings, rather than the shortest route?
10. Is there any current established system to alert EMS vehicles of impending crossing closures?
11. How much would such a system cost and who would bear the cost of developing such systems?
12. How does backed up traffic at crossings and the dispersion of that traffic effect EMS response times throughout the entire state of Washington?
13. How often and to what severity will these delays in EMS response times lead to delays in care and to otherwise avoidable outcomes such as death or permanent disability?
14. What is the amount of healthcare cost attributable to patients receiving delayed EMS services as a result of increased rail traffic?
15. How will the project applicant mitigate these impacts (grade separation at crossings, construction of new hospitals, support for additional paramedics, medivac services, etc.?) What percent of the total cost will the project applicant pay for grade separation at crossings, etc.?)
16. How many rail crossing accidents, injuries, and deaths will be attributable to increased rail traffic en route to MBTL?
17. What is the anticipated cost of these accidents, including anticipated litigation and long term care costs?
18. How many coal train derailments would be anticipated to occur across the states of Washington and Oregon over the lifetime of the project?
19. Where are the likely sites of these derailments, and are any of these potentially dangerous or inadequately designed rail lines in major population densities?

V. Health Impacts to Drinking Water

1. Does the Wellhead Protection Program (WHPP area) for the City of Longview's Mint Farm Wellfield encompass the project area? Does the project lie within and above the 6-month WHPP Source area? The 1-year WHPP Source Area? The 5-Year WHPP Source area? The 10-year WHPP Source Area? Does water from those Source Areas flow beneath the project area en route to city wells?
2. What impact will pre-operation wicking and compression have on the movement of surface water? On the movement of legacy pollutants like benzene and arsenic? Can that ultimately impact the quality of groundwater?

3. What is the relationship of the unconfined aquifer to the deep aquifer depicted in the technical reports? What is the relationship to the drinking water source?
4. What is the tidal influence on the Columbia River at the project area and how will that affect movement of waterborne pollutants discharged at the project site?
5. What will be the influence of MBTL's heavy pumping of private wells during the dry season (for purposes of dust suppression) on City of Longview wells?
6. What contaminants and pollutants can be expected to flow into to the Columbia River as treated wastewater, untreated surface water or overflow from storms? Diesel pollution, toxic coal dust, fuel spills? Abestos, lead and arsenic from demolition projects ? Leaks and spills from associated barges, tugs, Panamax-class and Handymax-class vessels?
7. What is the transit time from the Columbia River to the deep aquifer that serves as the drinking water source for residents of Longview?
8. Who will pay if the drinking water source for the City of Longview is contaminated with pollutants as a result of this project and must be permanently replaced? What is the cost of temporary purchase or replacement of drinking water for residents?
9. Will you identify by name and location all domestic and municipal water systems that could be harmed with a derailment and spill of coal trains and/or coal vessel fire and fuel spill. How many people are served by those systems? Who will pay for monitoring and cleanup when and if other municipal drinking water sources are fouled in Washington? In Oregon? In Idaho? In Montana?

VI. Environmental Justice Impacts

1. What will be the cost to culture, tradition and food sources for First Nations if mercury accumulate in water (from blow-back from coal-fired power plants in Asia) and result in harm to salmon?
2. What are the impacts of mercury neurotoxicity and who is most likely to suffer?
3. What will be the impacts to traditional culture and foods if this project leads to a decrease in the number of salmon and other fish available for harvest?
4. Whose access to tribal treaty fishing sites will be lost, made more difficult or result in injury because of the increasing number of long unit trains on the UP and BNSF lines?
5. Will you analyze all census tracts running 2 miles along all rail corridors, all vessel corridors, including rail and vessel corridors in Cowlitz County and in Longview, for health impacts from this project that may be experienced by communities of color and low income communities, children under 18, adults 65 and over, and individuals with pre-existing disease including pediatric asthma, adult asthma, COPD, cardiovascular disease, and diabetes?

VII. Health Impacts of Climate Change

1. What will be the human health impacts to climate change under a scenario with MBTL activities resulting in 27 million metric tons/year net C02 emissions (see Greenhouse Gas Appendix Table 47)? With 3.2 million metric tons/year? With 37.6 million metric tons of Co2 emitted between 2018 and 2038?
2. What could be the impact on Cowlitz County and Washington residents and fire fighters from forest fires, smoke, injury, death and dislocation?

3. What are the impacts from increased heat, increased ozone levels and degraded air quality? How will this impact pediatric populations? Adults over 65? Those with pre-existing disease like asthma, bronchitis, COPD? Who will most suffer? Who will pay?
4. What will be the health impacts of severe weather, including heavy rain, wind storms and landslides that lead to dislocation, injury and death? Who will pay?
5. What will be the impacts from increasing rates West Nile Virus and Lymes disease in Cowlitz County? In Washington? Who will pay?
6. Will there be disproportionate and adverse effects on low income communities and communities of color? If so, what will they be?

VIII. Health Impacts of Surfactant Use

1. Which chemical surfactants will be used? Which chemicals will be applied by workers, deposited along the transportation corridors and in communities around the coal pile, from blowing dust and leaching by rainwater. What are the human and environmental impacts of exposures? Have chemical compounds such as GE Powertreat, designed for use on Powder River Coal (and known to be a serious skin, eye and lung irritant), been tested for chronic toxicity? Have these compounds been tested for longer term human and environmental health impacts?

(1763)

## Response to HC-16

Refer to Response to HC-1 regarding the development of an HIA.

The EIS evaluated the following concerns raised in the comment.

I. Health Impacts of Diesel Particulate Matter (DPM)

- Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a discussion of how health impacts related to air quality were considered in the EIS. Draft EIS, Chapter 5, Section 5.6, *Air Quality*, analyzed the effects of temperature inversions as 3 years of hourly surface meteorological observations and twice-daily upper-air meteorological data. This information is incorporated into the dispersion modeling analysis, which estimated the concentration of air pollutants.

II. Health Impacts of Coal Dust

- Refer to the Master Response for Particulate Matter and Coal Dust Analyses for a discussion of how health impacts related to air in the EIS and.

III. Health Impacts of Noise Pollution

- Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*, assessed the potential noise impacts of the Proposed Action, including noise from Proposed Action-related trains and vessels. As described in Section 5.5, vibration from Proposed Action-related train operations is unlikely at distances greater than 60 feet from the Reynolds Lead and BNSF Spur. The closest vibration-sensitive receptor (a residence) is approximately 275 feet from the outer track of the rail loop in the project area. The closest vibration-sensitive receptor (a residence) is approximately 180 feet away from the Reynolds Lead, and there are no vibration-sensitive

receptors adjacent to the BNSF Spur. Therefore, no analysis was conducted to estimate vibration from rail operations.

IV. Health Impacts of Delays in Emergency Medical Services

- Draft EIS Chapter 5, Section 5.3, *Vehicle Transportation*, included an evaluation of the potential impacts of the Proposed Action on vehicle delay in the study area, including possible delays to emergency response vehicles.

V. Health Impacts to Drinking Water

- Draft EIS Chapter 4, Section 4.4, *Groundwater,* described the relationship between the shallow unconfined aquifer and the deep aquifer. As discussed, there is a limited relationship between the shallow unconfined aquifer and the deep aquifer in the study area. The shallow aquifer and deep aquifer are separated from each other by a confining, impervious soil unit consisting of clay and silt and ranging in thickness from approximately 100 to 200 feet. The shallow aquifer is hydrologically connected to the Columbia River and groundwater in the shallow aquifer does not contribute significantly to the deeper aquifer because the deeper aquifer is primarily recharged by aquifers below the Columbia River (Anchor QEA 2014), rather than surface infiltration through the shallow aquifer. The hydrology of the project area is primarily driven by Columbia River water levels, which have a major influence on groundwater elevations in the shallow aquifer. The Mint Farm Regional Water Treatment Plant's groundwater wells supply the City of Longview with municipal drinking water. The plant draws groundwater from the deep aquifer that underlies the study area and not from the shallow aquifer that also underlies the study area.
- Draft EIS Chapter 4, Section 4.4.5.1, *Proposed Action*, *Construction – Direct Impacts*, *Degrade Groundwater Quality during Construction*, discussed the potential for contamination from water discharged from the wick drains. Water discharged from the wick drains would be captured, tested for contaminants, and treated as necessary prior to discharge to any surface waters. Within the project area, no cleanup actions have been recommended in the draft Cleanup Action Plan for the Former Reynolds Aluminum Smelter, with the exception of two small areas—the eastern corner of the Flat Storage Area and the northeastern portion of Fill Deposit B-3 (Draft EIS Figure 4.4-5). For the two areas where overlapping construction and remediation activities could occur, the activities would be coordinated to reduce conflicts and minimize exposure to the environment. Fluoride and cyanide levels found in shallow groundwater have limited mobility and do not affect downgradient groundwater or surface water quality. Therefore, it is possible, but unlikely, that construction of the Proposed Action would result in groundwater degradation due to disturbing previously contaminated areas in the study area.
- Tidal influence on the Columbia River was discussed in the Draft EIS Chapter 4, Section 4.2, 4.2.4.1, *Surface Water and Floodplain Features*. The existing CDID #1 levee along the project area prevents Columbia River high tides (as well as flood waters) from inundating the project area and effectively disconnects Columbia River flows from the historic floodplain of the project area. All water discharged to the Columbia River from the project area would be required to meet water quality standards prior to discharge, as defined in the NPDES permit required for the Proposed Action.
- The goal of Washington State water use laws is to ensure water users comply with the state's water laws so that other legal water users are not impaired, water use remains sustainable over the long term, and the environment is protected for the benefit of people and nature

(Washington State Department of Ecology 2016). The Applicant has a lease with Northwest Alloys, the landowner, which includes water rights for groundwater withdrawals. The Applicant would operate the coal export terminal using these water rights or if the water rights have been relinquished, new water rights could be applied for by the Applicant or Northwest Alloys. The process of applying for new water rights would account for existing water rights of other water users to ensure their water rights are not impaired. Final EIS Chapter 4, Section 4.4, *Groundwater,* describes the historical water rights for the site and demonstrates that the proposed use of groundwater for the Proposed Action would be less than 10% of these water rights. The Draft EIS concluded that the Proposed Action's use of groundwater would not result in significant adverse impacts on nearby groundwater users, the City of Longview's drinking water wells, or the aquifer.

- As described in Draft EIS Chapter 4, Sections 4.2, *Surface Water and Floodplains*, and 4.5, *Water Quality,* all surface water runoff generated during construction and operation of the Proposed Action would be managed in accordance with the NPDES Construction Stormwater Permit and NPDES Industrial Stormwater Permit for the Proposed Action. These permits would require that any discharge of stormwater to the Columbia River or other receiving waters meet all state water quality standards. All stormwater runoff would be collected and treated and either stored on site for reuse or discharged to the Columbia River. Monitoring of treated stormwater would ensure state water quality standards are met for all water discharged to the Columbia River.
- As discussed in the *SEPA Groundwater Technical Report* (ICF 2017), groundwater modeling indicates the source for the deep aquifer is the Columbia River, with a travel time to the wellfield of between 2 and 35 years (Kennedy/Jenks Consultants 2012).

VI. Environmental Justice Impacts

- Draft EIS Chapter 5, Section 5.6, *Air Quality*, and Draft EIS Appendix I, *Sulfur Dioxide and Mercury Emissions*, assessed potential impacts related to mercury emissions in Washington State attributable to coal combustion in Asia from coal that would pass through the coal export terminal. The analysis concluded the maximum mercury deposition represented less than 0.3% of the total Asian-sourced mercury deposition over Washington State. Therefore, the Proposed Action would result in negligible mercury deposition compared to existing conditions, and would not harm salmon as a result of mercury deposition.
- Draft EIS Chapter 3, Section 3.5, *Tribal Resources*, evaluated potential impacts on tribal resources, including tribal fishing and gathering practices; and Draft EIS Chapter 4, Sections 4.5, *Water Quality*, and 4.7, *Fish*, evaluated potential impacts on habitat, behavior, or survival of fish, including salmon, steelhead, and lamprey. The potential impacts evaluated in these sections included those from construction and operation of the Proposed Action and rail and vessel transport related to the Proposed Action. Section 3.5 also evaluated the potential for Proposed Action-related trains to disrupt access to Columbia River tribal fishing areas. The analysis concluded that Proposed Action-related trains would travel through areas adjacent to and within the usual and accustomed fishing areas and could restrict access to tribal fishing areas in the Columbia River. The four treaty tribes that have reserved treaty rights for commercial, subsistence, and ceremonial fishing are the Confederated Tribes and Bands of the Yakama Nation, Confederated Tribes of the Umatilla Indian Reservation, Confederated Tribes of Warm Springs, and Nez Perce Tribe.
- Draft EIS, Chapter 3, Section 3.2, *Social and Community Resources*, identified the number of people who live within 0.5 mile of the rail routes for the Proposed Action in Cowlitz County. And

provided demographic data on age and income for populations in the study area for the EIS, including Cowlitz County, Longview, and the Highlands neighborhood. Section 3.2 also identifies disproportionately high and adverse effects on minority and low-income populations.

