Preliminary Cost Benefit and Least Burden Analyses

Chapter 173-400 WAC
General regulation for air pollution sources

Chapter 173-460 WAC
Controls for new sources of toxic air pollutants

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Executive Summary

The proposed amendments to the Controls for New Sources of Toxic Air Pollutants rules (Chapters 173-400 and 173-460 WAC) offer a net benefit to social and business welfare. The proposed amendments seek to:

- Update air pollutants and screening levels involved in the permitting process with current scientific knowledge
- Establish de minimis emissions values for permitting
- Create optional emissions netting across facilities
- Extend applicability of New Source Review to all new sources
- Streamline language and procedures to facilitate compliance

Some of the impacts of these changes are quantifiable with a standard degree of confidence, while many others are not. The law allows Ecology to evaluate proposed rules based on their combined quantitative and qualitative impacts. Based on this analysis, Ecology concluded that the expected benefits of the proposed rule are likely to exceed its expected costs.

The **benefits** of the proposed amendments include:

- $2.7 million annually in reduced costs to First Tier permittees
- $125 thousand annually in reduced costs to Second Tier permittees
- Reduced permitting expenses and time, due to streamlined regulation
- Reduced permitting costs due to option of netting emissions reductions across multiple facilities in the area
- Improved protection of human health
- Standardized de minimis emissions levels that exempt some new sources from permitting requirements
- Reduced costs of registration and reporting for PM-2.5.
- Compliance with statutes requiring periodic regulatory updates based on current scientific information

The **costs** of the proposed amendments include:

- $2.9 million annually in increased costs to First Tier permittees
- Increased cost of notifying the permitting authority of de minimis new sources that are not currently regulated.

This document describes Ecology's preliminary analysis, as based on the best information available at the time of its publication. Ecology welcomes public comments on the analysis, and data that could improve the precision of results.

Table of Contents

CHAPTER 1: Introduction

The Administrative Procedure Act (Chapter 34.05 RCW) requires that, before adopting a significant legislative rule, Ecology must, "Determine that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented." [RCW 34.05.328(1)(c)]

For these proposed amendments to the Controls for New Sources of Toxic Air Pollutants (New Source Review) rules, this means Ecology must estimate the impacts of the amendments on individuals, businesses and the public, including increased or avoided costs, and changes in air quality in the state. Impacts are determined by comparing the current regulatory environment (the existing rules) to the way New Source Review would occur under the proposed rule.

This document provides the public with an overview of the methods Ecology used to perform its analysis, and the most likely impacts found.

Background

General Air Pollution Regulations and New Source Review

In order to protect air quality in the state, Washington law requires permitting of significant sources of criteria pollutants, and new sources of toxic air pollutants (TAPs). Criteria pollutants are pollutants for which EPA is has set National Ambient Air Quality Standards to protect human health and welfare. TAPs are airborne chemicals that have been shown to be hazardous to human health. These chemicals are associated with a wide variety of ailments and disorders when people are exposed to them.

Washington State has been regulating new sources of these pollutants since 1991 via the permitting process. The regulation was last updated in 1994 to reflect scientific knowledge current at that time. Proposed projects which will establish a new source of air pollution may be required to obtain a new source review (air quality) permit prior to beginning construction.

Ecology or the local clean air agency with jurisdiction is responsible for reviewing projects that will install a new source or modify an existing source of TAPs. Applicants proposing to install a new source—or modify an existing source—of TAPs are required to submit a Notice of Construction (NOC) application to Ecology or the local air authority.

The application must include a detailed description of the project, and include process equipment information, type and amount of air contaminants that would be emitted, air pollution control practices, and air pollution control equipment.

Some types of projects—such as residential uses, or projects emitting less than specific emission thresholds of particular TAPs—are exempt.

Criteria Air Pollutant Exemption Limits

The existing rule (WAC 173-400-110(5)) describes the criteria for defining exempt sources of criteria air pollutants. Listed sources emitting below these levels are exempt from program requirements for criteria air pollutants. The current rule contains exemption limits (essentially de minimis limits) for carbon monoxide, nitrogen oxides, sulfur dioxide, particulate matter, fine particulate, and volatile organic compounds.

Exemption limits in the existing regulation were calculated by dividing the Environmental Protection Agency's (EPA's) Prevention of Significant Deterioration (PSD) increment levels by 20 (setting them at 5 percent of the EPA's PSD increment levels). Increment is the maximum amount of pollutant (measured in tons per year) that a PSD permit can allow to be emitted and not break the modeled ambient concentrations. PSD increment levels are designed to:

- Protect public health and welfare;
- Preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic, or historic value;
- Insure that economic growth will occur in a manner consistent with the preservation of existing clean air resources; and
- Assure that any decision to permit increased air pollution in any area to which this section applies is made only after careful evaluation of all the consequences of such a decision and after adequate procedural opportunities for informed public participation in the decision making process.[1]

Three Existing Tiers of Toxic Air Permitting

There are three levels of review when processing a permit application for a new or modified emissions unit emitting TAPs:

- Toxic Screening (First Tier)
- Health Impacts Assessment (Second Tier)

[1] EPA Prevention of Significant Deterioration (PSD) Basic Information website: http://www.epa.gov/nsr/psd.html#air

- Risk Management Decision (Third Tier)[2]

First Tier Analysis

All projects are required to undergo a First Tier toxic screening analysis as required by WAC 173-460-040. There are two ways to perform a First Tier analysis:

- Determine if proposed emissions are below the Small Quantity Emission Rate (SQER) tables. If yes, then further analysis is not required.
- If emissions of a TAP are greater than the relevant SQER, those emissions must be modeled, and the resultant ambient concentration is compared to the appropriate Acceptable Source Impact Level (ASIL). If the ambient concentration is below the ASIL, then no further analysis is required.
- If the modeled ambient concentration of a TAP is above the relevant ASIL, the permit moves to Second Tier review, below.

It is most common for NOC permit applications to require only First Tier review. Based on recent permitting data, approximately 400 – 450 First Tier permits are issued in Washington State each year.[3]

Second Tier Analysis

A Second Tier analysis (WAC 173-460-090) is a site-specific Health Impacts Assessment of the emissions resulting from a proposed project. The objective of a Second Tier analysis is to quantify:

- The increase in lifetime cancer risk for persons exposed to the increased concentration of any carcinogenic TAP
- The increased health hazard from any non-carcinogenic TAP in ambient air

Once quantified, the cancer risk is compared to the maximum risk allowed by a Second Tier analysis (one in one hundred thousand). The concentration of any non-carcinogenic TAP that would result from the proposed project is compared to a risk-based concentration.

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[2] The proposed rule amendments change the names of these levels of review to the names in parentheses. For clarity, this document uses “First Tier”, “Second Tier” and “Third Tier” throughout when referring to these levels of review.

[3] Based on a survey of clean air authorities in Washington State. Clean air authorities/agencies: Benton, Northwest, Olympic Region, Puget Sound, Southwest, Spokane Regional, and Yakima. Ecology regional offices administering NOC permits: Central Regional Office and Eastern Regional Office. Most recent, or averaged most recent number of completed NOC permits, and number involving TAPs, if available.

This level of permitting is considerably less common than First Tier analysis. Based on recent permitting data, approximately six Second Tier permits are issued in Washington State each year.[4]

Third Tier Analysis

If the emissions of a carcinogenic TAP result in a cancer risk of greater than one in one hundred thousand, then an applicant may request Ecology Headquarters to perform a Third Tier analysis.[5] A Third Tier analysis is basically a risk management decision, in which the director of Ecology makes a decision that the risk of the project is acceptable, based on determination that emissions will be maximally reduced through:

- Available preventive measures
- Assessment of environmental benefit
- Disclosure of risk at a public hearing
- Related factors associated with the facility and the surrounding community

There has never been an NOC permit application that has required Third Tier review.

Second Tier Processing Requirements

When the permitting authority (with local jurisdiction—either a local clean air agency, or an Ecology office) determines, based on First Tier analysis, that modeled TAP emissions for a proposed project exceed the corresponding ASIL, the NOC permit analysis moves to Ecology.

Ecology evaluates a new source's Second Tier analysis only if:

- The authority has advised Ecology that other conditions for processing the NOC have been met.
- Emission controls contained in the conditional NOC Order of Approval represent at least Best Available Control Technology for Toxics (tBACT).
- Ambient concentrations exceed ASILs after using more refined emission quantification and air dispersion modeling techniques.
- A Health Impact Assessment (HIA) is included in the petition.

[4] Second Tier NOC permit review is performed by Ecology. Average of six permits annually based on completed NOC permits.

[5] Third Tier analysis is only performed for carcinogens under the existing baseline, and all risks of non-carcinogenic TAPs are evaluated in the Second Tier analysis. Under the proposed rule amendments, both carcinogens and non-carcinogens are included in Third Tier analysis.

Otherwise, the permit application may not move forward.

Pre-Planning New Source Controls

Ecology has observed that many NOC permit applicants appear to pre-plan emissions control technology for proposed new sources of TAPs, in such a way that they will avoid Second Tier review by having emissions levels below ASIL values. This manifests itself as planned controls in excess of expected Best Available Control Technology for Toxics (tBACT).

The tBACT is the minimum emissions control technology that a new source will be expected to install. All expected and modeled emissions levels for TAPs are established including at least tBACT emissions controls.

While Ecology and local clean air agencies do not track this behavior, it has been observed by permit writers as a common practice.

Regulatory Baseline

The baseline for all analyses of the proposed rule amendments is the regulatory environment in the absence of any changes. Under the current regulatory framework, the permitting process for New Source Review would remain as is described above (see New Source Review). Without the adoption of the proposed rule amendments, the existing permitting process would remain in place.

Changes under the Proposed Rule Amendments

The proposed amendments to Chapters 173-400 and 173-460 WAC make a number of changes to the permitting process, air quality screening standards, applicability, and organization and consistency of regulatory language. Each of these actions is authorized by the Clean Air Act (Chapter 70.94 RCW).

Specific changes under the proposed amendments include:

- Updating the TAPs and screening levels (Acceptable Source Impact Level, or ASIL; Small Quantity Emissions Rate, or SQER) involved in the permitting process with current scientific knowledge.
- Establishing de minimis values for emissions.
- Adding exemption emissions level for Particulate Matter - 2.5 (PM-2.5) as a criteria pollutant.
- Optional emissions netting within and across facilities.
- Expanding applicability of New Source Review.
- Streamlining language and procedures.

Each of these is describe in detail, below. [6]

Updating TAPs, ASIL values, and SQER values

The proposed rule amendments update the list of regulated TAPs and their associated ASIL values based on a four-step procedure[7] and three established sources of toxicological and health information. The process Ecology used in selecting ASIL values and which TAPs to include in the amended list sourced risk-based concentrations from:

- US Environmental Protection Agency.
- Agency for Toxic Substances and Disease Registry.
- California Office of Environmental Health Hazard Assessment..

Ecology determined that if TAPs were not addressed by these sources, they did not have an ASIL, and therefore did not include them in the amended regulatory list for this rule.

Ecology updated SQERs based on the relevant amended ASIL values. Like ASILs, SQERs are additional screening levels, used to determine the necessary level of review.