VII. Health Impacts of Climate Change

- Refer to the Master Response for Purpose and Focus of the EIS.

VIII. Health Impacts of Surfactant Use

- As stated in the *SEPA Water Quality Technical Report,* and Draft EIS Chapter 4, Section 4.5, *Water Quality*, surfactants generally consist of glue (polyvinyl acetate), alkyl alcohol, guar gum, or vegetable oils mixed with water. These chemicals are nontoxic and are not pollutants of concern for air or water quality (Agency for Toxic Substances and Disease Registry 1992).

# Comment HC-17

I want to speak to one aspect of these potential jobs—the health risks to workers. In 1969, the Coal Mine Health and Safety Act was created to protect the health of miners. Despite apparent advances, in 2012 researchers at the National Institute for Occupational Safety and Health discovered an almost 10-fold increase in coal workers' pneumoconiosis— or black lung disease. And, of particular importance to this project, the finding led to the CDC looking closely at surface mine workers—an understudied group. Here too, evidence was found of serious, occupation-related respiratory illness in many of the workers. (1450)

## Response to HC-17

Refer to Response to HC-1.

# Comment HC-18

Complete health impacts studies are actually the only safe option. Just the one chemical, surfactant, has inadequate health impact studies for use on this Coal, so far, right? Is this a similar surfactant to the one that failed to help the Gulf of Mexico Oil spills? That one continues to damage oceans' floor life, after many years. How does Big Coals' chemical compare? What are the effects on humans exposed to surfactant, long term? Short term, you know that this causes eye, lung and skin damage. Are X-Rays of lungs routine after exposure, now? Then, after 6 months? Scar tissue could result from toxins into lungs, so this is vital to know. Please, do a more complete Health Impact study! Thanks. When these chemical surfactants get into the waters at the terminal and nearby waters, with the expected earth quakes in Longview, does your impact statement determine we wait until after the earthquakes? That would be very poor risk assessment and not inadequate. Health impacts in depth are the only safe option. How quickly will surfactant kill fish and marine life? How will people consuming fish be damaged? What about the Powder River Coal's "Powertreat" in that area flying to the areas on transport via dust and rain falling on that, taking it into soil? What if cows and life stock eat this surfactant poison? What does this poison do to the foods growing near tracks? Please, address all these issues, for the sake of all families exposed to poisons. Thank you for doing what is needed, for all. A Strong and Complete Health Impact study! (0864)

## Response to HC-18

Refer to Response to HC-1 regarding the development of an HIA.

Draft EIS, Chapter 4, Section 4.5, *Water Quality*, describes surfactants that would likely be used on coal transported by Proposed Action-related trains and potential impacts. Final EIS, Chapter 5, Section 5.7, *Coal Dust*, describes potential impacts related to coal dust that could result from construction and operation of the Proposed Action. Surfactants are a category name and not one specific chemical, these are described in Section 4.5. For the reference to Gulf of Mexico oil spills, if the commenter meant dispersants, these are different substances than surfactants.

# Comment HC-19

Because this would be the largest coal export facility in the US, one with a variety of human-heath related impacts, it is imperative that a HIA that closely analyzes all these risks is produced. This HIA must be a state-of-the art assessment that takes a comprehensive approach to health and health care costs, while incorporating the values of equity, environmental justice, democracy, sustainable development, and ethical use of evidence. The HIA should answer specific health and safety questions submitted during scoping process for the EIS by individuals and organizations. The HIA should also utilize the full resources available to Co-leads via EPA's EJ Screen.

It is incumbent upon the decision makers in this process to apply the *best available science* in determining the health impacts of the MBT. The Washington Department of Ecology summarized the current state of the science in a white paper entitled, "Concerns about the Adverse Health Effects of Diesel Engine Emissions" (2008). This paper recommends the adoption of the risk assessment tools developed by the California EPA's Office of Environmental Health and Hazard Assessment for carcinogenic and non-carcinogenic risk based DPM concentration levels. We recommend the use of these risk assessment tools in investigating the potential impact of the MBT.

The highest exposure risks of diesel particulate matter (DPM) from the MBT will occur to populations in close proximity to the tracks, the terminal, and shipping lanes. Thus, we recommend that the HIA quantify near source health effects spatially along transportation corridors, not just for the terminal site. This should include all railway corridors and vessel corridors.

Modeling should use either the California Office of Environmental Health Hazard Assessment tools and modeling protocol or the EPA Air Toxics Community Multiscale Air Quality Model to predict multiple pollutant effects on the affected communities. The modeling protocol should be approved by the Washington Department of Ecology and the EPA. The modeling should be performed by independent consultants familiar with the models and with interpreting the results of the models.

The Columbia Basin and Portland/Vancouver metropolitan areas experience temperature inversions, which can dramatically increase pollutant concentrations. Thus, the analysis must include not only effects of pollutants near the transportation corridor under normal weather conditions, but also under temperature inversion conditions.

The HIA should analyze the negative air quality and health impacts from three and four locomotives powering each coal train. To the extent that the DEIS predicts DPM levels and other dangerous pollutant levels on the assumption that there will only be two locomotives powering each train, the Final EIS and HIA should correct this assumption and all related estimates.

If mitigation measures such as construction of a terminal building that encloses piles of coal, covered rail cars that enclose coal, other pollution control devices, ultra-low sulfur fuel specifications, or late model diesel locomotive emission factors are used in the emissions estimates and models, those assumptions should be listed as mitigation required in the Final EIS.

Finally, the HIA is an important tool for decision makers and must be made available so the public can review and comment on it. Scoping for HIA was not completed during the DEIS comment period. The public must be provided the opportunity to comment on a draft HIA before a Final HIA and a Final EIS is released. (3277)

### Response to HC-19

Refer to Response to HC-1 regarding the development of an HIA**.**

Draft EIS Chapter 5, Section 5.6, *Air Quality*, analyzed impacts on air quality. Final EIS Chapter 5, Section 5.6, *Air Quality*, and the *SEPA Air Quality Technical Report* (ICF 2017), have been revised to address inhalation cancer risk from diesel particulate matter emissions. Final EIS Chapter 5, Section 5.6, *Air Quality*, also includes the effects of temperature inversions as 3 years of hourly surface meteorological observations and twice-daily upper-air meteorological data. This information is incorporated into the dispersion modeling analysis, which estimated the concentration of air pollutants.

The Final EIS has been revised to indicate that four locomotives would be included in the unit trains transporting coal to the project area to reflect new information received after publication of the Draft EIS. The analysis of environmental effects has been revised throughout the Final EIS where appropriate to reflect the increased number of locomotives for Proposed Action-related trains. Specifically, impact analyses were updated in Final EIS Chapter 5, Sections 5.1, *Rail Transportation,* 5.3, *Vehicle Transportation,* 5.5, *Noise and Vibration,* 5.6, *Air Quality,* and 5.8, *Greenhouse Gas Emissions and Climate Change.*

Final EIS Chapter 5, Section 5.7, *Coal Dust,* describes mitigation measures the Applicant has committed to implementing, as well as mitigation measures that will be required of the Applicant and other mitigation measures that could be considered by BNSF, to reduce impacts related to coal dust.

## Comment HC-20

The Health Impact Assessment should be based upon the EIS, not the DEIS, once the public has had an opportunity to identify additional concerns. (1922)

### Response to HC-20

Refer to Response to HC-1.

## Comment HC-21

We are concerned, also, that this Draft EIS was released prior to the completion of the health impact assessment that was commissioned by the state in order to inform this process. There are too many unanswered questions regarding health impacts to approve this facility. (3492)

### Response to HC-21

Refer to Response to HC-1 regarding the development of an HIA.

Refer to Response to SEPA-3.

## Comment HC-22

The Final EIS should incorporate the most recent science, real world examples, and a Health Impact Assessment. (1726)

### Response to HC-22

Refer to Response to HC-1.

## Comment HC-23

Health and the environment: The draft EIS reveals many serious impacts to human health and the environment. It dismisses other impacts without a valid basis. The final EIS should incorporate the best available science, real-world examples, and a comprehensive health impact assessment. The agencies undercut public, tribal, and agency input by failing to complete a health impact assessment before releasing the draft EIS. (2255)

### Response to HC-23

Refer to Response to HC-2.

## Comment HC-24

The Final EIS should incorporate the best available science, real world examples, and a comprehensive Health Impact Assessment (HIA). The agencies would turn their backs on public, tribal, and agency input by failing to complete a HIA before releasing either a revised DEIS or a Final EIS. (2532)

### Response to HC-24

Refer to Response to HC-1.

## Comment HC-25

The Draft EIS reveals many serious impacts to human health and the environment that are intolerable and support rejection of the terminal. However, it dismisses other impacts without a valid basis, and this will require additional study and input. Particularly important is a thorough health impact analysis, which has been promised but is still unfinished. (1434)

### Response to HC-25

Refer to Response to HC-2.

# Comment HC-26

A comprehensive HIA should address the potential human health impacts and mitigation strategies along the entire length of the statewide train corridor (in Washington and Oregon) in addition to those at the project site. It should address the potential health impacts and mitigation strategies along the Washington/Oregon shipping lanes. What will be the coal dust and diesel particulate matter (PM2.5 and PM 10) exposure to people living at 50 ft, 100 ft, 200 ft, 500 ft, 1000 ft from the tracks when a coal train passes-on a daily and annual basis? How will wind and rain runoff affect exposures? What will be the coal dust and diesel particulate matter (PM2.5 and PM 10) exposure to people living at 50 ft, 100 ft, 200 ft, 500 ft, 1000 ft from the Columbia River in Longview and along the river from Longview to the mouth of the Columbia River as coal-laden ships pass-on a daily and annual basis? How will wind and rain runoff affect exposures? To address the full range of health impacts, experts need to know the chemical composition of the Powder River Basin coal and the Uinta Basin coal. What are the expected medical care costs to the state when vulnerable populations use state funds to treat their cancers and lung/heart diseases-short-term and long-term? What is the cost to local and state tax payers who fund education for those suffering neurologic development disorders like ADHD, autism spectrum disorder and lowered IQ? What is the cost to local and state tax payers who fund the judicial system to deal with the increase in delinquent behavior of lead-exposed youth? What is the cost to the state in lost production of public and private employees? How will these figures change over the next 20 and 30 years? What mechanisms will be put in place to monitor the impacts on health of exposed citizens and the efficacy of mitigation methods? Modeling should use either the California Office of Environmental Health Hazard Assessment tools and modeling protocol or the EPA Air Toxics Community Multiscale Air Quality Model to predict multiple pollutant effects on the affected communities. The modeling protocol should be approved by the Washington Department of Ecology and the EPA. The modeling should be performed by consultants familiar with the models and with interpreting the results. (2490)

## Response to HC-26

Refer to Response to HC-1 regarding air quality-related health impacts evaluated in the EIS and the development of an HIA.

# Comment HC-27

Health & the Environment: The Draft EIS reveals many serious impacts to human health and the environment. It dismisses other impacts without a valid basis. The Final EIS should incorporate the best available science, real world examples, and a comprehensive Health Impact Assessment. (2555)

## Response to HC-27

Refer to Response to HC-2.

# Comment HC-28

Although the DEIS describes risks to communities, it minimizes them and does not examine or predict with data the potential health risks resulting from its proposed actions. Risks to human health from massive coal shipments are numerous and complex. They can be immediate, synergistic, cumulative and/or long-term in nature.