Establishing De Minimis Values for Emissions

Ecology calculated de minimis emissions rates based on the relevant amended ASIL values.[8] De minimis emissions values are minimum emissions rates for first Tier review. If a proposed new source of TAPs has expected emissions below de minimis levels for a TAP, the NOC permit application does not require First Tier review for that TAP. For new sources of TAPs with expected emissions below de minimis levels for all TAPs, no evaluation by Ecology or a local clean air authority is necessary, although the new source is required to notify the permitting authority of its plans and, if requested to do so, provide project description to support exemption as a de minimis new source.

Adding exemption emissions level for Particulate Matter - 2.5 (PM-2.5)

The proposed rule amendments include the addition of an exemption level for PM-2.5 to the exempt emissions rates for criteria air pollutants. Since this rule

[6] Third Tier analysis is only performed for carcinogens under the existing baseline, and all risks of non-carcinogenic TAPs are evaluated in the Second Tier analysis. Under the proposed rule amendments, both carcinogens and non-carcinogens are included in Third Tier analysis. As there has never been an NOC permit application that has required Third Tier review, Ecology does not expect future Third Tier review, and therefore does not expect an impact from this rule amendment.

[7] See Appendix B for discussion of this procedure.

[8] See Appendix B for discussion of de minimis calculations.

was last revised, the EPA established a Prevention of Significant Deterioration (PSD) emissions rate and increment level for PM-2.5. Ecology proposed updating the rule to reflect this change.

Ecology calculated the proposed emissions rate of 0.5 tons/year in the same way that it calculated existing exemption levels for the other criteria pollutants. Ecology multiplied the PSD increment level recently set for PM-2.5 by the EPA (10 tons/year) by 5 percent, resulting in an exempt level of emissions of 0.5 tons/year.

Under the baseline, new sources are required to calculate emissions rates for the criteria pollutants, and compare them to the exemption levels. If all emissions – including PM-2.5 are below exemption levels (for PM-2.5, the baseline exempt emissions rate is zero), then the project is exempt from registration program requirements. This means, if any PM-2.5 is going to be emitted, the project cannot be exempt under the existing rule.

Emissions Netting

Where proposed new sources of TAPs are required to install emissions controls, the proposed rule amendments allow permit applicants to generate an equivalent net reduction in emissions across multiple emissions units or sources, including existing sources. Emissions netting is constrained by the type of TAP emissions that must be reduced, and the source location. This option does not exist under the baseline rule.

Expanding Applicability

The baseline rule for new sources of TAPs applies to those types of sources specifically listed in the rule. The proposed rule amendments expand New Source Review to all new sources, except those that qualify for exemption—either categorically, or by de minimis emissions standards. Under the baseline, New Source Review only applies to new sources that are listed categorically in the rule.

Streamlining Language and Procedures

The baseline New Source Review permitting process involves multiple regulations, with TAPs listed across separate tables, in separate sections of the code. In addition, the baseline permitting process applies to select industries, and can apply differently across industries and attributes of proposed new TAP sources. The proposed rule amendments streamline applicability, and clarify the regulation and permitting process.

Analytical Format

The remainder of this analysis is organized into the following chapters:

- Qualitative Costs and Benefits (Chapter 2): Qualitative discussion of the likely benefits and costs arising from the proposed rule amendments, as compared to the regulatory baseline.
- Quantified Costs and Benefits (Chapter 3): Methodology and results of quantitative analysis, where possible.
- Observations and Conclusions (Chapter 4): Comments on results and sensitivity analysis, and analytic conclusions.
- Least Burdensome Alternative Analysis (Chapter 5): Analysis of the regulatory options considered during rulemaking, and determination that the proposed amendments are the least burdensome of these options.

CHAPTER 2: Qualitative Costs and Benefits

This chapter qualitatively describes the benefits and costs assessed by Ecology in its evaluation of the proposed rule amendments relative to the regulatory baseline. Each section also described how the cost or benefit was included in the overall assessment.

Description of Benefits

The proposed rule amendments are likely to generate benefits to businesses and the public, related to regulatory compliance and human health.

Reduced Costs of First Tier Review

The proposed rule amendments deregulate or reduce screening levels for some toxic air pollutants (TAPs). For some businesses that require only First Tier analysis under the regulatory baseline—due to pre-planned increases in emissions technology[9]—the proposed rule amendments may reduce or eliminate the need to pre-plan additional emissions controls (see Pre-Planning New Source Controls) in order to require no more than First Tier analysis.

Ecology included this benefit quantitatively in its assessment of the proposed rule amendments, based on sampled permitting and cost information. The quantitative analysis is discussed in Chapter 3.

Reduced Costs of Second Tier Review

The proposed rule amendments deregulate or reduce screening levels for some toxic air pollutants (TAPs). For some businesses that require Second Tier analysis under the regulatory baseline—either under minimum emissions control levels, or including additional emissions control technology—the proposed rule amendments may:

- Reduce the degree of Second Tier analysis required, by reducing the number of TAPs with emissions in excess of screening levels, **or**
- Eliminate the need for Second Tier analysis, by eliminating all TAPs with emissions in excess of screening levels.

Ecology included this benefit quantitatively in its assessment of the proposed rule amendments, based on sampled permitting and cost information. The quantitative analysis is discussed in Chapter 3.

[9] Some First Tier NOC applicants may find it beneficial to pre-plan additional emissions controls, in order to avoid Second Tier review. This manifests itself as planned controls in excess of expected Best Available Control Technology for Toxics (tBACT). While Ecology and local clean air agencies do not track this behavior, it has been observed by permit writers as a common practice.

Reduced Costs of Registration and Reporting for PM-2.5

The existing (baseline) regulation for air pollution sources does not have an exemption level of emissions for sources emitting PM-2.5. This means a new source emitting PM-2.5 at very low levels, and emitting no other criteria pollutants, would not be exempt from registration and reporting requirements, even though it would be exempt for all other criteria pollutants. Under the proposed rule amendments, a new source emitting only PM-2.5 at a rate below 0.5 tons/year would be exempt from registration and reporting requirements.

Ecology determined that this proposed rule amendment may generate a small benefit, or a neutral change, because:

- Emissions levels must be calculated for PM-2.5 under both the baseline and the proposed rule amendments, so no cost is avoided in calculation.
- Emissions levels for criteria air pollutants must be compared to the exemption levels in the rule. Ecology does not expect an additional comparison to result in significant cost.
- Sources that emit only PM-2.5, at a rate below 0.5 tons/year, will avoid costs under the proposed rule amendments, because they will be fully exempt from registration and reporting requirements.
- Very few, if any sources are likely to emit only PM-2.5, without emitting other air pollutants.
- It is consistent to assume that emissions below 5 percent of the PSD increment level for PM-2.5 are protective of human health. This is consistent with the basis for exemption emissions rate calculations for the other criteria air pollutants.

Ecology included this benefit qualitatively in its analysis of the proposed rule amendments. This benefit is difficult to quantify with a large degree of precision, because of limitations on data relating to PM-2.5 emissions, recent changes to the PSD emissions rate (2006 establishment of EPA standard, recent implementation and data collection to support implementation), and limited scope of this benefit.

Streamlined Permitting Regulation

The existing (baseline) New Source Review permitting process involves multiple regulations, with TAPs listed across separate tables, in separate sections of the code. In addition, the baseline permitting process applies to select industries, and can apply differently across industries and technical specifications of proposed new TAP sources. The proposed rule amendments streamline applicability and requirements, and clarify the regulation and permitting process. Ecology expects this reduced complexity to reduce the degree of effort and expenditure necessary for the business community to comply with the rule.

This benefit is difficult to quantify with a large degree of precision, because the incremental cost of understanding and complying with the rule (directly, or through the expertise of consultants) is an unreported component of overall expenditures. Ecology included this benefit qualitatively in its assessment of the proposed rule amendments.

Optional Emissions Netting

The proposed rule amendments allow permit applicants the option of reducing TAP emissions across multiple emissions units or sources, in order to comply with emissions standards for the area. The baseline regulation requires that all emissions reductions occur at the new source of TAP emissions that is seeking a permit.

Ecology expects that allowing optional netting allows businesses to make internal decisions to take advantage of economies of scale in controls. For example, a business could incrementally increase control levels using existing controls on other sources, rather than incur installation costs of additional controls on the proposed new source. Under the proposed amendments' specifications of where and how netting may occur, Ecology expects that permit applicants can reduce regulatory compliance costs, while still complying with emissions standards for human health in the area.

While there may be additional cost associated with investigating the viability of emissions netting for a permit applicant's planned new source of TAPs, Ecology expects that this cost will be included in an applicant's overall evaluation of netting, and netting will only be chosen if it is financially preferable—otherwise full control costs will be incurred. Therefore, Ecology expects that netting will reduce compliance costs at those new sources that choose the netting option.

This benefit is difficult to quantify with a large degree of precision, because of the complexity of internal business decisions and the diversity of possible netting options available to any given permit applicant. Ecology included this benefit qualitatively in its assessment of the proposed rule amendments, as a likely reduction in compliance costs.

Protection of Human Health

By updating the New Source Review regulation with current scientific information related to TAP's impact on human health, and extending applicability to all new sources of TAPs, the proposed rule amendments are likely to improve protection of human health, as compared to the baseline regulation. While screening levels are impacted in various ways for individual chemicals—rising, falling, or unaffected screening levels, or removal of a chemical from the TAP list—the overall impact on human health is likely to be beneficial.

Baseline screening levels for TAPs are based on scientific information that is (at the time of this document's publication) over ten years old. Ongoing research in the field of environmental toxins and human health has improved understanding of the complex relationships between TAP emissions, human exposure, and health endpoints. This has, in turn, changed our understanding of the "harmfulness" of various air emissions, and the degree of screening and regulation required to continue to effectively protect human health.

- No Change: For those screening levels that do not change when updated to current scientific standards, Ecology does not expect an impact on human health.

- Higher Screening Levels: For TAPs with screening levels that rise (become less stringent) – or for those chemicals that are removed from the TAP list – in the proposed rule amendments, when updated to current scientific standards, it is evident that those TAPs may have been over-regulated under the baseline regulation, and an increase in screening levels should not be harmful to human health.

- Lower Screening Levels: For TAPs with screening levels that fall (become more stringent) – or for those chemicals that are added to the regulated TAP list – current science has indicated they are more harmful than previously understood, and a greater degree of screening and emissions control may be required. While this does not necessarily mean that all of these TAPs were previously under-regulated in terms of human health, higher screening levels make it more likely that new sources of TAPs that could prospectively harm human health will be caught and their emissions correctly controlled under the proposed rule amendments.

This benefit is difficult to quantify with a high degree of precision, due to the number of TAPs involved, the diversity of new emissions sources, and the complex relationship between screening levels, emissions exposure, and various human health endpoints and their value. Ecology included this benefit qualitatively in its assessment of the proposed rule amendments, as a likely improvement in human health.

De Minimis Emissions Levels

The proposed rule amendments establish de minimis levels of emissions for each regulated TAP. At or below these emissions levels, a new source is exempt from the permitting process. Under the de minimis exemption, new small emitters (likely to be small businesses) will not need to get a NOC permit to begin construction of new sources of TAPs. These new small emitters are only required to notify the permitting authority before beginning construction on their new

source of TAPs, and, if the authority requests it, provide project description to support the de minimis exemption.