Overall, the DEIS lacks detail and overall substance in regards to the human health impacts of MBT. A comprehensive Health Impact Assessment should be performed in order to give proper consideration to human health in the FEIS. (3327)

### Response to HC-28

Refer to Response to HC-1 air quality-related health impacts evaluated in the EIS and the development of an HIA.

## Comment HC-29

The DEIS fails to recognize the negative, cumulative health impacts for vulnerable populations, including pediatric asthmatics, those with COPD, heart disease, diabetes, women over 50, exposed workers, the elderly and those living in poverty. The FEIS should include information provided through the May 15, 2013, Community Health Needs Assessment to fully appreciate the overall health status of the community and the substantial numbers of residents living with chronic disease. (See Tables 4,5,6,7) The rate of premature death in the county is high relative to the rest of the state. The health of county residents is further threatened by degradation of air quality from MBT's dirty project. (3327)

### Response to HC-29

Refer to Response to HC-1.

## Comment HC-30

The FEIS and HIA must also incorporate a thorough and accurate analysis of the health and safety risks to workers at the proposed MBT terminal. In 1969, the Coal Mine Health and Safety Act was created to protect the health of miners. Despite apparent advances, in 2012 researchers at the National Institute for Occupational Safety and Health discovered an almost 10-fold increase in coal workers' pneumoconiosis—or black lung disease. That finding led to the CDC looking closely at surface mine workers—an understudied group. Here too, evidence was found of serious, occupation-related respiratory illness in many of the workers.

Coal work remains an occupation with great health risks. These risks are exacerbated by the fact that workers who will be exposed to the most coal dust will also be the people who are regularly exposed to highest levels of diesel particulates and other air toxins. In the case of particulate matter, the health risks correlate with exposure and there is no level of exposure at which adverse health risks are not seen.

This DEIS lacks sufficient data to convince us that this would be safe work, when there is substantial evidence to the contrary. It most certainly does not follow the precautionary principle—by first insuring the protection of workers' health.

A comprehensive Health Impact Assessment should be produced and made available for public comment. Given the undeniable threat to worker health, the "No Action Alternative" should be selected. (3327)

## Response to HC-30

The Proposed Action must comply with laws requiring safe working conditions, such as the Occupational Safety and Health Act. Refer to Response to HC-1 regarding air quality-related health impacts evaluated in the EIS and development of an HIA.

# Comment HC-31

The DEIS examines air quality, water quality, traffic delays, noise and light pollution and confirms some serious health impacts but it is also incomplete. The Draft EIS fails to incorporate a Health Impact Assessment (HIA). Before and during scoping, many organizations and municipalities called for an HIA for this, the largest coal export project in the U.S. They include but are not limited to the City of Portland, the City of Mosier, the City of Milwaukee, the City of Beaverton, the City of Eugene, the Oregon Environmental Justice Task Force, and The Yakama Nation.

Because negative health impacts from climate change will be a result of the MBT project, we request that the FEIS include a Health Impact Assessment. Because exposure to toxic air and water pollution is a direct impact of MBT, we request that the FEIS include a Health Impact Assessment. Because increased frequency of very long trains and derailments along the many train corridors will be a direct result of the MBT, we request that the FEIS include a Health Impact Assessment.

It is incumbent upon the decision makers in this process to apply the *best available science* in determining the health impacts of the MBT. The Washington Department of Ecology summarized the current state of the science in a white paper entitled "Concerns about the Adverse Health Effects of Diesel Engine Emissions" (2008). This paper recommends the adoption of the risk assessment tools developed by the California EPA's Office of Environmental Health and Hazard Assessment for carcinogenic and non-carcinogenic risk based DPM concentration levels. **We recommend the use of these risk assessment tools in investigating the potential impact of the MBT.** (See health risk assessment guidance from California's Office of Environmental Health and Hazard Assessment at http://www.oehha.ca.gov/pdf/HRSguide2001.pdf)

A study of air toxins in the Tacoma and Seattle area was completed using these risk assessment tools (October 2010). Among many other findings, this study demonstrated that DPM contributed *over 70%* of the potential airborne pollutant cancer risk in the Seattle area. (See References: DPM.)

This study did not, however, quantify the risks spatially, relative to a specific source such as the railway corridor or the terminal operation. The highest exposure risks of DPM from the MBT will occur to populations in close proximity to the tracks, the terminal, and shipping lanes. **Thus, we recommend that the near source health effects be quantified spatially all along all transportation corridors, not just for the terminal site. This will necessarily include all railway and vessel corridors.**

Modeling should use either the California Office of Environmental Health Hazard Assessment tools and modeling protocol or the EPA Air Toxics Community Multiscale Air Quality Model to predict multiple pollutant effects on the affected communities. The modeling protocol should be approved by the Washington Department of Ecology and the EPA. The modeling should be performed by independent consultants familiar with the models and with interpreting the results of the models.

If any mitigation measures including, but not limited to, construction of a terminal building to enclose piles of coal, covered rail cars at the project site, other pollution control devices, ultra-low

sulfur fuel specifications, and late model diesel locomotives are used in emissions estimates and models, those assumptions should be listed in the FEIS as **required** mitigation.

The Columbia Basin and Portland/Vancouver metropolitan areas experience temperature inversions, which can dramatically increase pollutant concentrations. Thus, the analysis must include not only effects of pollutants near the transportation corridor under normal weather conditions, but also under temperature inversion conditions.

Because this would be the largest coal export facility in the US, it is imperative that a HIA is produced and that the HIA is a state-of-the art assessment that takes a comprehensive approach to health and health care costs, while incorporating the values of equity, environmental justice, democracy, sustainable development, and ethical use of evidence. Please utilize the full resources available on EPA's EJ Screen.

Please answer public health and safety questions submitted during the scoping process, including those listed in Exhibit: "OPSR Scoping Comments for MBT #1."

The HIA is a very important tool for decision makers and must be made available so the public can review and comment on it. Because this action will not be accomplished during the DEIS comment period, the public must be provided the opportunity to comment on a draft HIA before a Final HIA is produced. (3327)

### Response to HC-31

Refer to Response to HC-1 regarding air quality-related health impacts evaluated in the EIS and the development of an HIA**.**

## Comment HC-32

I am concerned that the DEIS does not incorporate a Health Impact Assessment for the public to review and comment on prior to the final EIS being completed. Diesel particulate matter, coal dust, and noise exposure are associated with a wide range of serious health effects. (1165)

### Response to HC-32

Refer to Response to HC-1.

## Comment HC-33

The Draft EIS reveals many serious impacts to human health and the environment. It dismisses other impacts without a valid basis. The Final EIS should incorporate the best available science, real world examples, and a comprehensive Health Impact Assessment. The agencies undercut public, tribal, and agency input by failing to complete a Health Impact Assessment before releasing the Draft EIS. (2325)

### Response to HC-33

Refer to Response to HC-2.

# Comment HC-34

Overall, the DEIS lacks detail and overall substance in regards to the human health impacts of the proposed terminal. A comprehensive Health Impact Statement should be performed in order to give proper consideration to human health in this process. (2114)

## Response to HC-34

Refer to Response to HC-1.

# Comment HC-35

Under Washington's State Environmental Policy Act (SEPA), an election to conduct a Health Impact Assessment as part of the EIS would compel the EIS to include analysis of division or disruption to communities, impacts on disadvantaged populations, and environmental justice. (3353)

## Response to HC-35

Draft EIS Chapter 3, Section 3.2, *Social and Community Resources*, included an assessment of community cohesion and disproportionate impacts on low-income and minority populations.

Refer to Response to HC-1.

# Comment HC-36

The HIA should have been done by the time the DEIS was released.

We request that the HIA, when completed, thoroughly looks at the following impacts and includes a public comment process:

1. Please show a pollution contours map (isopleths) that will look at the Diesel Particulate Matter (DPM) and other toxins that people will be exposed to up to two miles from the track at various distances, that is, 50 feet, 100 feet, 200 feet etc.
2. Please show how many people live within the above feet distances along the entire transportation routes, and have that analysis also include projected populations. How many of them are children, the elderly, people of color, and have underlying diseases, and live in poverty?
3. List the number of schools, hospitals, assisted living facilities, libraries, and other places that people congregate on a daily basis within two miles of the tracks along the transportation routes.
4. Show the increased risks for heart attacks, strokes, COPD exacerbations, pulmonary and cardiovascular disease, cancer, asthma, ER visits, etc. from increased DPM on current and projected populations. Who pays for the costs and what are the economic costs?
5. Particular attention needs to be paid to communities near a rail yard, and not just tracks. Please read "Experiences of a Rail Yard Community: Life is Hard," in Vol. 77 Number 2 of *Journal of Environmental Health*, September 2014. (2515)

### Response to HC-36

Refer to Response to HC-1 regarding air quality-related health impacts evaluated in the EIS and the development of an HIA.

## Comment HC-37

The 16 trains generated by the proposed MBT in uncovered cars could have real consequences for health along the rail routes. In just over 400 miles of rail travel the average 125-car coal trains would emit 12,125 pound of coal dust, even under good conditions. We request the HIA to show:

1. The effects of coal dust and spills along the rail routes, especially on farmland, waters, and grazing animals used for human consumption.
2. How many children, elderly, those with health problems, etc. will be exposed to coal dust?
3. The life of the MBT terminal is 50 years. The study should look at the cumulative effects of coal dust and health during the operation life of the terminal along the rail ways.
4. Will the coal dust need to be cleaned up? If so, how much will it cost and who pays for it?
5. Look at the return cars on the way back to the mines. Carryback coal is in the hoppers since they are not completely emptied at the terminal. Please analyze the loss of the residual dust from the carryback coal. (2515)

### Response to HC-37

Refer to Response to HC-1 regarding the development of an HIA**.** Also refer to the Master Response for the Health Impact Assessment. Final EIS, Section 5.7, *Coal Dust*, describes environmental impacts related to coal dust that could result from construction and operation of the Proposed Action.

## Comment HC-38

Noise pollution is a known contributor to health problems. According to Oregon Physicians for Social Responsibility it can cause sleep disturbance, cardiovascular disease, stroke and ischemic heart disease, cognitive impairment in children, hypertension, arrhythmia and increased rate of accidents and injuries along with an exacerbation of mental health disorders. It is difficult to get a Federal Railroad Administration approved quiet zone in train neighborhoods. The HIA should:

1. Determine which rail cities are at greater risk for noise and vibration, and who lives in those communities. Please use noise isopleths.
2. Look at squeaking wheels, train engines horn blasts within 50, 100 feet and so on for up to two miles along the entire transportation routes.
3. At grade crossings have horns blowing. How many at grade crossings are there on the rail routes? How many trains go through, of all kinds, are on the tracks. At what times? How many are during the typical sleeping hours?
4. Interviews should be conducted in higher risk communities for noise about sleeping patterns, concerns, and disturbances. Please also look at the research on noise pollution and especially train noise pollution.

5. What if train noise can't be mitigated who pays for health care increases that may result from increased noise pollution? (2515)

### Response to HC-38

Refer to Response to HC-1 regarding the development of an HIA**.** Also refer to the Master Response for the Health Impact Assessment. Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*, evaluated potential noise impacts and identified mitigation to reduce those impacts. The section states that if the mitigation is not implemented, and Proposed Action-related train horns are sounded for public safety, then the potential for exposure to moderate and severe noise impacts would remain and would be an unavoidable and significant adverse environmental impact.

## Comment HC-39

Health Impacts of Climate Change: The DEIS says that about 37.6 million metric tons of greenhouse gas emissions would occur over a 20 year period, if the terminal is built. This includes construction. The fact sheet states that possible impacts from greenhouse gas emissions are global. They could increase forest fires, melt more snow and ice, cause risks to forests, fish, wildlife, agriculture, freshwater supplies, tourism, irrigation and so forth. These all have health risks. The HIA should:

1. Consider the impacts of increased forest, field and brush fires on rail communities.
2. Consider the impacts of increased heat on urban communities. Heat waves cause more deaths in the world than cold streaks.
3. What populations are most vulnerable to global climate change and why?
4. Will severe weather due to global climate change cause problems such as heavy winds and rain, landslides, etc. Who will pay for the deaths, injuries and the relocations of those who suffer from any of the above?
5. Will we see an increase of West Nile Virus or Lyme diseases or others as the climate warms?
6. What about impacts that is disproportionate on low income communities and communities of color? They need to be studied. (2515)

### Response to HC-39

Refer to Response to HC-1 regarding the development of an HIA**.** Also refer to the Master Response for the Health Impact Assessment. Final EIS, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, describes the potential climate change impacts on the Proposed Action.