For those permit applicants that plan very low levels of emissions (below de minimis), and are currently covered by the baseline rule, the proposed rule amendments generate a cost savings, as these businesses will no longer need to receive a First Tier NOC permit application. The size of this cost savings is reduced by the requirement to notify the permitting authority of a de minimis new source before beginning construction.

For those very low-emissions new sources that are not currently covered by the baseline rule (not on the list of regulated new sources), but would be covered under the proposed rule amendments (which apply to all sources), this means that no additional permitting cost is generated by the proposed amendments. These new sources of TAPs are not required to have a NOC permit in either scenario—under the baseline because they are not on the list of regulated new sources, and under the proposed rule amendments because they are below de minimis emissions levels.[10]

It is difficult to estimate the number of (a) NOC permits that will no longer be required, and (b) new NOC permits that will be required under the proposed rule amendments. Based on past experience with new sources of TAPs, Ecology assumed that the number of permits that would no longer be required due to the de minimis exemption is likely to be quite small, as the baseline rule encompasses new sources that are likely to have significant TAP emissions.

Similarly, based on past experience with new sources of TAPs, Ecology assumed that the number of new TAP sources that would be covered by the proposed rule amendments, but is not currently covered by the baseline rule, is likely to be large, because the baseline rule is intended to cover new sources that are likely to have significantly high TAP emissions. Ecology expects that sources newly brought under the rule by the proposed amendments are likely to be small emitters, and, in turn, are likely to be exempt from New Source Review based on de minimis emissions levels.

Ecology included this benefit qualitatively in its assessment of the proposed rule amendments, as a likely mitigation of the increased cost associated with broader regulatory scope.

Up-To-Date Science

Ecology is required to periodically review the New Source Review rule to ensure consistency with the best available scientific information (RCW 70.94.331). The proposed rule amendments comply with this requirement.

[10] Note that these new sources would now incur the cost of notifying Ecology of the de minimis new source before beginning construction. This is discussed under Description of Costs, below.

Description of Costs

The proposed rule amendments are likely to generate costs to businesses related to regulatory compliance.

Increased Permitting Costs

Under the baseline regulation, a set of new sources of TAPs require only First Tier review of their NOC permit applications. The proposed rule amendments add TAPs to the regulatory list, or raise screening levels for some TAPs. For some businesses that require only First Tier analysis under the baseline regulation, the proposed rule amendments may increase the need to pre-plan additional emissions controls (see Pre-Planning New Source Controls) in order to avoid Second Tier analysis.[11]

While these businesses avoid Second Tier review costs by pre-planning additional emissions controls, they incur the costs of installing and running these controls.

Based on internal business decisions, businesses will only choose to pre-plan emissions controls to avoid Second Tier analysis if it is financially beneficial. Therefore, Ecology believes that costs estimated based on the full cost of Second Tier analysis are the most conservative estimate of this cost.

Ecology included this cost quantitatively in its assessment of the proposed rule amendments, based on sampled permitting and cost information. The quantitative analysis is discussed in Chapter 3.

Notification Costs for De Minimis New Sources

For those very low-emissions new sources that are not currently covered by the baseline rule (not on the list of regulated new sources), but would be covered under the proposed rule amendments (which apply to all sources), this means that – while no additional permitting cost is generated by the proposed amendments, as these sources are not required to have a NOC permit under either scenario – these businesses must still notify the permitting authority of their planned de minimis new source. This cost is likely to range from a minimal notification to the permitting authority, to submission of project plans supporting the de minimis exemption from NOC permitting.

Ecology included this cost qualitatively in its assessment of the proposed rule amendments, as a mitigating factor to the avoided cost of NOC permitting for

[11] Some First Tier NOC applicants may find it beneficial to pre-plan additional emissions controls, in order to avoid Second Tier review. This may manifest itself as planned controls in excess of expected Best Available Control Technology for Toxics (tBACT). While Ecology and local clean air agencies do not track this behavior, it has been observed by permit writers as a common practice.

some de minimis new sources. See De Minimis Emissions Levels for discussion of the avoided cost and its relationship to notification costs.

CHAPTER 3: Quantifiable Costs and Benefits

For those benefits and costs discussed in Chapter 2 that are quantifiable, Ecology estimated the impacts of the proposed rule amendments.

The quantifiable benefits include:

- Reduced costs of First Tier permitting
- Reduced costs of Second Tier permitting

The quantifiable costs include:

- Increased permitting costs

Model Inputs

Ecology used the following inputs to estimate the quantifiable benefits and costs of the proposed rule amendments.

Analytic Costs of Second Tier Analysis

Ecology surveyed environmental consultants with experience in creating the analyses required for Second Tier review of NOC permits. Based on responses, Ecology estimated a range of costs for Second Tier analysis—from basic emissions modeling for TAPs exceeding the relevant SQER, to full Second Tier Health Impact Assessment for multiple TAP emissions. Ecology estimated this range to be between $15 thousand and $40 thousand.

Second Tier Review Fees

Performing Second Tier review of NOC permits requires additional time and effort from regulatory agencies, which charge additional fees for this level of review. The standard fee for Second Tier review as set by Ecology is $10 thousand.

Annual NOC Permits Including TAP Emissions

Ecology surveyed local clean air agencies in Washington State, and Ecology regional offices that administer First Tier permitting, in order to determine the number of permits that could be impacted by the proposed rule amendments. Based on responses, Ecology expects that approximately 434 NOC permits are issued annually in the state.

Based on survey responses, Ecology also calculated the expected number of these permits that include emissions of TAPs. Approximately 47 percent of NOC permits include TAPs (with the majority requiring only First Tier review). Based on this percentage, Ecology expects that 202 permits annually, minus those with

zero impact (see Impact on First Tier Reviews) , may be impacted by the proposed rule amendments.

Annual Second Tier Reviews

Ecology reviewed records of Second Tier NOC permit reviews, to determine the number of Second Tier reviews performed annually. Based on these records, Ecology expects approximately six Second Tier reviews annually.

Impact on First Tier Reviews

Ecology was able to review in detail 70 First Tier NOC permits issued by the Puget Sound Clean Air Agency. The detail provided was on TAPs emitted by these projects, as well as the associated emissions rates. Of these 70 First Tier permits, 24 emitted TAPs under the baseline rule.

Ecology compared emissions for this sample of permits to SQERs for TAPs under the proposed rule amendments, and found that seven permits were unaffected (had no TAP emissions in excess of the relevant SQER in the proposed rule amendments). The remaining 17 permits had at least one TAP emitted in excess of the relevant SQER. Based on this proportion, Ecology expects that 71 percent of annual NOC permits involving TAP emissions may experience a non-zero impact from the proposed rule.

Impact on Second Tier Reviews

Ecology reviewed detailed data for two years of Second Tier NOC permit reviews in Washington State. The detail available was on TAPs emitted by these projects, the associated emissions rates, and the modeled concentrations for TAPs in excess of the relevant baseline SQERs. While eight permits had available emissions data, only five of these included all necessary data for this analysis.

Ecology compared emissions for this sample of permits to SQERs for TAPs under the proposed rule amendments, and found that three projects exceeded fewer SQERs under the proposed rule amendments, one exceeded more SQERs, and one was unaffected (the number of SQERs exceeded remained the same, although the particular set of TAPs involved changed).

Ecology then compared modeled TAP concentrations to the relevant ASILs under the proposed rule amendments. This was only possible for TAPs that exceeded the SQER under both the baseline and proposed rule; modeled concentrations were not available for those TAPs that only exceeded the SQER under the proposed rule language. Ecology found that three projects exceeded fewer or the same number of ASILs under the proposed rule amendments. One project exceeded the same number of ASILs or more, and one project had incomplete and suspect data for modeled emissions, and was excluded from analysis.

To deal with the uncertainty of whether modeled concentrations of TAPs that newly exceed the SQER would exceed the ASIL and require analysis of health impacts, Ecology used two scenarios in its calculations:

- Three projects have TAP emissions that exceed the SQER, but modeled concentrations do not exceed ASILs, so only minor modeling costs are incurred.
- Three projects have TAP emissions that exceed the SQER, and at least one modeled concentration exceeds the relevant ASIL, so additional costs of health impact assessment are incurred.

Alternate Cost of Additional Emissions Controls

For the broad range of industries, facilities, and sizes of facilities impacted by the proposed rule, Ecology could not confidently define an independent range of costs for the installation of additional emissions controls to avoid Second Tier analysis. This behavior is an option, however, and Ecology expects that businesses will take advantage of this option if the cost is lower than the costs incurred under Second Tier review of the NOC permit.

Ecology calculated changes in costs of compliance using a range of proportions, measuring the relative size of additional emissions control costs. Ecology ran cost impact calculations for 10, 25, 50, 75, and 90 percent of the cost of Second Tier review.

Quantifiable Results

Ecology combined the possible cost ranges and scenarios for First Tier and Second Tier permittees, in order to develop distributions of the expected benefits and costs of the proposed rule amendments. Values reported below use the assumption that installing additional emissions controls costs 50 percent of the total cost of Second Tier review. In addition, Ecology performed sensitivity analyses (comparing results at the 50 percent level to results at the 10, 25, 75, and 90 percent levels) to judge the impact of the uncertain size of the cost of alternately installing additional emissions controls to avoid Second Tier review.

Reduced Costs of First Tier Review

Ecology calculated the benefit to permits requiring First Tier review of raising SQER screening levels and deregulating some current TAPs under the proposed rule. This change reduces the likelihood that a permittee will find it necessary to pre-plan additional emissions controls, in order to avoid Second Tier review. Ecology estimated this value to be **$1.8 million – $3.6 million**, annually.

The high end of this range represents avoiding more complicated Second Tier reviews, while the low end represents avoiding only basic modeling.

This range of benefits is uniformly distributed. Ecology believes that, based on this distribution, the average expected benefit is **$2.7 million.**[12]

Reduced Costs of Second Tier Review

Ecology calculated the benefit of raising SQER and ASIL screening levels, and deregulating some current TAPs under the proposed rule. This change increases the possibility of choosing to pre-plan additional emissions controls in order to avoid Second Tier review, including avoided basic modeling costs. In addition, this change may allow some permittees to avoid Second Tier analysis without installing pre-planned additional controls, though the probability of this scenario is uncertain, due to lack of modeled emissions concentration data for TAPs that did not exceed the relevant SQERs under the baseline.

Accounting for both possibilities (avoidance of Second Tier review either through additional pre-planned controls, or without additional action), Ecology estimated this value to be up to **$300 thousand**, annually.

Ecology believes that, based on the distribution of possible benefits, the average expected benefit is **$125 thousand**, and the median expected benefit is **$150 thousand**.

Increased Permit Review Costs

Ecology calculated the cost of reducing SQER and ASIL screening levels, and adding some TAPs to the regulatory list under the proposed rule amendments. This change increases the likelihood of an NOC permit application requiring Second Tier review under the proposed rule amendments, while it would only require First Tier review under the baseline. The associated range of costs accounted for both the full cost of Second Tier review (including initial modeling costs for TAPs with emissions exceeding the relevant SQERs), and the alternate cost of installing additional controls to avoid Second Tier review (see Pre-Planning New Source Controls).