## Comment HC-40

Surfactants: Coal is uncovered and at the mines it is applied to keep coal dust down. But we know little about it. The HIA should consider

1. Which surfactants will be used?
2. What are the hazards to humans who apply it, and who breathe it in during transit?
3. Have any of the surfactants been tested for chronic toxicity?
4. What are the longer term human and environmental health impacts?

5. Can it leach out of cars during rainstorms? (2515)

### Response to HC-40

Refer to Response to HC-1 regarding the development of an HIA**.** Also refer to the Master Response for the Health Impact Assessment. Draft EIS, Chapter 4, Section 4.5, *Water Quality*, describes surfactants that would likely be used on coal transported to the proposed export terminal and potential impacts.

## Comment HC-41

In conclusion, please read the studies below and include a thorough, detailed, mines to rails to facility HIA. Thousands of people in Spokane County alone will be exposed to increased air pollution from the sheer number of trains from this proposal. (2515)

### Response to HC-41

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

## Comment HC-42

The air pollution associated with a dramatic increase of 16 additional coal trains per day through Montana communities and rural areas along the rail lines would have serious public health impacts for local residents. Cumulatively, thousands of Montanans live near the rail lines and would experience these increased health risks. The health impacts associated with this project should be included in the MBTL DEIS; however, it is our understanding that the health impact assessment (HIA) for MBTL's proposed action is not included in this DEIS. It is also our understanding that the HIA will not be completed until a review of the DEIS has been completed by an HIA Steering Committee. (2504)

### Response to HC-42

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

## Comment HC-43

Take, for example, the effect of use and transport of coal upon HEALTH. The health of people is affected all the way from the Powder River in Montana and Wyoming to the Asian nations where it will probably be burned to… back to Washington, Oregon, California, British Columbia, where we will breathe in the potential pollution. (2245)

### Response to HC-43

Refer to Response to HC-1 regarding air quality-related health impacts evaluated in the EIS and the development of an HIA**.** Also refer to the Master Response for the Health Impact Assessment. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment HC-44

The DEIS is inadequate by not having a Heath Impact Assessment and in not looking at rail communities beyond Washington State and the many negative problems they face. (3468)

## Response to HC-44

Refer to Response to HC-1 regarding the development of an HIA**.** Also refer to the Master Response for the Health Impact Assessment. The Master Response for Geographic Study Areas of the EIS explains the rationale for the study areas analyzed in the EIS.

# Comment HC-45

The Final EIS should incorporate the best available science, real world examples, and a comprehensive Health Impact Assessment. The agencies undercut public, tribal, and agency input by failing to complete a Health Impact Assessment before releasing the Draft EIS. (2511)

## Response to HC-45

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

# Comment HC-46

One element that is clearly missing from the DEIS is the Health Impact Assessment agreed upon in June 2015. Until that assessment is complete, no final Environmental Impact Statement (EIS) should be published. (3465)

## Response to HC-46

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

# Comment HC-47

Separate and parallel to the environmental review process is the development of a Health Impact Assessment. Information about the Health Impact Assessment is not provided in this Draft EIS. No information is provided on the timing of the release of the Health Assessment document. Page S-2 (2572)

## Response to HC-47

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

# Comment HC-48

I think the health portion of the DEIS was woefully inadequate. We need a more extensive health impacts assessment.

I have been speaking with a number of people, dozens of people in the Highland neighborhood right down close to Industrial. Many of them were not able to make it today. Many of them are ill with cardiovascular illnesses due to the current contamination in that neighborhood.

Of course six or eight trains a day full and eight trains empty coming through this neighborhood will not only prevent injured mill workers from getting medical treatment and cause a lot of congestion for people transitioning in and out of the area, blocking of course the Lewis & Clark Bridge, emergency vehicles being disrupted in reaching fires and injuries. Diesel particulates from those trains will impact the health of people in the area.

These are also some of the most vulnerable people in the city of Longview that will have to live next to those massive piles of coal that will be blowing coal dust 24/7 into their neighborhoods, and will compound their already tenuous health situations in the neighborhood with many children, elderly people who are already on inhalers, already have asthma, and a number of other illness directly related to the existing releases of VOCs and PAHs and diesel particulates, which of course increase in the area.

Combined with the particulate contamination from the coal will produce devastating health impacts, which of course will cost the community millions of dollars in lost wages, lost days of work, in medical care. Many of those people lack health insurance or are underinsured. These are costs that have to be looked at by the County and the City.

And of course with the coal industry and decline worldwide with a number of major coal companies going bankrupt within the last six months, it's likely that there will be a massive superfund site of contamination that the people of Cowlitz County and Longview will be required to pay for the cleanup of that site.

So I think that the health impacts really need to be looked at more thoroughly. I do think that in particular the disadvantaged in the vulnerable communities in the Highlands neighborhood need to be directly contacted by Cowlitz County as well as the County Health Authority. I think more work needs to be done in determining what the risks are to those communities, and that there is no mitigation for this. (TRANS-LV-Q3-00042)

### Response to HC-48

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

## Comment HC-49

The EIS does not contain any estimates of the various health impact caused by diesel particulate matter and the health of future generations.

It does not contain any estimate of the health impacts on minority and low income populations. The Website of the EIS contains the title Health Impact Assessment. No report exists. Until that report is available for public comment, you should select a no action option. (TRANS-LV-M2-00046)

### Response to HC-49

Draft EIS Chapter 5, Section 5.6, *Air Quality*, evaluated potential impacts on air quality. Final EIS Chapter 5, Section 5.6, *Air Quality*, and the *SEPA Air Quality Technical Report*, have been revised to address inhalation cancer risk from diesel particulate matter emissions. Final EIS Section 5.6 includes an evaluation of potential air quality impacts on the Highlands Neighborhood. Refer to Response to HC-1 regarding the development of an HIA**.** Also refer to the Master Response for the Health Impact Assessment.

# Comment HC-50

The DEIS fails by minimizing health impacts. The health and environmental risks defined in the DEIS present unavoidable and significant adverse impacts in Longview, Washington state, and communities across the Northwest. The suggestions for mitigation are inadequate and largely depend on measurements of contamination after exposures to hazardous materials, physical agents or situations have occurred. The mitigation proposed is inadequate in that significant health impacts will already have been experienced. Short term and intermittent exposures are not given appropriate consideration. No real attempt is made on the part of the applicant to prevent exposures resulting from its projected activities. It can therefore be predicted that adverse health impacts will result from this project. Although the DEIS described risks to communities, it minimizes them and does not examine or predict with data the potential real risks resulting from its proposed actions. Therefore, I ask a formal health impact assessment be conducted with public review and be included in the final EIS. (TRANS-LV-M1-00030)

## Response to HC-50

Refer to Response to MIT-1 regarding the adequacy of mitigation.

Refer to Response to HC-1 regarding the development of an HIA**.** Also refer to the Master Response for the Health Impact Assessment.

# Comment HC-51

A health impact assessment is needed to determine how much diesel particulate matter will people be exposed to living at various distances from the tracks. The diesel exhaust we know causes asthma, heart disease, stroke. It exacerbates COPD, and is a known carcinogen.

What is the economic impact of emergency room visits in hospitalizations and who will pay for these costs?

Coal dust contains toxic metals like mercury, lead, arsenic, and cadmium. What are the estimated effects of chronic exposure to these compounds on neonatal and childhood development, including autism, ADHD, learning disabilities, et cetera. What is the impact of noise pollution, the excessive rumbling of heavy trains and piercing whistles on living within earshot of the tracks, causing sleep disorders, anxiety, depression, hypertension, and heart disease? (TRANS-LV-M1-00001)

## Response to HC-51

Refer to Response to HC-1**.** Also refer to the Master Response for the Health Impact Assessment.

# Comment HC-52

I request that a comprehensive Health Impact Assessment with a public review process be included in the Final EIS. (3814)

## Response to HC-52

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

# Comment HC-53

At the very least we insist that a Health Impact Assessment be included in the EIS. A proposal of this immense magnitude must include a thorough assessment of the serious health risks. Social justice and public health protection demand it. (3659)

## Response to HC-53

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

# Comment HC-54

Because this coal export project would be huge - the largest in the nation, we also urge you to complete a state-of-the-art Health Impact Assessment that includes a public review process. Such an assessment should thoroughly identify the ways in which this project could impact human health in Longview and across our region. (3658)

## Response to HC-54

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

# Comment HC-55

I urge the agencies to incorporate the best available science, real world examples, and the Health Impact Assessment in the Final EIS. (3655)

## Response to HC-55

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

# Comment HC-56

Most glaring and quite unbelievably, the DEIS limits itself to "look and cleanliness factors" not the health of residents and the environment. DEIS needs a comprehensive health assessment we are neighbors! We care about their health. (3652)

## Response to HC-56

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

# Comment HC-57

How will increased exposure to arsenic impact environmental justice communities living closest to the train tracks and to the terminal? We respectfully request that this information be disclosed in a high-quality Health Impact Assessment with a public review. (3646)

## Response to HC-57

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

# Comment HC-58

Regarding the DEIS: a scientific study must be made of the health impact of Millennium project activities upon this community. None, I repeat, none was involve in the DEIS. Seriously, isn't this where an EIS should begin. I urge this be done and then reject this harmful project. (3595)

## Response to HC-58

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

# Comment HC-59

I am very much concerned that there does not appear to be any attention given to health issues of people who are impacted by this project. The numbers of people affected are huge--the entire population along the route of the coal trains as well as those who work directly with and on the project. I think a study needs to be made of the potential impact on health of all concerned before a truly informed decision can be made on this project. (3509)

## Response to HC-59

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

# Comment HC-60

The lack of a completed Health Impacts Assessment egregious. All along the rail line there will be health impacts. (3479)

## Response to HC-60

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

# Comment HC-61

Also, I am very concerned that the DEIS does not incorporate a Health Risk Assessment. Coal pieces and coal dust particulate matter escaping from coal cars and diesel particulate matter are all a serious public health risk to people (particularly children) along the rail lines and to the Spokane River and other inland NW Rivers, waterways and wildlife. (3382)

## Response to HC-61

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

# Comment HC-62

If this project moves forward, I request that a comprehensive, independent Health Impact Assessment, that includes a public review process, be completed before a Final EIS is released. (3238)

### Response to HC-62

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

## Comment HC-63

If this project moves forward, we request that a comprehensive, independent Health Impact Assessment, including a public review process, be completed before a Final EIS is released. (3068)

### Response to HC-63

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

## Comment HC-64

So I have some proposals of what's not seen in the EIS. The first is a health section. We've heard nurses testify to the need for a health section. This is totally omitted. (TRANS-SPOKANE-M2-00045)

### Response to HC-64

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

## Comment HC-65

When will the Health Impact Assessment (HIA) be done and will we see it before the end of the comment period? The lack of completed HIA is a serious deficiency in the DEIS. (2497)

### Response to HC-65

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

## Comment HC-66

"In terms of cost, we looked at a pharmacology study that says the direct and indirect cost of the diseases and the cost of citizens and businesses in the state healthcare institutions are $190 million a year. They were talking about $10 million in tax revenue compared to a baseline of $190 million a year in healthcare… For every dollar that the coal companies made there was five dollars in public expense." Dr. Frank James, Family Physician and Public Health Officer in Bellingham, WA Please study the cost this will have on all the states the trains will be going through. (0652)

### Response to HC-66

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

## Comment HC-67

Human Health- The specific detrimental effects of coal dust shedding, increased diesel exhaust emissions, increased noise generated by coal trains and barges, and the increased carbon footprint generated by coal exports for consumption by Asian countries. One major critical human health and

environmental issue to he analyzed is the C02 emissions generated by each metric ton exported that will contribute to pollution of the earth's atmosphere and global warming. (2980)

### Response to HC-67

Refer to Response to HC-1 regarding air quality-related health impacts evaluated in the EIS and the development of an HIA**.** Also refer to the Master Response for the Health Impact Assessment.