Ecology estimated this cost to be **$1.8 million – $7.1 million**, annually. The high end of this range represents the most conservative, but least likely scenario—in which no alternative exists to paying full Tier II review costs, and all Second Tier costs incurred are for complex analyses.[13]

[12] In a uniform distribution, the average expected benefit and median expected benefit will be the same.
[13] Rather than for basic emissions modeling.

Ecology believes that, based on the distribution of possible costs, the average expected cost is **$2.9 million**, and the median expected cost is **$2.1 million**.

CHAPTER 4: Observations and Conclusion

Conclusion

Taking the combination of quantifiable and qualitative benefits and costs expected to result from the proposed rule amendments, Ecology concluded that the benefits of the rule amendments are likely to exceed the costs.

Ecology performed a sensitivity analysis of the results to examine the impact of variance in the most uncertain variable used in the analysis, and further concluded that the benefits of the proposed rule likely exceed the costs.

Sensitivity Analysis

The most uncertain variable Ecology used in the calculations for this analysis is the relative size of the alternate cost of installing additional emissions controls to avoid Second Tier review. Ecology varied this value from 10 – 90 percent of the total cost of Second Tier review. Results reported in the above sections are for calculations using 50 percent.

Increasing the relative size of the cost of additional emissions controls:

- Increases the low end of the cost range (from $0 to $1.8 million), through 50 percent, then decreases the low end of the cost range to $0.4 million.
- Does not impact the upper end of the cost range ($7.1 million), as this estimate reflects a scenario without any permittees choosing to install additional controls rather than undergo Second Tier review.
- Shifts and expands the range of benefits to First Tier applicants from $0.4 – 0.7 million (at 10 percent) to a range of $3.2 – 6.4 million (90 percent).
- Has only minor impact on the benefits to Second Tier applicants, reducing the upper end of the range by $60 thousand (moving from 10 to 90 percent).

Overall, the quantifiable benefits range lies within the range of quantifiable costs, and moves toward exceeding quantifiable costs as more the option of installing additional controls to avoid Second Tier review costs becomes increasingly available to permittees.

Summary of Results

The **benefits** of the proposed amendments include:

- $2.7 million annually in reduced costs to First Tier permittees

  (Range $1.8 – 3.6 million)
- $125 thousand annually in reduced costs to Second Tier permittees

(Range $0 – $300 thousand)

- Reduced permitting expenses and time, due to streamlined regulation.
- Reduced permitting costs due to option of netting emissions across multiple facilities.
- Improved protection of human health.
- Standardized de minimis emissions levels that exempt some new sources from permitting requirements.
- Reduced costs of registration and reporting for PM-2.5.
- Compliance with statutes requiring periodic regulatory updates based on up-to-date scientific information.

The **costs** of the proposed amendments include:

- $2.9 million annually in increased costs to First Tier permittees

  (Range $1.8 – $7.1 million)
- Increased cost of notifying the permitting authority of de minimis new sources that are not currently regulated.

This document describes Ecology's preliminary analysis, as based on the best information available at the time of its publication. Ecology welcomes public comments on the analysis, and data that could improve the precision of results.

CHAPTER 5: Least Burdensome Alternative Analysis

RCW 34.05.328(1)(e) requires Ecology to "determine, after considering alternative versions of the rule and the analysis required under (b), (c), and (d) of this subsection, that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives stated under (a) of this subsection."

Conclusion

Based on research and analysis required by RCW 34.05.328(1)(e) the Department of Ecology determines:

> *There is sufficient evidence that the proposed rule is the least burdensome version of the rule for those who are required to comply, given the goals and objectives of the law for Ecology to propose the rule.*

Ecology is required to update the rule to correspond to current scientific information and standards (RCW 70.94.331). This requirement has constrained Ecology's range of choices when making the proposed amendments to the regulation.

The proposed rule amendments were constrained to update ASIL and SQER screening levels to reflect current scientific knowledge (RCW 70.94.331), and Ecology was therefore not able to consider alternatives to the proposed language that was not determined to be scientifically superior.

Changes other than the updated screening values are largely *intended* to make the rule less burdensome for those required to comply with it. In particular, these changes are expected to reduce the burden of compliance with this rule:

Streamlined Permitting Rule

The existing (baseline) New Source Review permitting process involves multiple regulations, with TAPs listed across separate tables, in separate sections of the code. In addition, the baseline permitting process applies to select industries, and can apply differently across industries and attributes of proposed new TAP sources. The proposed rule amendments streamline applicability and requirements, and clarify the regulation and permitting process. Ecology expects this reduced complexity to reduce the degree of effort and expenditure necessary for the business community to comply with the law.

Optional Emissions Netting

The proposed rule amendments allow permit applicants the option of reducing TAP emissions across multiple sources, in order to comply with emissions standards for

the area. The baseline regulation requires that all emissions reductions occur at the new source of TAP emissions that is seeking a permit.

Ecology expects that allowing optional netting allows businesses to make internal decisions to take advantage of economies of scale in controls, for example, by incrementally increasing control levels using existing controls on other sources, rather than incur installation costs of additional controls on the proposed new source. Under the proposed amendments' specifications of where and how netting may occur, Ecology expects that permit applicants can reduce regulatory compliance costs, while still complying with emissions standards for human health in the area.

De Minimis Emissions Levels

The proposed rule amendments establish de minimis levels of emissions for each regulated TAP. At or below these emissions levels, a new source is exempt from the permitting process. Under the de minimis exemption, new small emitters (likely to be small businesses) will not need to get a NOC permit to begin construction of new sources of TAPs.

For those permit applicants that plan very low levels of emissions, and are currently covered by the baseline rule, the proposed rule amendments generate a cost savings, as these businesses will no longer need to receive a First Tier NOC permit.

For those low-emissions permit applicants that are not currently covered by the baseline rule, but would be covered under the proposed rule amendments, this means that no additional cost is generated by the proposed amendments, as these new sources of TAPs are not required to have a NOC permit in either case (that is, under the baseline or under the proposed rule amendments).

It is difficult to estimate the number of (a) NOC permits that will no longer be required, and (b) new NOC permits that will be required under the proposed rule amendments. Based on past experience with new sources of TAPs, Ecology assumed that the number of permits that would no longer be required due to the de minimis exemption is likely to be quite small, as the baseline rule encompasses new sources that are likely to have significant TAP emissions.

Similarly, based on past experience with new sources of TAPs, Ecology assumed that the number of new TAP sources that would be covered by the proposed rule amendments, but is not currently covered by the baseline rule, is likely to be large, as the baseline rule encompasses new sources that are likely to have significant TAP emissions. Ecology expects that sources newly brought under the rule by the proposed amendments are likely to be small emitters, and, in turn, likely to be exempt from New Source Review based on de minimis emissions levels.