Environmental impacts associated with the combustion (burning) of coal and carbon dioxide emissions were addressed in Draft EIS, Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*.

## Comment HC-68

Many commenters have called attention to the health effects of coal dust as air pollution. Health data from other coal communities should be presented and acknowledged as a cost Millennium is asking the Longview area to accept. (1980)

### Response to HC-68

Refer to Response to HC-1**.** Also refer to the Master Response for the Health Impact Assessment.

## Comment HC-69

In addition, I am also concerned about the long term impacts of this plan as well. I don't feel that sufficient attention was given to the accumulation of potential environmental and health hazards over long periods of time. An assessment was done in terms of the "small amounts," of accumulation, implying the amounts are indiscriminate, but what do these small amounts mean over time for health impacts on children and more vulnerable population, for fish and wildlife population and the local environment, and for the health of the planet overall in terms of climate change? Mercury for example, builds in the body over time, so while initial amounts may be small, what will those amounts be after many years? People at the meeting asked for a more in depth human health assessment, and I agree the public deserves this information. (2580)

### Response to HC-69

Under SEPA, an EIS is required to focus on the environmental impacts of a proposal and its alternatives. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for this scope and focus. Refer to Response to HC-1 regarding air quality-related health impacts evaluated in the EIS and the development of an HIA**.**

## Comment HC-70

In my opinion the Draft EIS because it fails to consider the public health implications associated with the transportation, storage and use of coal.

The impact of diesel in increase of noise from trains together with coal dust and associated toxins: Lead, mercury, arsenic, oxide; and ozone associated with burning coal need to be recognized; downstream use; as well as chronic diseases, as the last gentleman mentioned, are directly associated with coal emissions. (TRANS-SPOKANE-M1-00052)

### Response to HC-70

Refer to Response to HC-1 regarding air quality-related health impacts evaluated in the EIS and the development of an HIA. Also refer to the Master Response for the Health Impact Assessment. Draft EIS Chapter 5, Section 5.5, *Noise and Vibration*, analyzed impacts related to noise caused by train traffic.

## Comment HC-71

While those with chronic disease, the elderly, young children, and pregnant women are most at risk, the health effects from particulate matter exposure may occur years later. Even healthy individuals need to be concerned. These issues must be addressed, analyzed, and their consequences fully considered in the EIS. The MBTL facility will directly lead to an increase in the burning of coal. The link between increased coal burning and associated public health problems cannot be ignored and should be included, analyzed, and the consequences fully considered in the EIS. (3829)

### Response to HC-71

Environmental impacts associated with the combustion (burning) of coal are addressed in the Draft EIS, Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change*, and Appendix I, *Sulfur Dioxide and Mercury Emissions*. Refer to Response to HC-1 regarding air quality-related health impacts evaluated in the EIS and the development of an HIA. Also refer to the Master Response for the Health Impact Assessment.

## Comment HC-72

One area that hasn't been adequately addressed in this DEIS is the issue of fires and how these may cause burn injuries and respiratory problems for individuals in and near the terminal as well as people living in communities along the rail route. (3654)

### Response to HC-72

As discussed in Draft EIS Chapter 3, Section 3.2, *Social and Community Resources,* Cowlitz 2 Fire & Rescue would provide fire-protection services to the project area. Required fire- and life-safety systems, including a fire water pond, would be installed in the project area according to fire code standards. These systems would be regularly inspected and maintained. Draft EIS Chapter 5, Section 5.2, *Rail Safety*, evaluated potential impacts on rail safety, including train accidents.

## Comment HC-73

GAP #4: The Health impact of coal dust especially should be shown for project years and volume of trains till 2038. (3652)

### Response to HC-73

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

# Comment HC-74

Please study the impact of the proposed coal trains on cardiovascular health and health in general. (3647)

## Response to HC-74

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

# Comment HC-75

The EIS should evaluate the human health impact of coal exports on Longview from coal dust and diesel pollution, and should assess how toxic coal will impact the Columbia River. (3426)

## Response to HC-75

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

# Comment HC-76

The Draft Environmental Statement for the Millennium Bulk Coal Terminal in Longview, WA: (1) does not mention important negative environmental, public health, and economic impacts; (2) discounts and underestimates harm from what is mentioned. (3392)

## Response to HC-76

The commenter has not specifically identified which impacts were omitted or where the impacts were underestimated. The Draft EIS was prepared in accordance with the SEPA Rules and Cowlitz County Code. The Master Response for Purpose and Focus of the EIS outlines the resources addressed in the EIS and explains the basis for this scope and focus.

# Comment HC-77

Although the DEIS describes risks to communities, it minimizes them and does not examine or predict with data the potential health risks resulting from its proposed actions. The community may gain relatively few, unsafe and unhealthy jobs at the expense of the increased infrastructure and health care costs and shortened life expectancies. (3327)

## Response to HC-77

Refer to Response to HC-1. Also refer to the Master Response for the Health Impact Assessment.

# Comment HC-78

Health impacts of coal dust were evaluated for Washington State only (DEIS Section 5.7). Of special concern were particles 10 microns and smaller, referred to as PM10 sized particles, and those 2.5 microns and smaller, PM2.5 sized particles. PM10 and PM2.5 particles are small enough to penetrate deep into the lungs and may even enter the bloodstream. Air monitoring equipment operated by Washington State along BNSF main lines detected no exceedances of federal standards.

However, an important shortcoming of the DEIS is the failure to address the long-term health risk over the lifetime of the proposed action (expected to be a minimum 30 year period, DEIS Page 2-11). Clearly, there would be long-term health consequences to residents in the vicinity of rail lines from the liberation of PM10 and PM2.5 particles from 2,920 loaded coal trains traveling each year for 30 years. Evidence that significant particulates are emitted from coal trains is bolstered by the existing need to reapply surfactant topper agents one additional time during transport from the Powder River origin to the Longview, Washington destination. The extremely small size of PM10 and PM2.5 particles (the human red blood corpuscle is 7 microns in diameter) makes them invisible, broadly dispersible into the human environment, and present as an undefinable and adverse long term impact upon human health. (2233)

## Response to HC-78

Refer to Response to HC-1 regarding air quality-related health impacts evaluated in the EIS and the development of an HIA**.** Also refer to the Master Response for the Health Impact Assessment.

# Chapter 8
# Responses to Comments Index

This chapter presents an index of substantive comments responded to in Chapters 2 through 7 of this volume. Each comment number includes a topic abbreviation corresponding to the chapter or section in which it is presented and responded to (Table 8-1). Comment numbers are presented by commenter in Table 8-2.

**Table 8-1. Response to Comments Chapters/Sections and Corresponding Abbreviations**

| Chapter/Section | Abbreviation |
|---|---|
| **Chapter 2, *Responses to Comments—Project Objectives, Proposed Action, and Alternatives*** | |
| Section 2.1, Project Objectives | PO |
| Section 2.2, Proposed Action | PA |
| Section 2.3, Alternatives | ALT |
| **Chapter 3, *Responses to Comments—Built Environment*** | |
| Section 3.1, Land and Shoreline Use | LSU |
| Section 3.2, Social and Community Resources | SC |
| Section 3.3, Aesthetics, Light, and Glare | ALG |
| Section 3.4, Cultural Resources | CR |
| Section 3.5, Tribal Resources | TR |
| Section 3.6, Hazardous Materials | HZ |
| **Chapter 4, *Responses to Comments—Natural Environment*** | |
| Section 4.1, Geology and Soils | GS |
| Section 4.2, Surface Water and Floodplains | SWF |
| Section 4.3, Wetlands | WTL |
| Section 4.4, Groundwater | GW |
| Section 4.5, Water Quality | WQ |
| Section 4.6, Vegetation | VEG |
| Section 4.7, Fish | FSH |
| Section 4.8, Wildlife | WLF |
| Section 4.9, Energy and Natural Resources | ENR |
| Section 4.10, Coal Spills | CS |
| **Chapter 5, *Responses to Comments—Operations*** | |
| Section 5.1, Rail Transportation | RT |
| Section 5.2, Rail Safety | RS |
| Section 5.3, Vehicle Transportation | VEH |
| Section 5.4, Vessel Transportation | VES |
| Section 5.5, Noise and Vibration | NV |
| Section 5.6, Air Quality | AQ |
| Section 5.7.1, Coal | COAL |
| Section 5.7.1, Coal Dust Emissions | CD |
| Section 5.8.1, Coal Market Assessment | CMA |
| Section 5.8.2, Greenhouse Gas Emissions and Climate Change | GHG |

| Chapter/Section | Abbreviation |
|---|---|
| **Chapter 6, *Responses to Comments—Cumulative Impacts*** | |
| Cumulative Impacts | CM |
| **Chapter 7, *Responses to Comments—Other Topics*** | |
| Section 7.1, SEPA Process | SEPA |
| Section 7.2, Scope of Analysis | SCOPE |
| Section 7.3, Public and Agency Outreach | PAO |
| Section 7.4, Agency Coordination and Consultation | ACC |
| Section 7.5, Comment Period Extension | CP |
| Section 7.6, General Mitigation | MIT |
| Section 7.7, Health Impact Assessment and Overall Health Concerns | HC |

**Table 8-2. Index for Substantive Comments on the Draft EIS**

| Commenter | Commenter Identifier | Comment Code |
|---|---|---|
| **Federal Agencies** | | |
| U.S. Environmental Protection Agency | 3306 | AQ-42, CMA-105, GHG-81, NV-5, NV-6, RS-6, RT-21, TR-10, VEH-10 |
| U.S. Fish and Wildlife Service | 3458 | AQ-50, CD-76, FSH-22, GHG-83, SC-19, SEPA-19, VEH-63 |
| U.S. Forest Service | 2501 | SCOPE-12 |
| U.S. National Park Service | 2432 | CR-3, CR-18, GHG-92, RT-68, SCOPE-33, SEPA-20, VES-31, VES-32 |
| **State Agencies** | | |
| Washington Department of Fish and Wildlife | 3059 | FSH-23, FSH-24, FSH-25, FSH-26, GHG-122, RT-28, WLF-19, WLF-20 |
| Washington State Department of Health | 2823 | AQ-43, GHG-82, SC-18, VEH-17 |
| Washington State Department of Natural Resources | 2691 | ACC-1, CD-23, CD-123, CD-124, CD-125, CD-126, CM-42, CM-43, CMA-83, CR-4, CR-5, CR-6, CR-7, CR-8, CR-9, CR-10, CR-11, CR-12, CR-13, CR-14, CR-15, CR-16, FSH-32, FSH-33, FSH-34, FSH-35, FSH-36, FSH-37, FSH-38, FSH-39, FSH-40, FSH-41, FSH-42, FSH-43, FSH-44, FSH-54, FSH-55, GHG-8, GHG-31, GHG-53, GHG-93, GHG-119, GHG-120, GHG-141, GHG-157, GHG-165, GS-4, GS-8, GS-9, RS-5, RS-12, RT-45, SC-31, SCOPE-34, SWF-4, SWF-5, VEG-4, VEG-5, VES-33, VES-34, VES-35, VES-36, WLF-22, WLF-23, WQ-21, WQ-22, WQ-23, WQ-24, WQ-25 |
| Washington State Department of Transportation | 2734 | CM-24, CM-25, RT-22, RT-23, RT-24, VEH-11, VEH-12, VEH-13, VEH-14, VEH-15, VEH-16 |
| Washington Utilities and Transportation Commission | 3311 | NV-7, RT-26, VEH-18, VEH-19, VEH-20, VEH-21, VEH-22, VEH-23, VEH-24, VEH-64 |