APPENDIX A: Rule Amendments

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-400-110(1)(b)		
(b) This section applies to sources as defined in RCW 70.94.030(21), but does not include nonroad engines. Nonroad engines are regulated under WAC 173-400-035.	(b) This section applies to sources as defined in RCW 70.94.030(22), but does not include nonroad engines. Nonroad engines are regulated under WAC 173-400-035.	Updates reference to reflect reorganization of rule language. Corrects citation to RCW. No material change—not analyzed.
173-400-110(2)(a)		
(a) A notice of construction application must be filed by the owner or operator and an order of approval issued by the permitting authority prior to the establishment of any new source, except for the following:	(a) A notice of construction application must be filed by the owner or operator and an order of approval issued by the permitting authority prior to beginning actual construction of any new source, except for the following:	Clarifies language to identify what the establishment of any new source means. Consistent with definition of "establishment" in existing rule. No material change—not analyzed.
173-400-110(2)(a)(ii)		
For purposes of this section "establishment" shall mean to begin actual construction, as that term is defined in WAC 173-400-030, and "new source" shall include any modification to an existing stationary source, as defined in WAC 173-400-030.	For purposes of this section "new source" includes any modification to an existing stationary source, as defined in WAC 173-400-030, and any new or modified toxic air pollutant source, as defined in WAC 173-460-020.	Makes definitions of "new source" and "establishment" consistent across both 173-400 and 173-460, in a central location. Consistent with definitions in existing rule. No material change—not analyzed.
173-400-110(2)(b)		
(b) Regardless of any other subsection of this section, a notice of construction application must be filed and an order of approval issued by the permitting authority prior to establishment of any of the following new sources:	(b) Regardless of any other subsection of this section, a notice of construction application must be filed and an order of approval issued by the permitting authority prior to beginning actual construction of any of the following new sources:	Updates language to reflect change in terminology across entire rule. Consistent with definitions in existing rule. No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-400-110(2)(b)(i)		
(i) Any project that qualifies as construction, reconstruction or modification of an affected facility, within the meaning of 40 CFR Part 60 (New Source Performance Standards), except Part AAA, Wood stoves (in effect on February 20, 2001);	(i) Any project that qualifies as construction, reconstruction or modification of an affected facility, within the meaning of 40 CFR Part 60 (New Source Performance Standards), except subpart AAA, Wood stoves and except subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines) and subpart JJJJ (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines) as they apply to emergency stationary internal combustion engines with a maximum engine power less than or equal to 500 brake horsepower. (Federal rules in effect on April 30, 2008);	Updates language to reflect federal rules that regulate these exempted projects. The existing rule does not regulate these projects either, so there is no material change. No material change—not analyzed.
173-400-110(2)(b)(iii)		
(iii) Any project that qualifies as a new source within the meaning of 40 CFR 63.2 (National Emission Standards for Hazardous Air Pollutants for Source Categories) (in effect on October 1, 2006);	(iii) Any project that qualifies as a new source within the meaning of 40 CFR 63.2 (National Emission Standards for Hazardous Air Pollutants for Source Categories) except subpart ZZZZ (National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines) as it applies to emergency or limited use stationary reciprocating internal combustion engines with a maximum engine power less than or equal to 500 brake horsepower (Federal rules in effect on April 30, 2008);	Updates language to reflect federal rules that regulate these exempted projects. The existing rule does not regulate these projects either, so there is no material change. No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-400-110(4)		
Except as provided in subsection (2) of this section, establishment of a new emission unit that falls within one of the categories listed below is exempt from new source review. Modification of any emission unit listed below is exempt from new source review, provided that the modified unit continues to fall within one of the listed categories. The installation or modification of a unit exempt under this subsection does not require the filing of a notice of construction application.	Except as provided in subsection (2) of this section, the construction or modification of emission units in one of the categories listed below is exempt from new source review provided that the modified unit continues to fall within one of the listed categories. The construction or modification of an emission unit exempt under this subsection does not require the filing of a notice of construction application.	Reorganizes language and updates terminology consistent across documents. No material change—not analyzed.
New Section 173-400-110(4)(f)(iv)		
	(iv) Laboratory research, experimentation, analysis and testing at sources whose primary purpose and activity is research or education. To be exempt, these sources must not engage in the production of products, or in providing commercial services, for sale or exchange for commercial profit except in a de minimis manner. Pilot-plants or pilot scale processes at these sources are not exempt.	Exempts certain research activities from new Source Review. These facilities are not regulated by the existing rule. No material change—not analyzed.
173-400-110(4)(h)(xxxvii)		
	(xxxvii) Abrasive blasting performed inside a booth or hangar designed to capture the blast grit or overspray.	Exemption moved from 173-460. No material change—not analyzed.
173-400-110(4)(h)(xxxviii)		
	(xxxviii) For structures or items too large to be reasonably handled indoors, abrasive blasting performed outdoors that employs control measures such as curtailment during windy periods and enclosure of the area being blasted with tarps and uses either steel shot or an abrasive containing less than one percent (by mass) which would pass through a No. 200 sieve.	Exemption moved from 173-460. No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-400-110(4)(h)(xxxix)		
	(xxxiv) Emergency generators powered by internal combustion engines with a maximum power of less than or equal to 500 brake horsepower.	Exemption moved from 173-460. No material change—not analyzed.
173-400-110(4)(h)(xxxx)		
	(xxxv) Gasoline dispensing facilities regulated by WAC 173-491.	Exemption moved from 173-460. No material change—not analyzed.
173-400-110(5)(a)(i)		
(i) A new emissions unit that has a potential to emit below each of the levels listed in the table contained in (d) of this subsection is exempt from new source review provided that the conditions of (b) of this subsection are met.	(i) Construction of a new emissions unit that has a potential to emit below each of the levels listed in the table contained in (d) of this subsection is exempt from new source review provided that the conditions of (b) of this subsection are met.	Language changed to reflect clarified definitions. No material change—not analyzed.
173-400-110(5)(d)		
As specified in chapter 173-460 WAC.	The de minimis emission rate specified for each TAP in WAC 173-460-150.	Narrows down reference. This is the only de minimis information located in 173-460. No material change—not analyzed.
173-400-110(5)(d)		
[Table containing exemption levels for criteria air pollutants: (a) Total Suspended Particulates, (b) PM – 10, (c) Sulfur Oxides, (d) Nitrogen Oxides, (e) Volatile organic compounds, total, (f) Carbon Monoxide, (g) Lead, (h) Ozone Depleting Substances.]	[Added line to table establishing an exemption level for PM – 2.5 of 0.5 tons per year.]	Creates exemption limit for new sources emitting PM – 2.5. Analyzed qualitatively.
173-400-110(7)(d)		
(d) If the new source is a major stationary source or the change is a major modification subject to the requirements of WAC 173-400-112, the permitting authority shall:	(d) If the new source is a major stationary source or the change is a major modification subject to the requirements of WAC 173-400-112, the permitting authority must:	Change of "shall" to synonymous "must". No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-400-110(8)		
(8) Appeals. Any conditions contained in an order of approval, or the denial of a notice of construction application may be appealed to the pollution control hearings board as provided in chapter 43.21B RCW. The permitting authority shall promptly mail copies of each order approving or denying a notice of construction application to the applicant and to any other party who submitted timely comments on the application, along with a notice advising parties of their rights of appeal to the pollution control hearings board.	(8) Appeals. Any conditions contained in an order of approval, or the denial of a notice of construction application may be appealed to the pollution control hearings board as provided in chapter 43.21B RCW. The permitting authority must promptly mail copies of each order approving or denying a notice of construction application to the applicant and to any other party who submitted timely comments on the application, along with a notice advising parties of their rights of appeal to the pollution control hearings board.	Change of "shall" to synonymous "must". No material change—not analyzed.
173-400-110(10)(a)(v)		
(v) The revised order meets the requirements of WAC 173-400-110, 173-400-112, 173-400-113 and 173-400-720, as applicable.	(v) The revised order meets the requirements of WAC 173-400-110, 173-400-112, 173-400-113, 173-400-720 and WAC 173-460-040(3), as applicable.	Adds reference to ensure consistency across 173-400 and 173-460. Requirement exists in another rule. No material change—not analyzed.
173-400-110(10)(b)		
(b) Actions taken under this subsection are subject to the public involvement provisions of WAC 173-400-171.	(b) Actions taken under this subsection are subject to the public involvement provisions of WAC 173-400-171 or the permitting authority's public notice and comment procedures.	Incorporates language for consistency between 173-460 and 173-400. No material change—not analyzed.
173-400-110(10)(c)		
(c) This rule does not prescribe the exact form such requests must take. However, if the request is filed as a notice of construction application, that application must be acted upon using the timelines found in subsections (6) and (7) of this section. The fee schedule found in WAC 173-400-116 shall also apply to requests filed as notice of construction applications.	(c) This rule does not prescribe the exact form such requests must take. However, if the request is filed as a notice of construction application, that application must be acted upon using the timelines found in subsections (6) and (7) of this section. The fee schedule found in WAC 173-455-120 applies to requests filed with ecology as notice of construction applications.	Updates reference to reflect reorganization of rule language, and clarifies description. No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-010(1)		
(1) Pursuant to chapter 70.94 RCW, Washington Clean Air Act, the purpose of this chapter is to establish the systematic control of new sources emitting toxic air pollutants (TAPs) in order to prevent air pollution, reduce emissions to the extent reasonably possible, and maintain such levels of air quality as will protect human health and safety. Toxic air pollutants include carcinogens and noncarcinogens listed in WAC 173-460-150 and 173-460-160.	(1) Pursuant to chapter 70.94 RCW, Washington Clean Air Act, the purpose of this chapter is to establish the systematic control of new or modified sources emitting toxic air pollutants (TAPs) in order to prevent air pollution, reduce emissions to the extent reasonably possible, and maintain such levels of air quality as will protect human health and safety. Toxic air pollutants include carcinogens and noncarcinogens listed in WAC 173-460-150.	Updates language to incorporate definition consistent with existing language. Reflects reorganization of 173-460-150 and 160 into a single section. No material change—not analyzed.
173-460-020		
The definitions of terms contained in chapter 173-400 WAC are incorporated into this chapter by reference. In the event of a conflict between the definitions provided in chapter 173-400 WAC and the definitions provided in this section, the definitions in this section shall govern. Unless a different meaning is clearly required by context, the following words and phrases as used in this chapter shall have the following meanings. Note: For copies of the above mentioned rule and any other rule cited in this chapter, contact the Department of Ecology, Records Section, P.O. Box 47600, Olympia, WA 98504-7600.	The definitions of terms contained in chapter 173-400 WAC are incorporated into this chapter by reference. Terms specific to this chapter are defined as follows:	Reflects reorganization and clarification of 173-400 and 173-460 for consistency of definitions and use of terminology in rule language. No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-400-020(1)		
(1) "Acceptable source impact analysis" means a procedure for demonstrating compliance with WAC 173-460-070 and 173-460-080, that compares maximum incremental ambient air impacts with applicable acceptable source impact levels (ASIL).	(1) "Acceptable source impact analysis" means a procedure for demonstrating compliance with WAC 173-460-070, that compares maximum incremental ambient air impacts with applicable acceptable source impact levels (ASIL).	Reflects reorganization of rule to isolate this requirement to 173-460-070. Required by 173-460-080 only by reference to 173-460-070. No material change—not analyzed.
173-460-020(2)		
(2) "Acceptable source impact level (ASIL)" means a concentration of a toxic air pollutant in the outdoor atmosphere in any area which does not have restricted or controlled public access that is used to evaluate the air quality impacts of a single source. There are three types of acceptable source impact levels: Risk-based, threshold-based, and special. Concentrations for these three types of ASILs are determined as provided in WAC 173-460-110. ASILs are listed in WAC 173-460-150 and 173-460-160.	(2) "Acceptable source impact level (ASIL)" means a screening concentration of a toxic air pollutant in the ambient air. The ASIL for each toxic air pollutant is listed in WAC 173-460-150.	Deletes explanation of, and reference to, ASIL calculation. Clarifies and deletes unnecessary verbiage. Does not change the definition or rule requirements. No material change—not analyzed.
173-460-020(3)		
(3) "Authority" means an air pollution control authority activated pursuant to chapter 70.94 RCW that has jurisdiction over the subject source. Ecology is the authority if an air pollution control authority has not been activated or if ecology has jurisdiction over the source pursuant to RCW 70.94.395.	(Deleted.)	Incorporated by reference from 173-400. No material change—not analyzed.
173-460-020(4)		
(4) "Best available control technology for toxics (T-BACT)" applies to each toxic air pollutant (TAP) discharged or mixture of TAPs, taking in account the potency quantity and toxicity of each toxic air pollutant or mixture of TAPs discharged in addition to the meaning given in WAC 173-400-030(10).	(3) "Best available control technology for toxics (tBACT)" means Best Available Control Technology, as that term is defined in WAC 173-400-030, as applied to toxic air pollutants.	Section reorganized. Definition shortened. Deleted information included in 173-400, as referenced. No material change—not analyzed.
173-460-020(5)		