| Commenter | Commenter Identifier | Comment Code |
|---|---|---|
| **Local and Regional Agencies** | | |
| City of Livingston, MT | 2444 | SCOPE-42 |
| City of Missoula, MT | 2599 | SCOPE-50 |
| City of North Bonneville, WA | 2980 | AQ-4, CD-61, CD-62, CMA-21, FSH-9, GHG-162, HC-67, PA-10, PA-11, RS-24, RS-25, SCOPE-52, SCOPE-53, SCOPE-54, SCOPE-55, SEPA-8, WLF-12, WLF-13 |
| City of Olympia, WA | 2453 | CD-53, VEH-50 |
| City of Portland, OR | 0489 | AQ-83, SC-49 |
| City of Portland, OR | 3068 | HC-63, SCOPE-78 |
| City of Seattle, WA | 3127 | RT-52, RT-53, SC-45, SC-50, TR-26 |
| City of Stevenson, WA | 2990 | CD-177, SCOPE-79 |
| City of Tacoma, WA | 3455 | SCOPE-72 |
| City of Vancouver, WA | 2745 | CD-60, CM-14, GHG-49, VEH-53 |
| City of Washougal, WA | 3166 | VEH-57, VEH-76, VEH-77, VEH-78 |
| City of Whitefish, MT | 2247 | RT-55, SCOPE-40 |
| Columbia River Gorge Commission | 3107 | AQ-36, AQ-37, CD-67, CD-68, RT-25, SC-17, SCOPE-9, SCOPE-10, SCOPE-11 |
| Missoula City-County Health Department-County Air Pollution Control Board, MT | 2497 | AQ-80, GHG-48, HC-65, RT-69, SCOPE-45 |
| Multnomah County, OR | 3238 | HC-62 |
| Port of Longview, WA | 3326 | GHG-11, RT-51, VES-49 |
| Thurston County, WA | 3461 | RT-73 |
| **Elected Officials** | | |
| City of Camas, WA, Mayor Scott Higgins | 3656 | VEH-74 |
| City of Hood River, OR, Mayor Paul Blackburn | 3223 | CD-163, SCOPE-77 |
| City of Spokane, WA, City Council President Ben Stuckart | TRANS-SPOKANE-M1-00052 | SC-69, SCOPE-62 |
| City of Vancouver, WA, City Council Member Alishia Topper | TRANS-LV-M2-00048 | VEH-73, VEH-80 |
| Congress of the United States House of Representatives: Senator Michael Enzi, Senator John Barrasso, Representative Cynthia Lummis | 3459 | GHG-96 |
| State of Montana, Attorney General Tim Fox | 3112 | GHG-61, GHG-99, GHG-100 |
| State of South Dakota, Governor Dennis Daugaard | 2991 | GHG-102 |

| Commenter | Commenter Identifier | Comment Code |
|---|---|---|
| State of Wyoming, Governor Matthew Mead | 2499 | COAL-5, GHG-71 |
| State of Wyoming Legislature Select Committee on Federal Natural Resource Management: Representative Norine Kasperik; Senator Eli Bebout | 2234 | GHG-69 |
| Washington State Representative Joe Schmick, 9th Legislative District | 3457 | GHG-84 |
| Washington State Legislature: Representative Joe Fitzgibbon, 34th District; Representative Patty Kuderer, 48th District; Representative Sherry Appleton, 23rd District; Representative Gael Tarleton, 36th District; Senator Pramila Jayapal, 37th District; Senator Kevin Ranker, 40th District; Representative Kristine Lytton, 40th District; Representative Strom Peterson, 21st District; Representative Brady Walkinshaw, 43rd District; Representative Marcus Riccelli, 3rd District; Representative Cindy Ryu, 32nd District; Representative Ruth Kagi, 32nd District; Representative Joan McBride, 48th District; Senator John McCoy, 38th District; Representative Lilliam Ortiz-Self, 21st District; Representative Sam Hunt, 22nd District | 3253 | CD-79, RT-29, SC-56, SCOPE-13, TR-12 |
| **Tribes and Tribal Representation** | | |
| Coeur D'Alene Tribe | 3213 | AQ-90, HC-5, HC-6, HC-7, HC-8, HC-9, HC-10, HC-11, HC-12, SC-21, SC-22, SC-24, SCOPE-14, SCOPE-15 |
| Columbia River Inter-Tribal Fish Commission | 3287 | AQ-20, AQ-21, CD-66, FSH-10, FSH-11, FSH-12, FSH-13, FSH-14, FSH-15, FSH-16, VES-17, VES-18, WQ-3, WQ-12, TR-11 |
| Confederated Tribes of the Umatilla Indian Reservation | 3302 | CM-26, MIT-3, SEPA-5, SEPA-6, WQ-5, WQ-13, SCOPE-17, TR-13 |
| Cowlitz Indian Tribe | 3227 | ALT-3, ALT-4, ALT-5, CD-75, CP-1, CR-2, CS-7, FSH-17, FSH-18, FSH-19, FSH-20, FSH-21, GHG-163, GS-1, GS-5, GS-7, GW-4, GW-9, MIT-4, PO-2, PO-3, PO-4, RT-27, |

| Commenter | Commenter Identifier | Comment Code |
|---|---|---|
| | | SWF-2, SWF-3, VEG-2, WLF-15, WLF-16, WLF-17, WLF-18, WQ-14, WQ-15, WQ-16, WTL-1, WTL-3 |
| Cowlitz Indian Tribe | TRANS-LV-M1-00017 | VES-41 |
| Cowlitz Indian Tribe | TRANS-LV-M2-00021 | WLF-27 |
| Swinomish Indian Tribal Community | 3424 | TR-16 |
| Upper Columbia United Tribes | 3468 | GHG-158, HC-44, TR-17, TR-29, TR-30 |
| **Organizations** | | |
| Association of Washington Business | 2939 | GHG-87, GHG-88, PO-7, SEPA-1 |
| Black Hills Audubon Society | 2558 | HC-1, WLF-3 |
| Citizens for Sensible Transportation Planning | 0478 | AQ-12, CD-3, CD-4, CD-90, CD-91, CM-35, SEPA-3, SEPA-4, VEH-1, VEH-2, VEH-26 |
| Climate 911 | 2529 | CD-55, GHG-103, GHG-161 |
| Climate Solutions | TRANS-SPOKANE-M2-00062 | CMA-84 |
| Columbia River Bar Pilots | 2342 | VES-3 |
| Columbia River Steamship Operators' Association, Inc. | 2265 | GHG-2, VES-2 |
| Earthjustice | 3277 | ALT-6, AQ-22, AQ-23, AQ-24, AQ-25, AQ-26, AQ-27, AQ-28, AQ-29, AQ-30, AQ-31, AQ-32, AQ-33, AQ-34, AQ-70, AQ-71, AQ-72, AQ-73, AQ-74, CD-80, CD-81, CD-82, CD-83, CD-84, CD-85, CD-86, CD-87, CD-88, CD-89, CD-178, CD-180, CD-192, CM-27, CM-28, CM-29, CM-30, CM-31, CM-32, CM-33, CM-34, CMA-39, CMA-40, CMA-41, CMA-42, CMA-43, CMA-44, CMA-45, CMA-46, CMA-47, CMA-48, CMA-49, CMA-50, CMA-51, CMA-52, CMA-53, CMA-54, CMA-55, CMA-56, CMA-57, CMA-58, CMA-59, CMA-60, CMA-61, CMA-62, CMA-63, CMA-64, CMA-65, CMA-66, CMA-67, CMA-68, CMA-69, CMA-70, CMA-71, CMA-72, CMA-73, CMA-74, CMA-75, CMA-76, CMA-77, CMA-78, CMA-112, CMA-116, CMA-117, CMA-118, CMA-119, CMA-120, CP-1, CP-2, CR-19, CS-3, FSH-27, FSH-28, FSH-29, FSH-30, FSH-31, GHG-3, GHG-19, GHG-23, GHG-27, GHG-34, GHG-42, GHG-85, HC-19, PA-4, RS-7, RT-31, RT-32, RT-33, RT-34, RT-35, RT-36, RT-62, SC-25, SC-27, SCOPE-18, SCOPE-19, SEPA-9, VEG-3, VEH-25, VES-19, VES-20, VES-21, VES-52, VES-53, WQ-17, WQ-18 |
| Friends of Alaska National Wildlife Refuges | 2712 | AQ-3, CM-11, CM-12, CMA-93, FSH-7, FSH-53, FSH-57, GHG-15, GHG-16, GHG-73, GHG-111, GHG-114, GHG-123, GHG-126, GHG-130, GHG-169, SCOPE-51, VES-57, VES-58, VES-59, VES-60, WLF-5, WLF-7, WLF-8, WLF-10, WLF-31 |
| Friends of Grays Harbor | 0687 | COAL-18, SC-2 |

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|---|---|---|
| Friends of Grays Harbor | 2589 | AQ-1, CM-8, CM-9, CMA-111, FSH-8, FSH-52, FSH-56, GHG-13, GHG-14, GHG-41, GHG-72, GHG-112, GHG-113, GHG-124, GHG-125, GHG-131, GHG-168, SCOPE-49, VES-12, VES-54, VES-55, VES-56, WLF-4, WLF-6, WLF-9, WLF-11, WLF-29, WLF-30 |
| Friends of the Columbia Gorge | 2508 | AQ-35, AQ-78, CD-92, CD-93, CD-94, CD-95, CD-96, CD-97, CD-98, CD-99, CD-100, CD-101, CD-102, CD-103, CD-190, CM-36, CM-37, CM-38, CR-17, CR-20, CS-4, RS-9, RS-10, RS-36, RS-40, RT-38, RT-39, RT-63, RT-64, RT-65, SCOPE-20, SCOPE-21, SCOPE-22, SEPA-10, VEH-27, VEH-28, VEH-29, WQ-8 |
| Friends of Two Rivers | 2233 | AQ-69, CS-6, HC-78, SCOPE-39, VEH-58, VEH-72 |
| Idaho Conservation League | 3492 | CD-184, CD-185, CS-8, HC-21, NV-35, RS-37, SC-52, SCOPE-23, SCOPE-24, VEH-68 |
| Lake Pend Oreille Waterkeeper | TRANS-SPOKANE-Q1-00006 | CD-186 |
| League of Women Voters of Bellingham/Whatcom County | 1743 | CD-17, CD-77, CMA-8 |
| League of Women Voters of Washington | 2535 | GHG-65, MIT-7 |
| Maritime Fire & Safety Association | 2658 | VES-25, VES-26, VES-27, VES-28, VES-29 |
| National Association of Manufacturers | 2987 | GHG-4, GHG-63, GHG-90, GHG-91 |
| National Wildlife Federation | 3329 | CM-47 |
| National Wildlife Federation | TRANS-SPOKANE-M2-00009 | SCOPE-59 |
| New Progressive Alliance | 1910 | AQ-44, AQ-45, CD-104, CD-105, CD-106, CMA-79, VEH-30 |
| Northern Plains Resource Council | 2504 | AQ-79, CMA-80, CMA-81, CMA-82, GHG-149, GHG-167, GHG-24, HC-42, NV-36, RS-38, RT-66, RT-67, SC-68, SCOPE-27, SCOPE-28, SCOPE-29, SCOPE-30, SCOPE-31, VEH-69, VEH-70 |
| Oregon and Washington Physicians for Social Responsibility | 3327 | AQ-55, AQ-56, AQ-57, AQ-58, AQ-59, AQ-60, AQ-61, AQ-62, AQ-63, AQ-64, CD-110, CD-111, CD-112, CD-113, CD-114, CD-115, CD-116, CD-117, CD-118, CD-119, CD-120, CD-121, CD-122, COAL-10, COAL-11, GHG-135, GHG-28, GHG-57, GW-1, GW-5, GW-6, GW-7, HC-28, HC-29, HC-30, HC-31, HC-77, MIT-9, MIT-10, NV-17, NV-18, NV-19, NV-20, NV-21, SC-26, SC-30, SC-58, SCOPE-32, SEPA-15, TR-15, VEH-32, VEH-59, VES-30, WQ-19, WQ-20, WQ-30 |
| Oregon Physicians for Social Responsibility | TRANS-LV-M1-00001 | HC-51, RS-30, VEH-54 |
| Oregon Wild | 2325 | CD-78, HC-33 |