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
(5) "Carcinogenic potency factor" means the upper 95th percentile confidence limit of the slope of the dose-response curve and is expressed in units of (mg/kg-day)-1.	(Deleted.)	Term not used in rule text. No material change—not analyzed.
173-460-020(6)		
(6) "Class A toxic air pollutant (Class A TAP)" means a substance or group of substances listed in WAC 173-460-150.	(Deleted.)	Term not used in rule text. No material change—not analyzed.
173-460-020(7)		
(7) "Class B toxic air pollutant (Class B TAP)" means any substance that is not a simple asphyxiant or nuisance particulate and that is listed in WAC 173-460-160.	(Deleted.)	Term not used in rule text. No material change—not analyzed.
173-460-020(8)		
(8) "EPA's Dispersion Modeling Guidelines" means the United States Environmental Protection Agency Guideline on Air Quality Models, EPA (Revised) 40 CFR Part 51 Appendix W, and is hereby incorporated by reference.	(Deleted.)	Term not used in rule text. No material change—not analyzed.
173-460-020(9)		
(9) "EPA's Risk Assessment Guidelines" means the United States Environmental Protection Agency's Guidelines for Carcinogenic Risk Assessment, 51 FR 33992 (September 24, 1986) and is hereby incorporated by reference.	(Deleted.)	Term not used in rule text. No material change—not analyzed.
New Section 173-460-020(4)		
	(4) "De minimis emissions" means trivial levels of emissions that do not pose a threat to human health or the environment. The de minimis emission threshold values are listed in WAC 173-460-150.	New definition of newly included regulatory component. Definition does not directly change regulatory environment. Changes occur due to WAC 173-460-150 (see below). Impacts analyzed for that section.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-020(10)		
(10) "Increased cancer risk of one in one hundred thousand" means the 95th percent upper bound on the estimated risk of one additional cancer above the background cancer rate per one hundred thousand individuals continuously exposed to a Class A toxic air pollutant at a given average dose for a specified time.	(5) "Increased cancer risk of one in one hundred thousand" means the 95th percent upper bound on the estimated risk of one additional cancer above the background cancer rate per one hundred thousand individuals continuously exposed to a carcinogenic toxic air pollutant at a given average dose for a specified time.	Eliminates specification of "Class A" TAPs. Definition does not change, because "Class A" means carcinogenic in the existing rule, and this definition refers to increased cancer risk. This does not change the set of TAPs to which the increased cancer risk of one in one hundred thousand applies. No material change—not analyzed.
173-460-020(11)		
(11) "Increased cancer risk of one in one million" means the 95th percent upper bound on the estimated risk of one additional cancer above the background cancer rate per one million individuals continually exposed to a Class A toxic air pollutant at a given average dose for a specified time	(Deleted.)	Term not used in rule text. No material change—not analyzed.
173-460-020(12)		
(12) "Inhalation Reference Concentration (Inhalation RfC)" means a reference concentration published in the United States Environmental Protection Agency Integrated Risk Information System (IRIS).	(Deleted.)	Term not used in rule text. No material change—not analyzed.
173-460-020(13)		
(13) "Mixture" means a combination of two or more substances mixed in arbitrary proportions.	(Deleted.)	Term not used in rule text. No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-020(14) and (15)		
(14) "Modification" means any physical change in, or change in the method of operation of, a stationary source that increases the amount of any air contaminant emitted by such source or that results in the emission of any air contaminant not previously emitted. The term modification shall be construed consistent with the definition of modification in Section 7411, Title 42, United States Code, and with rules implementing that section. For purposes of this chapter, the term "air contaminant" shall mean "toxic air contaminant" or "toxic air pollutant" as defined in subsection (20) of this section. (15) "New toxic air pollutant source" means: (a) The construction or modification of a stationary source that increases the amount of any toxic air pollutant emitted by such source or that results in the emission of any toxic air pollutant not previously emitted; and (b) Any other project that constitutes a new source under section 112 of the Federal Clean Air Act.	(6) "New or modified toxic air pollutant source" means the construction or modification of a stationary source that increases the amount of any toxic air pollutant emitted by such source or that results in the emission of any toxic air pollutant not previously emitted.	Definitions consolidated into single definition. Definition wording clarified and simplified. No change in meaning or applicability. No material change—not analyzed.
173-460-020(16)		
(16) "Second Tier Analysis" means an optional procedure used after T-BACT and acceptable source impact analysis for demonstrating compliance with WAC 173-460-070. The second tier analysis uses a health impact assessment as provided in WAC 173-460-090, instead of an acceptable source impact level.	(Deleted.)	Second Tier analysis is a process described in 173-460-090. No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-020(17)		
(17) "Simple asphyxiant" means a physiologically inert gas or vapor that acts primarily by diluting atmospheric oxygen below the level required to maintain proper levels of oxygen in the blood. Examples of simple asphyxiants are given in Appendix X of the TLV Booklet referred to in subsection (19) of this section and incorporated by reference.	(Deleted.)	Term not used in rule text. No material change—not analyzed.
New Section 173-460-020(7)		
	(7) “Small quantity emission rate (SQER)” means a level of emissions below which dispersion modeling is not required to demonstrate compliance with acceptable source impact levels. SQERs are listed in WAC 173-460-150.	Previously defined and listed in rule text, but without official definition. No change in effect or use of SQERs due to new definition. No material change—not analyzed.
173-460-020(18)		
(18) "Threshold limit value-time weighted average (TLV-TWA)" means a concentration limit recommended by the American Conference of Governmental Industrial Hygienists (ACGIH) for a normal eight-hour workday and forty-hour workweek.	(Deleted.)	Term not used in rule text. No material change—not analyzed.
173-460-020(19)		
(19) "TLV Booklet" means "TLVs, Threshold Limit Values and Biological Exposure Indices for 1991-92," published by the American Conference of Governmental Industrial Hygienists and is hereby incorporated by reference.	(Deleted.)	Term not used in rule text. No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-020(20)		
(20) "Toxic air pollutant (TAP)" or "toxic air contaminant" means any Class A or Class B toxic air pollutant listed in WAC 173-460-150 and 173-460-160. The term toxic air pollutant may include particulate matter and volatile organic compounds if an individual substance or a group of substances within either of these classes is listed in WAC 173-460-150 and/or 173-460-160. The term toxic air pollutant does not include particulate matter and volatile organic compounds as generic classes of compounds.	(8) "Toxic air pollutant (TAP)" means any toxic air pollutant listed in WAC 173-460-150.	Section reorganized. Definition shortened due to consolidation of "Class A" and "Class B" TAP lists in new rule language. Aside from changes to the regulated TAPs included on the list(s), no material change in applicable definition of TAP. No material change—not analyzed.
173-460-020(21)		
(21) "Upper bound unit risk factor" means the 95 percent upper confidence limit of an estimate of the extra risk of cancer associated with a continuous 70 year exposure to 1 ug/m3 of a Class A toxic air pollutant.	(Deleted.)	Term not used in rule text. No material change—not analyzed.
173-460-030(1)(a)		
(a) The provisions of this chapter shall apply statewide. The authority shall enforce WAC 173-460-010, 173-460-020, 173-460-030, 173-460-040, 173-460-050, 173-460-060, 173-460-070, 173-460-080, 173-460-130, 173-460-140, 173-460-150, and 173-460-160.	The provisions of this chapter apply statewide. WAC 173-460-090 and WAC 173-460-100 must be implemented solely by ecology.	Inclusion of multiple sections delegated to the authority, replaced with exclusion of duties allocated only to ecology. No material change—not analyzed.
173-460-030(1)(b)		
(b) Except as provided in this chapter, any new toxic air pollutant source listed in (b)(i), (ii), or (iii) of this subsection that may emit a Class A or Class B TAP into the ambient air is subject to these regulations:	(Deleted.)	Applicability extended to all new or modified sources. Specification of covered industries no longer needed. Analysis of expansion to all new sources.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-030(1)(b)(i)(A)		
(A) Major group 10-Metal mining.	(Deleted.)	Applicability extended to all new or modified sources. Specification of covered industries no longer needed. Analysis of expansion to all new sources.
173-460-030(1)(b)(i)(B)		
(B) Major group 12-Bituminous coal and lignite mining.	(Deleted.)	Applicability extended to all new or modified sources. Specification of covered industries no longer needed. Analysis of expansion to all new sources.
173-460-030(1)(b)(i)(C)		
(C) Major group 13-Oil and gas extraction.	(Deleted.)	Applicability extended to all new or modified sources. Specification of covered industries no longer needed. Analysis of expansion to all new sources.
173-460-030(1)(b)(i)(D)		
(D) Manufacturing industries major groups 20-39.	(Deleted.)	Applicability extended to all new or modified sources. Specification of covered industries no longer needed. Analysis of expansion to all new sources.
173-460-030(1)(b)(i)(E)		
(E) Major group 49-Electric, gas, and sanitary services except 4971 irrigation systems.	(Deleted.)	Applicability extended to all new or modified sources. Specification of covered industries no longer needed. Analysis of expansion to all new sources.
173-460-030(1)(b)(i)(F)		
(F) Dry cleaning plants, 7216.	(Deleted.)	Applicability extended to all new or modified sources. Specification of covered industries no longer needed. Analysis of expansion to all new sources.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-030(1)(b)(i)(G)		
(G) General medical surgical hospitals, 8062.	(Deleted.)	Applicability extended to all new or modified sources. Specification of covered industries no longer needed. Analysis of expansion to all new sources.
173-460-030(1)(b)(i)(H)		
(H) Specialty hospitals, 8069.	(Deleted.)	Applicability extended to all new or modified sources. Specification of covered industries no longer needed. Analysis of expansion to all new sources.
173-460-030(1)(b)(i)(I)		
(I) National security, 9711.	(Deleted.)	Applicability extended to all new or modified sources. Specification of covered industries no longer needed. Analysis of expansion to all new sources.
173-460-030(1)(b)(iii)		
(ii) Any source or source category listed in WAC 173-400-100, 173-400-115(2), or 173-490-030(1) except WAC 173-490-030 (1)(e) gasoline dispensing facilities.	(Deleted.)	Applicability extended to all new or modified sources. Specification of covered industries no longer needed. Analysis of expansion to all new sources.
173-460-030(1)(b)(iii)		
(iii) Any of the following sources:	(Deleted.)	Applicability extended to all new or modified sources. Specification of covered industries no longer needed. Analysis of expansion to all new sources.
173-460-030(1)(b)(iii)(A)		
(A) Landfills.	(Deleted.)	Applicability extended to all new or modified sources. Specification of covered industries no longer needed. Analysis of expansion to all new sources.
173-460-030(1)(b)(iii)(B)		
(B) Sites subject to chapter 173-340 WAC Model Toxics Control Act -- Cleanup regulation.	(Deleted.)	Applicability extended to all new or modified sources. Specification of covered industries no longer needed. Analysis of expansion to all new sources.
173-460-030(2)(a)		

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
(a) Containers such as tanks, barrels, drums, cans, and buckets are exempt from the requirements of this chapter unless equipped with a vent other than those required solely as safety pressure release devices.	(Deleted.)	Exemptions included by 173-460-040(1) reference to 173-400. No material change—not analyzed.
173-460-030(2)(b)		
(b) Nonprocess fugitive emissions of toxic air pollutants from stationary sources, such as construction sites, unpaved roads, coal piles, waste piles, and fuel and ash handling operations are exempt from WAC 173-460-060.	(Deleted.)	Exemptions included by 173-460-040(1) reference to 173-400. No material change—not analyzed.
173-460-030)(2)(c)		
(c) The following sources are generally exempt from the requirements of WAC 173-460-050, 173-460-070, 173-460-080, and 173-460-090. However, the authority may on a case-by-case basis, require compliance with these sections if the authority determines that the amount of emissions, nature of pollutant, or source location indicate that the ambient impact should be evaluated.	(Deleted.)	Exemptions included by 173-460-040(1) reference to 173-400. No material change—not analyzed.
173-460-030(2)(c)(i)		
(i) Perchloroethylene dry cleaners	(Deleted.)	Exemptions included by 173-460-040(1) reference to 173-400. No material change—not analyzed.
173-460-030(2)(c)(ii)		
(ii) Petroleum solvent dry cleaning systems	(Deleted.)	Exemptions included by 173-460-040(1) reference to 173-400. No material change—not analyzed.
173-460-030(2)(c)(iii)		
(iii) Solvent metal cleaners	(Deleted.)	Exemptions included by 173-460-040(1) reference to 173-400. No material change—not analyzed.
173-460-030(2)(c)(iv)		
(iv) Chromic acid plating and anodizing	(Deleted.)	Exemptions included by 173-460-040(1) reference to 173-400. No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-030(2)(c)(v)		
(v) Abrasive blasting	(Deleted.)	Exemptions included by 173-460-040(1) reference to 173-400. No material change—not analyzed.
173-460-030(2)(d)		
(d) Demolition and renovation projects involving asbestos removal and disposal are exempt from the requirements of this chapter.	(Deleted.)	Exemptions included by 173-460-040(1) reference to 173-400. No material change—not analyzed.
173-460-030(2)(e)		
(e) Process vents subject to 40 C.F.R. Parts 264 and 265, Subpart AA are exempt from the requirements of this chapter.	(Deleted.)	Exemptions included by 173-460-040(1) reference to 173-400. No material change—not analyzed.
173-460-040(1)		
(1) Applicability. This chapter supplements the new source review requirements of WAC 173-400-110 by adding additional new source review requirements for toxic air pollutant sources. If a notice of construction is required under both chapter 173-400 WAC and this chapter, the written applications shall be combined. A notice of construction is a written application to permit construction of a new source.	(1) Applicability and exemptions. This chapter supplements the new source review requirements of WAC 173-400-110 by adding review requirements for new and modified toxic air pollutant sources. An action that is exempt from new source review under WAC 173-400-110(4) or (5) is exempt under this chapter as well, except that a local air authority may adopt its own list of exemptions in accordance with RCW 70.94.331(2)(b) to operate in lieu of or in addition to the exemptions in WAC 173-400-110(4) and (5). An action that requires a notice of construction application under WAC 173-400-110 is subject to the review requirements of this chapter, unless the emissions before control equipment of each toxic air pollutant from a new source or the increase in emissions from each modification is less than the applicable de minimis emission threshold for that TAP listed in WAC 173-460-150.	No change in applicability or co-applicability of 173-400. Co-exemption added, with no material change in effect (project exempt under one rule would be exempt under the other, under the current rule). Local authority's right to own NSR rules exists in 70.94.331, irrespective of inclusion here. New de minimis exemption. Analysis of new de minimis exemption.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-040(1)(a)		
(a) The owner or operator of a new toxic air pollutant source listed in WAC 173-460-030(1) shall notify the authority prior to the construction, installation, or establishment of a new toxic air pollutant source and shall file a notice of construction application with the authority for the proposed emission unit(s). Notification and notice of construction are not required if the source is an exempt source listed in WAC 173-460-030(2) or subsection (2) of this section.	(Deleted.)	Requirement exists under 173-400. No material change—not analyzed.
173-460-040(1)(b) and (c)		
(b) The notice of construction and new source review applies only to the affected emission unit(s) and the contaminants emitted from the emission unit(s). (c) New source review of a modification shall be limited to the emission unit or units proposed to be modified and the toxic air contaminants whose emissions would increase as a result of the modification.	(2) New source review of a modification is limited to the emission unit or units proposed to be modified and the TAPs whose emissions would increase as a result of the modification	Section reorganized. No new requirement. No material change—not analyzed.
173-460-040(2)		
(2) The owner or operator of a new toxic air pollutant source listed in WAC 173-460-030(1) is not required to notify or file a notice of construction with the authority if any of the following conditions are met:	(Deleted.)	Exemptions exist in 173-400 and are exempt by reference to that section. No material change—not analyzed.
173-460-040(2)(a)		
(a) Routine maintenance or repair requires equivalent replacement of air pollution control equipment; or	(Deleted.)	Exemptions exist in 173-400 and are exempt by reference to that section. No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-040(2)(b)		
(b) The new source is a minor process change that does not increase capacity and total toxic air pollutant emissions do not exceed the emission rates specified in small quantity emission rate tables in WAC 173-460-080; or	(Deleted.)	Exemptions exist in 173-400 and are exempt by reference to that section. No material change—not analyzed.
173-460-040)(2)(c)		
(c) The new source is the result of minor changes in raw material composition and the total toxic air pollutant emissions do not exceed the emission rates specified in the small quantity emission rate tables in WAC 173-460-080.	(Deleted.)	Exemptions exist in 173-400 and are exempt by reference to that section. No material change—not analyzed.
173-460-040(3)		
(3) Additional information. Within thirty days of receipt of a notice of construction, the authority may require the submission of additional plans, specifications, and other information necessary for the review of the proposed new or modified source.	(Deleted.)	Moved to 173-460-090. No material change—not analyzed.
173-460-040(4)		
(4) Requirements for new toxic air pollutant sources. The authority shall review notice(s) of construction, plans, specifications, and other associated information to determine that:	(3)The permitting authority that is reviewing a notice of construction application for a new or modified toxic air pollutant source must ensure that:	Wording change. No change to meaning. No material change—not analyzed.
173-460-040(4)(a)		
(a) The source will be in accord with applicable federal, state, and authority air pollution control rules and regulations;	(Deleted.)	Whether stated in this rule, the source must comply with all other laws and rules. No material change—not analyzed.
173-460-040(4)(c)		
(c) Sources required to use T-BACT for emission control demonstrate compliance with WAC 173-460-070 by using the procedures established in WAC 173-460-080 or, failing that, demonstrates compliance, by using the additional procedures in WAC 173-460-090 and/or 173-460-100.	(b) The project complies with WAC 173-460-070 as demonstrated by using the procedures established in WAC 173-460-080 or, failing that, demonstrates compliance by using the additional procedures in WAC 173-460-090 and/or 173-460-100.	Wording change. No change to meaning. No material change—not analyzed.
173-460-040(5)		

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
(5) Preliminary determination. Within thirty days after receipt of all information required, the authority shall:	(Deleted.)	Timeline required by 173-400. No material change—not analyzed.
173-460-040(5)(a)		
(a) Make preliminary determinations on the matters set forth in this section; and	(Deleted.)	Timeline required by 173-400. No material change—not analyzed.
173-460-040(5)(b)		
(b) Initiate compliance with the provisions of WAC 173-400-171 relating to public notice and public comment, as applicable.	(Deleted.)	Timeline required by 173-400. No material change—not analyzed.
173-460-040(6)		
(6) Final determination. If, after review of all information received including public comment, the authority finds that all the conditions in this section are satisfied, the authority shall issue a regulatory order to approve the notice of construction for the proposed new source or modification. If the authority finds that the conditions in this section are not satisfied, the authority shall issue an order for the prevention of construction, installation, or establishment of the toxic air pollution source(s). Where ecology has jurisdiction, it will endeavor to make final determinations as promptly as possible.	(Deleted.)	Timeline required by 173-400. No material change—not analyzed.
173-460-040(7)		
(7) Appeal of decision. A final notice of construction decision may be appealed to the pollution control hearings board pursuant to chapter 43.21B RCW.	(Deleted.)	Timeline required by 173-400. No material change—not analyzed.
173-460-040(8)		
(8) Commencement of construction. The owner(s) or operator(s) of the new source shall not commence construction until the applicable notice of construction has been approved.	(Deleted.)	Timeline required by 173-400. No material change—not analyzed.
173-460-040(9)		
(9) Operation and maintenance plan. As a	(Deleted.)	Timeline required by 173-400. No material