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| Our Children's Trust | 3387 | CM-39, CMA-107, GHG-5, GHG-6, GHG-7, GHG-51, GHG-52, GHG-121, GHG-132, GHG-136, GHG-142, GHG-159, GHG-170, GHG-171, GHG-172, GHG-173, GHG-174, GHG-175, GHG-188, SEPA-16, SEPA-17 |
| Pacific Northwest Waterways Association | 3126 | GHG-12 |
| Safe Energy Leadership Alliance | 2449 | CD-107, RT-40, SC-53, SC-54, SC-65, SCOPE-25, TR-14 |
| Sightline Institute | 3411 | CMA-33, CMA-34, CMA-35, CMA-36, CMA-37, CMA-38 |
| Southwest County Coalition | 2352 | RS-20, SEPA-29, VEH-5 |
| Spokane Riverkeeper | 3280 | AQ-46, AQ-47, CD-108, GHG-55, RS-11 |
| The Lands Council | 2515 | HC-13, HC-36, HC-37, HC-38, HC-39, HC-40, HC-41, SC-63 |
| The Lands Council | 2536 | AQ-91, CD-109, RT-41, RT-42, SC-23, VEH-31, VEH-67, WLF-21 |
| Transportation Division of the International Association of Sheet Metal, Air, Rail and Transportation Workers | 2445 | GHG-70 |
| Transportation Division of the International Association of Sheet Metal, Air, Rail and Transportation Workers | 3406 | GHG-10, GHG-97 |
| Tri-City Regional Chamber of Commerce, WA | 1753 | SEPA-18 |
| U.S. Chamber of Commerce Institute for 21st Century Energy | 3110 | GHG-101 |
| Washington Physicians for Social Responsibility | 3658 | HC-54, RT-43, RT-44, SCOPE-26 |
| Washington Physicians for Social Responsibility | 3659 | HC-53 |
| Washington Public Ports Association | 3168 | GHG-86, RT-37, VES-37 |
| Western Research Institute | 3352 | CMA-109 |
| Willapa Hills Audubon Society | 3465 | AQ-51, AQ-52, AQ-53, AQ-54, CD-127, CD-128, CD-129, CD-130, CD-189, CMA-108, CS-5, FSH-45, FSH-46, FSH-47, GHG-94, HC-46, MIT-18, NV-1, NV-2, RS-13, RS-14, RS-39, SC-32, SCOPE-16, SCOPE-81, TR-18, VEH-33, VES-38, WLF-24, WLF-25, WLF-26 |
| Willapa Hills Audubon Society | TRANS-LV-M2-00109 | FSH-50 |
| Willapa Hills Audubon Society | TRANS-LV-Q3-00031 | FSH-48, FSH-49, GHG-109, TR-22 |
| Wyoming Infrastructure Authority | 2586 | GHG-35 |

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|---|---|---|
| **General Public** | | |
| Alice Suter | 3304 | NV-25, NV-26, NV-27, NV-28, NV-29 NV-30, NV-31, NV-32 |
| Allison Warner | 3426 | CD-157, CM-49, FSH-51, GHG-37, GHG-38, GHG-115, GHG-116, GHG-139, HC-75, LSU-1, MIT-17, SC-44, SCOPE-73, SCOPE-74, VEG-8, WTL-2 |
| Amy Flint | 1161 | SCOPE-3 |
| Andrew Kidde | 0677 | CMA-89 |
| Anita Thomas | 3491 | CD-151, SC-42, VES-44 |
| Anne Miller | 0812 | GHG-160, SCOPE-2 |
| Anonymous | 3748 | AQ-88 |
| Anonymous | 3545 | AQ-89, GHG-155, HZ-6, RT-48, VEH-55 |
| Anonymous | 3534 | CD-149 |
| Anonymous | 3510 | CD-150 |
| Anonymous | 0371 | CMA-3 |
| Anonymous | 3571 | GS-3 |
| Anonymous | TRANS-LV-Q3-00042 | HC-48 |
| Anonymous | 3509 | HC-59 |
| Anonymous | TRANS-PASCO-Q2-00002 | RT-47 |
| Anonymous | TRANS-SPOKANE-M1-00073 | SCOPE-60 |
| Anonymous | 3749 | SEPA-26 |
| Anonymous | TRANS-PASCO-Q2-00009 | SEPA-27 |
| Anonymous | 3765 | SWF-9 |
| Anonymous | 3745 | TR-23 |
| Anonymous | TRANS-PASCO-Q2-00003 | VEH-66 |
| Anonymous | 3696 | VEH-79 |
| Anonymous | 3416 | VES-45 |
| Arthur Birkmeyer | 1134 | AQ-9, NV-8, NV-9, VEH-3 |
| Attila Folnagy | 0311 | AQ-10, GW-2, WQ-1 |
| Ben Belzer | 1916 | CD-19, CD-20, CMA-10 |
| Ben Pfeiffer | 2559 | GHG-47 |
| Beppie Shapiro | 0175 | CD-2, CMA-1, GHG-32, NV-10 |
| Beth Kaeding | 2547 | CMA-19, COAL-17, SCOPE-46, SCOPE-47, SCOPE-48, SCOPE-82 |

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|---|---|---|
| Bill Walker | 2487 | CD-54, COAL-16, GW-10, SCOPE-43, SCOPE-44 |
| BNSF Railway Company | 3218 | COAL-7, RT-30, RT-60, RT-61, SC-20, TR-27 |
| Bob | TRANS-SPOKANE-M1-00075 | CM-44, COAL-12 |
| Bob Zeigler | 0364 | GHG-43, TR-4 |
| Bonnie Hefty | 2245 | AQ-2, CD-52, HC-43, SC-33, VEH-49 |
| Bourtai Hargrove | 0666 | SEPA-14 |
| Bradley Wright | 1136 | HC-2 |
| Brenna Taylor | 0656 | GHG-166 |
| Brian Malcom | TRANS-PASCO-M1-00013 | RT-70 |
| Buffy Hake | 0238 | AQ-11 |
| Buffy Hake | 0126 | AQ-81 |
| Buffy Hake | 0023 | GHG-17 |
| Buffy Hake | 0485 | GHG-18, SEPA-2 |
| Buffy Hake | 0652 | HC-66 |
| Buffy Hake | 0037 | RT-11 |
| Buffy Hake | 0119 | RT-57 |
| Carl Renfro | 1163 | SCOPE-4 |
| Carol Ellis | TRANS-SPOKANE-M2-00045 | HC-64, WQ-29 |
| Carol Ellis | TRANS-SPOKANE-Q4-00006 | RS-26, RS-27, RT-46, SCOPE-56 |
| Cassi Marshall | 3639 | SCOPE-70 |
| Cat Holmes | TRANS-PASCO-M2-00024 | CD-131 |
| Cate Campbell | 0178 | PA-1 |
| Cathryn Chudy | 1165 | AQ-19, HC-32 |
| Cathy | TRANS-PASCO-M2-00004 | TR-21 |
| C.B. Ramkumar | 2235 | CMA-11 |
| Cesia Kearns | 3319 | CM-48, CMA-110, SCOPE-76 |
| Chris Hill | TRANS-LV-Q1-00045 | CD-134, COAL-13 |
| Chris Hill | TRANS-LV-M2-00095 | CD-138, COAL-14 |
| Christopher Lish | 2590 | CM-10, HC-3, HC-4, MIT-2 |

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|---|---|---|
| Claudia Narcisco | 3837 | GHG-154 |
| Cloud Peak Energy | 2447 | CMA-106, COAL-9, GHG-89 |
| Connie Voget | 1456 | CMA-7 |
| Craig Brown | 3788 | GHG-58, GHG-156 |
| Craig Guernsey | 1385 | CD-8, CD-9, RT-1 |
| Cynthia Schumacher | 0811 | CD-5, NV-11 |
| Dana Minium | 1431 | ALG-1, CD-11, CD-13, CMA-6, CS-1, PA-18, SC-3, WLF-1, WQ-4 |
| Daniel Dalquist | TRANS-PASCO-M1-00039 | RS-28, VEG-6, VES-39, WLF-32 |
| Daniel Dalquist | TRANS-LV-M2-00084 | RS-29, VEG-7, VES-40, WLF-33 |
| Daniel Jaffe | 2528 | CD-12, CD-69, CD-70, CD-71, CD-72, CD-73, CD-74 |
| Darrel Whipple | 2518 | GHG-45 |
| Darrel Whipple | 2519 | CM-5, CMA-92 |
| Darrel Whipple | 2440 | WQ-11 |
| Dave Shelman | 0671 | SCOPE-1 |
| David Hunt | 1763 | CD-43, CD-44, CD-45, CD-46, CD-47, CD-48, CD-49, CD-50, CM-4, HC-15, HC-16, RS-16, RS-17, VEH-35, VEH-36, VEH-37, VEH-38, VEH-39, VEH-40, VEH-41, VEH-42, VEH-43, VEH-44, VEH-45, VEH-46, VEH-47 |
| David Kershner | 2537 | CMA-91, GHG-46, TR-5 |
| David Michalek | 1931 | A-13, AQ-13, AQ-14 |
| David Perk | TRANS-LV-Q2-00026 | GHG-26 |
| Deborah Hopkins | 2047 | HC-14 |
| Debra Higbee-Sudyka | 1533 | SCOPE-80 |
| Diana Gordon | 2040 | GHG-134 |
| Diana Gordon | 2520 | VEG-1, VES-50 |
| Diana Gordon | 2543 | VES-15 |
| Diana Rempe | 1450 | HC-17, SEPA-7 |
| Diane Dick | TRANS-LV-M2-00056 | CD-140, SC-41 |
| Diane Dick | 3627 | CD-148 |
| Diane Dick | 2687 | RT-6, RT-7, RT-8, RT-9, VEH-62 |
| Diane Schauer | 1929 | AQ-15, CD-24, FSH-4, GHG-44, MIT-5 RS-18, VES-13 |
| Diane Win | 3654 | HC-72 |
| Diane Wynne | TRANS-LV-M1-00054 | COAL-15 |
| Dianne Kocer | 0809 | PA-3 |
| Donald Collins | 3335 | GHG-60 |

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|---|---|---|
| Donna Dishman | 3478 | CD-152, CD-153, NV-22 |
| Dorothea Simone | 0864 | HC-18 |
| Dykes Ehrlichman | 3433 | VES-61 |
| Edith Gillis | 3392 | HC-76 |
| Edward Ury | 3418 | AQ-67, AQ-68 |
| Elizabeth Brunner | 1912 | CD-18, CMA-9, RS-34, SC-4 |
| Elyette Weinstein | 3650 | CD-145, MIT-16 |
| Emily Krieger | 2498 | CMA-12 |
| Emily Withnall | 1189 | CMA-5 |
| Eric Strid | 3408 | ALT-8, CMA-85, CMA-86, GHG-39, PO-5, PO-6, SC-35, SC-57 |
| Foss Maritime | 0783 | VES-16 |
| Gary Hawk | 1203 | AQ-5, GHG-147, SCOPE-38 |
| Lindship Maritime Services | 2201 | CD-51, VEH-48 |
| Gene Rappe | 3451 | CD-154, RT-49, RT-50, SC-6, VEH-56 |
| Glenda Phillips | 1922 | CD-22, GW-3, HC-20, SC-11, SC-67, WQ-9 |
| Grant Sawyer | 2043 | AQ-16 |
| Grant Sawyer | TRANS-LV-M2-00106 | CD-137 |
| Hal Anthony | 1141 | COAL-1 |
| Harold Hoem | 3479 | HC-60, SC-43, WQ-28 |
| Heidi Owens | 2098 | AQ-85, CD-28 |
| Helen Jones | TRANS-PASCO-M2-00049 | CD-132 |
| Helen Sargeant | 3721 | CD-142, MIT-15, SC-5, VES-43 |
| Helen Yost | TRANS-SPOKANE-M2-00064 | SCOPE-58 |
| Inga Williams | 3652 | AQ-66, CD-144, HC-56, HC-73, PA-16 |
| J.J. Wright | 1388 | CD-10, RS-15, SCOPE-5 |
| Jack Herbert | 3422 | CD-158, GHG-59, NV-23 |
| James Chase | 2560 | SC-15, WQ-7 |
| James Paglieri | 3487 | RS-31 |
| | | SCOPE-71 |
| Jean Avery | 1443 | FSH-1 |
| Jean Avery | 0658 | MIT-21 |
| Jeff Smith | 1162 | CD-40, CMA-17, SCOPE-36, SCOPE-37, VEH-71 |
| Jim Parker | 3829 | GHG-148, HC-71, SCOPE-66 |
| Jim Roach | 3836 | RT-71 |

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|---|---|---|
| Jim Roach | TRANS-SPOKANE-M1-00037 | SCOPE-64 |
| Joan Schrammeck | 3396 | CD-160 |
| | | RS-32 |
| John Nelson | 3643 | SCOPE-68 |
| John Riggs | 3229 | RS-33 |
| Josh Johnson | 3402 | CMA-113 |
| Josh Johnson | 3404 | CMA-114, GHG-133 |
| Josh Johnson | 3384 | CP-1 |
| Josh Johnson | 3434 | GHG-140 |
| Josh Johnson | 3409 | GHG-153 |
| Juanita Greenway | 3595 | HC-58 |
| Judith Akins | 2506 | AQ-17 |
| Judith Perry | 1980 | CD-179, HC-68, RT-2, SC-12 |
| Judy Avery | 3438 | CD-155, CD-156 |
| Judy Barden | TRANS-LV-Q1-00021 | AQ-65 |
| Julia Hurd | 1726 | CD-42, FSH-6, HC-22, WQ-27 |
| Kaleb Ceravolo | TRANS-LV-M2-00094 | CD-139 |
| Katelyn Wasierski | 1455 | PA-5, SEPA-11 |
| Kathleen Masis | 3381 | GHG-98 |
| Kelly Caldwell | TRANS-LV-Q3-00015 | GHG-95, WQ-26 |
| Kelly O'Hanley | 2246 | GHG-30, GHG-138 |
| Kevin Winter | 2255 | HC-23, MIT-6 |
| Kristen D. | 2580 | HC-69, RT-5 |
| Lee Metzgar | 1157 | GHG-22, SCOPE-35 |
| Lee Metzgar | TRANS-SPOKANE-M1-00048 | GHG-25, SCOPE-63 |
| Lisa Riener | 1470 | CD-15, GHG-1 |
| Lisa Waldvogel | 3649 | CD-146 |
| Lovel Pratt | 2433 | SC-13, WLF-2 |
| Mae Coover | 2258 | SCOPE-41 |
| Marcia Denison | 1919 | CD-21, COAL-2 |
| Marty Bankhead | 2055 | CD-26, CD-27, COAL-3, PA-14 |
| Marty Betts | 2437 | RT-59, SCOPE-7 |
| Mary Holder | 2532 | CMA-14, HC-24, MIT-8, VEH-9 |
| Mary Sinker | 0357 | CM-2, GHG-150 |
| Mary Vogel | 1159 | CD-6 |

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| Maryl Hill | 2448 | CD-33 |
| Matt Hermen | 2231 | SEPA-12 |
| Matt Krogh | 3353 | AQ-48, AQ-49, AQ-75, CM-40, CM-41, HC-35, SC-8, SC-28, SC-29, SC-47, SC-55, SC-59, SC-60, SC-61, SC-62, SC-64, TR-28 |
| Matt Maria | 0176 | FSH-2, TR-3 |
| Michael Foster | TRANS-LV-Q1-00016 | GHG-62 |
| Michael Riordan | 3009 | CD-166, CD-167, CD-168, CD-169, CD-170, CD-171, CD-172, CD-173, CD-174, CD-175, CD-176 |
| Mike Gundlach | 1434 | CD-14, CD-191, HC-25, WQ-6 |
| Mike Korenko | 3783 | NV-37 |
| Millennium Bulk Terminals–Longview (Applicant) | 3070 | ALT-1, ALT-2, AQ-38, AQ-39, AQ-40, AQ-41, AQ-76, CD-64, CD-65, CD-181, CM-15, CM-16, CM-17, CM-18, CM-19, CM-20, CM-21, CM-22, CM-23, CM-50, CMA-22, CMA-23, CMA-24, CMA-25, CMA-26, CMA-27, CMA-28, CMA-29, CMA-30, CMA-31, CMA-32, CMA-94, CMA-95, CMA-96, CMA-97, CMA-98, CMA-99, CMA-100, CMA-101, CMA-102, CMA-103, CMA-104, CMA-115, CR-1, CR-22, ENR-1, FSH-58, GHG-33, GHG-40, GHG-50, GHG-56, GHG-66, GHG-67, GHG-75, GHG-76, GHG-77, GHG-78, GHG-79, GHG-80, GHG-104, GHG-105, GHG-106, GHG-107, GHG-108, GHG-110, GHG-146, GHG-164, GS-10, GW-11, HZ-2, HZ-3, HZ-4, LSU-2, NV-3, NV-4, NV-33, NV-34, PA-17, RS-1, RS-2, RS-3, RS-4, RS-35, RT-12, RT-13, RT-14, RT-15, RT-16, RT-17, RT-18, RT-19, RT-20, RT-56, SC-16, SC-66, SCOPE-8, SWF-8, TR-31, TR-6, TR-7, TR-8, TR-9, VEG-9, VEH-65, VEH-81, VES-22, VES-23, VES-24, VES-62, WLF-14, WLF-28, WTL-4, WQ-31 |
| Mona Derby | 0810 | SWF-1 |
| Nancy Cronbach | TRANS-LV-M2-00046 | CD-141, HC-49 |
| Nancy Crumpacker | 2490 | HC-26 |
| Nancy Lynch | 2555 | CD-38, HC-27 |
| Newton Phillips | 2565 | VEH-60 |
| Nina Thrun | 3647 | HC-74 |
| Nina Thrun | 1748 | NV-12 |
| Norman Dick | 2435 | CD-32, CM-3, NV-13, SC-14, SEPA-13, VEH-6 |
| Orly Stampfer | 3646 | HC-57 |
| Pat Darden | 3702 | GHG-117 |
| Patrick Davidson | TRANS-SPOKANE-Q2-00006 | GHG-118 |
| Patrick O'Herron | 2114 | AQ-6, AQ-7, HC-34 |

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|---|---|---|
| Paul Birkeland | 2042 | GHG-128, GHG-129, GHG-137, GHG-143, GHG-144, GHG-145 |
| Paul Drake | TRANS-PASCO-M1-00062 | CD-133, HZ-5 |
| Paula Rotondi | 2550 | RS-21 |
| Paula Rotondi | 2553 | CD-36, CD-37 |
| Paula Rotondi | 2554 | MIT-11 |
| Paula Rotondi | 2556 | CD-39 |
| Paulette Wittwer | 3655 | CD-143, CD-188, HC-55 |
| Peter Willing | 3386 | CD-162, NV-24, PA-12, PA-13, VES-47, VES-48 |
| Phil Scott | TRANS-PASCO-M1-00052 | HC-70 |
| R. Joris and Marilynne Mueller | 3388 | CD-161, CMA-87, VES-46 |
| R. Wilcox | 2240 | CD-29 |
| Raymond Williams | 2238 | FSH-5, RS-19, VES-14 |
| Raymond Williams | 3787 | VES-42 |
| Richard Voget | 1442 | GHG-152 |
| Rick Marshall | 3640 | SC-7 |
| Rick Poulin | 3429 | GHG-21, GHG-29 |
| Robert Betts | 1934 | CD-25, RT-58, VEH-4 |
| Robert Robinson | 3489 | CM-46 |
| Ronald Hawk | 1188 | CMA-4 |
| Rosemarie Bisiar | 2242 | SCOPE-6 |
| Ross Macfarlane | 3146 | CMA-88 |
| Ross McFarland | TRANS-LV-M1-00071 | GHG-36, MIT-14 |
| Sally Keely | TRANS-LV-Q1-00029 | CD-135 |
| Sam Francis | 0369 | AQ-77, GHG-64 |
| Sandra Davis | 3001 | RT-54 |
| Sandra Davis | 3005 | SC-46 |
| Sandra Davis | 3013 | PA-15 |
| Sandra Davis | 3014 | SC-37 |
| Sandy Robson | 3413 | CP-1 |
| Selden Prentice | 0792 | CMA-90 |
| Shane | TRANS-SPOKANE-M1-00072 | AQ-87, SCOPE-61 |
| Shane Sater | TRANS-SPOKANE-Q1-00011 | AQ-86, SCOPE-57 |

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|---|---|---|
| Sharon Richman | 0044 | CD-1, CM-1, GHG-68 |
| Shaun Hubbard | 1941 | SC-51, SC-70 |
| Shawn | TRANS-LV-Q1-00060 | ALT-7, SC-39 |
| Sherwood Hake | 0034 | RT-10 |
| Sherwood Hake | 0080 | TR-1 |
| Sherwood Hake | 0120 | VES-51 |
| Sherwood Hake | 0125 | TR-2 |
| Sherwood Hake | 0127 | SC-1 |
| Sherwood Hake | 0240 | FSH-3 |
| Sherwood Hake | 0481 | WQ-2 |
| Sherwood Hake | 0486 | AQ-82 |
| Spencer | TRANS-LV-M2-00125 | GHG-9, SC-40 |
| Stan Moon | 2054 | AQ-18 |
| Steve Llewellyn | 3382 | HC-61, SCOPE-75 |
| Steve Roos | 0370 | CD-182 |
| Steve Rubenstein | 1197 | CD-7 |
| Steve Thompson | 2270 | CD-30, CD-31, CM-13, GHG-127, WQ-10 |
| Steven Morgan | 0391 | NV-14 |
| Susan Schwartz | TRANS-LV-M2-00111 | CD-136 |
| Susan Schwartz | 1177 | CD-41, CMA-18, GS-2, GW-8, VEH-34 |
| Ted Gleichman | 3410 | COAL-8, RS-8 |
| Thelma Follett | 0490 | AQ-84, GHG-151, PO-1 |
| Theodora Tsongas | TRANS-LV-M1-00030 | HC-50 |
| Thomas Gordon | 2579 | RS-23 |
| Thomas Gordon | 2646 | COAL-4 |
| Thomas Gordon | 3173 | CD-164, CD-165 |
| Thomas Gordon | 3208 | VEH-75 |
| Thomas Gordon | 3380 | GHG-54 |
| Thomas Gordon | 3399 | TR-25 |
| Thomas Gordon | 3414 | TR-24 |
| Thomas Gordon | 3417 | CD-159 |
| Tidewater Barge Lines | 2450 | VES-4, VES-5, VES-6 |
| Toni Montgomery | 3641 | CD-147, SCOPE-69 |
| Toni Montgomery | TRANS-LV-M1-00025 | SCOPE-65 |
| Toyoko Tsukuda | 1742 | CD-16, SC-9, SC-10 |

| Commenter | Commenter Identifier | Comment Code |
|---|---|---|
| Toyoko Tsukuda | TRANS-PASCO-Q2-00001 | CD-187, SC-38 |
| Tracy | 0365 | CMA-2 |
| Tricia Knoll | 0829 | MIT-12 |
| Twila Swan | TRANS-SPOKANE-M2-00016 | CR-21 |
| Virginal Wolff | 2511 | CD-35, HC-45, NV-15, VEH-7 |
| Virginia Wolff | 2512 | CMA-13 |
| Virginia Wolff | 2513 | MIT-13, RT-74, VEH-8 |
| William Brake | 0013 | CP-1 |
| William Brake | 0358 | VES-1 |
| William Brake | 0374 | PA-2 |
| William Brake | 0623 | HZ-1 |
| William Brake | 0813 | CMA-15, CMA-16, PO-10 |
| William Brake | 1169 | TR-19 |
| William Brake | 2572 | AQ-8, CD-56, CD-57, CD-58, CD-59, CM-6, CM-7, CMA-20, COAL-6, CP-1, GS-6, HC-47, NV-16, PA-6, PA-7, PA-8, PA-9, PAO-1, PO-8, PO-9, RS-22, RT-3, RT-4, SC-34, SC-36, SC-48, SEPA-21, SEPA-22, SEPA-23, SEPA-24, SEPA-25, SWF-6, SWF-7, TR-20, VEH-51, VEH-52, VEH-61, VES-7, VES-8, VES-9, VES-10, VES-11, WQ-32 |
| William Savery | 2509 | CD-34, CS-2 |
| William Shoutis | 1924 | CD-183 |
| **Mass-Mailing Campaigns** | | |
| Mass-Mail Campaign W | 3814 | CM-45, HC-52 |
| Mass-Mail Campaign ZB | 3818 | CD-63, MIT-1 |
| Mass-Mail Campaign ZG | 3823 | RT-72, SCOPE-67 |
| Mass-Mail Campaign ZH | 3838 | GHG-20 |
| Mass-Mail Campaign ZI | 3839 | SEPA-28 |
| Mass-Mail Campaign ZJ | 3840 | GHG-74 |

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