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
condition of notice of construction approval, prior to start up, the authority may require a plan for the operation and maintenance of all equipment and procedures to assure continuous compliance with this chapter.		change—not analyzed.
173-460-040(9)(a)		
a) A copy of the plan shall be filed with the authority upon request.	(Deleted.)	Timeline required by 173-400. No material change—not analyzed.
173-460-040(9)(b)		
(b) The plan shall reflect good industrial practice and may include operating parameters and maintenance procedures, and shall be updated to reflect any changes in good industrial practice.	(Deleted.)	Timeline required by 173-400. No material change—not analyzed.
173-460-040(9)(c)		
(c) Submittal of all plans should coincide with the authorities reporting requirements where applicable.	(Deleted.)	Timeline required by 173-400. No material change—not analyzed.
173-460-040(10)		
(10) Jurisdiction. Emission of toxic air pollutants that exceed the acceptable source impact levels listed in WAC 173-460-150 and 173-460-160 requires ecology and, if applicable, authority approval as specified in WAC 173-460-090 and 173-460-100.	(Deleted.)	Repetition deleted. Established in 173-460-030. No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-050(1)(a)		
(a) When applying for a notice of construction, an owner or operator of a new toxic air pollution source shall quantify those emissions of each TAP or combination of TAPs that: (i) Will be used for the modeling procedures in WAC 173-460-080; and (ii) That may be discharged after applying required control technology. The information shall be submitted to the authority. (b) Emissions shall be quantified in sufficient detail to determine whether the source complies with the requirements of this chapter.	A notice of construction application for a new or modified toxic air pollutant source must quantify the increase in the emissions of each TAP, after application of tBACT, emitted by the new or modified emission units.	No material change in quantification requirements. Use in modeling required below. tBACT is the required control technology. No material change—not analyzed.
173-460-050(2)		
Sources that choose to use small quantity emission rate tables instead of using dispersion modeling shall quantify emissions as required under WAC 173-460-080, in sufficient detail to demonstrate to the satisfaction of the authority that the emissions are less than the applicable emission rates listed in WAC 173-460-080.	(2) Small quantity emission rates. A notice of construction application that relies on SQERs rather than dispersion modeling to demonstrate compliance with WAC 173-460-070 must quantify the aggregate increase in emissions of each TAP emitted by the new or modified emission units after application of tBACT. The quantification must contain sufficient detail to demonstrate to the satisfaction of the permitting authority that the emissions are less than the applicable small quantity emission rates listed in WAC 173-460-150.	Clarification of language. Replacement of "shall" with synonymous "must". No material change in effect of rule. No material change—not analyzed.
173-460-050(4)		
(4) Mixtures of toxic air pollutants.	(Deleted.)	Impact included in amended ASILs. Analysis of impact due to ASIL, SQER changes.
173-460-050(4)(a)		
(a) An owner or operator of a source that may discharge more than one toxic air pollutant may demonstrate compliance with WAC 173-460-070 and 173-460-080 by:	(Deleted.)	Impact included in amended ASILs. Analysis of impact due to ASIL, SQER changes.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-050(4)(a)(i)		
(i) Quantifying emissions and performing modeling for each TAP individually; or	(Deleted.)	Impact included in amended ASILs. Analysis of impact due to ASIL, SQER changes.
173-460-050(4)(a)(ii)		
(ii) Calculating the sum of all TAP emissions and performing modeling for the total TAP emissions and comparing maximum ambient levels to the smallest ASIL; or	(Deleted.)	Impact included in amended ASILs. Analysis of impact due to ASIL, SQER changes.
173-460-050(4)(a)(iii)		
(iii) Equivalent procedures may be used if approved by ecology.	(Deleted.)	Impact included in amended ASILs. Analysis of impact due to ASIL, SQER changes.
173-460-050(4)(b)		
(b) Dioxin and furan emissions shall be considered together as one TAP and expressed as an equivalent emission of 2,3,7,8 TCDD based on the relative potency of the isomers in accordance with United States Environmental Protection Agency (EPA) guidelines.	(Deleted.)	Impact included in amended ASILs. Analysis of impact due to ASIL, SQER changes.
173-460-050(4)(c)		
(c) Polyaromatic hydrocarbon (PAH) emissions. The owner or operator of a source that may emit a mixture of polyaromatic hydrocarbon emissions shall quantify the following PAHs and shall consider them together as one TAP equivalent in potency to benzo(a)pyrene: benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indenol(1,2,3-cd)pyrene, benzo(a)pyrene. The acceptable source impact analysis shall be conducted using the polyaromatic hydrocarbon emission ASIL contained in WAC 173-460-150(3).	(Deleted.)	Impact included in amended ASILs. Analysis of impact due to ASIL, SQER changes.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-050(4)(d)		
(d) Uncontrolled roof vent emissions from primary aluminum smelters. The owner or operator of a primary aluminum smelter that may emit a mixture of polyaromatic hydrocarbons from uncontrolled roof vents shall quantify PAH emissions using either of the following methods:	(Deleted.)	Impact included in amended ASILs. Analysis of impact due to ASIL, SQER changes.
173-460-050(4)(d)(i)		
(i) Quantify PAH emissions using the procedures in (c) of this subsection; or	(Deleted.)	Impact included in amended ASILs. Analysis of impact due to ASIL, SQER changes.
173-460-050(4)(d)(ii)		
(ii) Multiply the total particulate emission mass from the uncontrolled roof vents by the percent of the particulate that is extractable organic matter. The percent extractable organic matter shall be considered one percent of total particulate matter unless ecology determines that there is compelling scientific data which demonstrates that the use of this value is inappropriate. The acceptable source impact analysis shall be conducted using the primary aluminum smelter uncontrolled roof vent PAH emission ASIL contained in WAC 173-460-150(3). Note: For example, 100 grams of particulate air emission mass times one percent yields one gram of PAH emissions.	(Deleted.)	Impact included in amended ASILs. Analysis of impact due to ASIL, SQER changes.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-060		
Except as provided for in WAC 173-460-040, a person shall not establish, operate, or cause to be established or operated any new toxic air pollutant source which is likely to increase TAP emissions without installing and operating T-BACT. Satisfaction of the performance requirements listed below fulfill the T-BACT requirement for those particular sources. Local air pollution authorities may develop and require performance requirements in lieu of T-BACT provided that ecology approves the performance requirements as equivalent to T-BACT. (6) Abrasive blasting. (a) Abrasive blasting shall be performed inside a booth or hangar designed to capture the blast grit or overspray. (b) Outdoor blasting of structures or items too large to be reasonably handled indoors shall employ control measures such as curtailment during windy periods and enclosure of the area being blasted with tarps. (c) Outdoor blasting shall be performed with either steel shot or an abrasive containing less than one percent (by mass) which would pass through a No. 200 sieve. (d) All abrasive blasting with sand shall be performed inside a blasting booth or cabinet.	(Deleted.)	Industry requirements remain regulated by federal standards to these levels, independent of regulation at state level. No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-070		
When applying for a notice of construction under WAC 173-460-040, the owner or operator of a new toxic air pollutant source which is likely to increase TAP emissions shall demonstrate that emissions from the source are sufficiently low to protect human health and safety from potential carcinogenic and/or other toxic effects. Compliance shall be demonstrated in any area which does not have restricted or controlled public access. The source shall demonstrate compliance by using procedures established in this chapter after complying with the control technology requirements in WAC 173-460-060.	. A notice of construction application must demonstrate that the increase in emissions of toxic air pollutants from the new or modified emission units at the source are sufficiently low to protect human health and safety from potential carcinogenic and/or other toxic effects. Compliance must be demonstrated in any area to which the applicant does not restrict or control access. The application must demonstrate compliance by using procedures established in this chapter after complying with the control technology requirements in WAC 173-460-060.	Rule language re-worded. "Shall" replaced with synonymous "must". No material change—not analyzed.
New Section 173-460-071 (Voluntary limits on emissions)		
	(1) If requested by an applicant, the permitting authority may issue a regulatory order that limits emissions of a particular TAP to a level that is lower than the potential emissions of that particular TAP otherwise allowed under all applicable requirements of chapter 70.94 RCW and the federal Clean Air Act.	Moved from 173-400-091. No material change—not analyzed.
New Section 173-460-071 (Voluntary limits on emissions)		
	(2) Any order issued under this section is subject to the notice and comment procedures in WAC 173-400-171 or the permitting authority's public notice and commenting procedures.	Moved from 173-400-091. No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
New Section 173-460-071 (Voluntary limits on emissions)		
	(3) Any order issued under this section must include monitoring, record keeping, and reporting requirements sufficient to ensure that the applicant complies with any conditions established under this section. Monitoring requirements must use terms, test methods, units, averaging periods, and other statistical conventions consistent with the requirements of WAC 173-400-105.	Moved from 173-400-091. No material change—not analyzed.
173-460-080		
Demonstrating ambient impact compliance.	First tier review	Section renamed. No material change—not analyzed.
173-460-080(1)		
(1) When applying for a notice of construction under WAC 173-460-040, the owner or operator of a new toxic air pollutant source which is likely to increase TAP emissions shall complete an acceptable source impact level analysis for Class A and Class B TAPs. The authority may complete this analysis.	(1) A notice of construction application for a new or modified toxic air pollutant source must include an acceptable source impact level analysis for each TAP emitted by the new or modified emission units with an emission increase greater than the de minimis emission level specified in WAC 173-460-150. The permitting authority may complete this analysis.	Class "A" and "B" TAP reference replaced with consolidated group. Addition of, "with an emission increase greater than the de minimis emissions level specified in WAC 173-460-150". Change: Projects not exceeding de minimis emissions of all TAPs are not required to file a notice of construction. Analysis of new de minimis exemption.
173-460-080(2)		
(2) Acceptable source impact analysis.	(2) Acceptable source impact analysis. The acceptable source impact analysis requirement of WAC 173-460-070 can be satisfied for any TAP using either dispersion modeling or the small quantity emission rate.	Reiterates existing (080 2 c) and proposed language (080 2 b). No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-080(2)(a)		
(a) Carcinogenic effects. The owner or operator shall use dispersion modeling to estimate the maximum incremental ambient impact of each Class A TAP from the source and compare the estimated incremental ambient values to the Class A acceptable source impact levels in WAC 173-460-150. If applicable, the source may use the small quantity emission rate tables in (e) of this subsection	(a) Dispersion modeling. The applicant who relies on dispersion modeling must model the aggregate increase in the emissions of each TAP emitted by the new or modified emission units, after application of tBACT. The notice of construction application must demonstrate that the modeled ambient impact of the aggregate emission increase of each TAP does not exceed the ASIL for that TAP as listed in WAC 173-460-150. If concentrations predicted by dispersion screening models exceed applicable acceptable source impact levels, more refined modeling and/or emission techniques must be used. Refined modeling techniques must be approved by the permitting authority.	Combines existing 080 2 a, 080 2 b, and 080 2 c into one section. No material change—not analyzed.
173-460-080(2)(c)		
(b) Other toxic effects. The owner or operator shall use dispersion modeling to estimate the maximum incremental ambient impact of each Class B TAP from the source and compare the estimated ambient values to the Class B acceptable source impact levels in WAC 173-460-160. If applicable, the source may use the small quantity emission rate tables in (e) of this subsection.	(a) Dispersion modeling. The applicant who relies on dispersion modeling must model the aggregate increase in the emissions of each TAP emitted by the new or modified emission units, after application of tBACT. The notice of construction application must demonstrate that the modeled ambient impact of the aggregate emission increase of each TAP does not exceed the ASIL for that TAP as listed in WAC 173-460-150. If concentrations predicted by dispersion screening models exceed applicable acceptable source impact levels, more refined modeling and/or emission techniques must be used. Refined modeling techniques must be approved by the permitting authority.	Combines existing 080 2 a, 080 2 b, and 080 2 c into one section. No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-080(2)(c)		
(c) Dispersion modeling. The owner or operator shall use dispersion modeling techniques in accordance with EPA guidelines. If concentrations predicted by dispersion screening models exceed applicable acceptable source impact levels, more refined modeling and/or emission estimation techniques shall be used. Refined modeling techniques shall be approved by ecology and the authority. (Note: EPA's Guideline on Air Quality Models, EPA 450/2-78-027R, can be obtained through NTIS (703) 487-4650 or can be downloaded from the OAQPS Technology Transfer Network electronic bulletin board system).	(a) Dispersion modeling. The applicant who relies on dispersion modeling must model the aggregate increase in the emissions of each TAP emitted by the new or modified emission units, after application of tBACT. The notice of construction application must demonstrate that the modeled ambient impact of the aggregate emission increase of each TAP does not exceed the ASIL for that TAP as listed in WAC 173-460-150. If concentrations predicted by dispersion screening models exceed applicable acceptable source impact levels, more refined modeling and/or emission techniques must be used. Refined modeling techniques must be approved by the permitting authority.	Combines existing 080 2 a, 080 2 b, and 080 2 c into one section. No material change—not analyzed.
173-460-080(2)(d)		
(d) Averaging times. The owner or operator shall use the averaging times in (d)(i), (ii), (iii) of this subsection unless alternate averaging times are approved by ecology. Ecology may allow the use of an alternate averaging time if it determines that the operating procedures of the source may cause a high concentration of a TAP for a short period and that consideration of potential health effects due to peak exposures may be warranted for the TAP.	Deleted	Proposed rule has standardized averaging times for all TAPs using conversions. Ecology expects the impact of these conversions to contribute to the impact of changing ASIL and SQER values, and evaluation of such change occurs there. Analysis of impacts due to changes in ASIL, SQER values.
173-460-080(2)(d)(i)		
(i) An annual average shall be used for Class A TAPs listed in WAC 173-460-150(2).	Deleted	Proposed rule has standardized averaging times for all TAPs using conversions. Ecology expects the impact of these conversions to contribute to the impact of changing ASIL and SQER values, and evaluation of such change occurs there. Analysis of impacts due to changes in ASIL, SQER values.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-080(2)(d)(ii)		
(ii) The averaging times specified in WAC 173-460-150(3) shall be used for Class A TAPs listed in WAC 173-460-150(3).	Deleted	Proposed rule has standardized averaging times for all TAPs using conversions. Ecology expects the impact of these conversions to contribute to the impact of changing ASIL and SQER values, and evaluation of such change occurs there. Analysis of impacts due to changes in ASIL, SQER values.
173-460-080(2)(d)(iii)		
(iii) A twenty-four-hour averaging time shall be used for Class B TAPs listed in WAC 173-460-160.	Deleted	Proposed rule has standardized averaging times for all TAPs using conversions. Ecology expects the impact of these conversions to contribute to the impact of changing ASIL and SQER values, and evaluation of such change occurs there. Analysis of impacts due to changes in ASIL, SQER values.
173-460-080(2)(e)		
(e) Small quantity emission rates. Instead of using dispersion modeling to show compliance with ambient impact demonstration requirements in WAC 173-460-080 and 173-460-090, a source may use the small quantity emission rate tables for all toxic air pollutants with acceptable source impact levels equal to or greater than 0.001 ug/m3. A source must first meet control technology and emission quantification requirements of WAC 173-460-050 and 173-460-060, then demonstrate that the source emission rate does not exceed the rates specified in the appropriate table below.	(b) Small quantity emission rates. An applicant may show for any TAP that the aggregate increase in emissions of that TAP, after application of tBACT, is less than the small quantity emission rate listed for that TAP in WAC 173-460-150.	SQER values change, but there is no change in the rule and procedure applied to them. See below for changes to SQER tables. Analysis of impacts due to changes in SQER values.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
New Section 173-460-080(3) (Reduction of TAPs from existing emission units)		
	(3) Reduction of TAPs from existing emission units. An applicant may include in a acceptable source impact analysis proposed reductions in actual emissions of a particular TAP from emission units at the source that are not new or modified for the purpose of offsetting emissions of that TAP caused by the new or modified source. The reductions in TAP emissions authorized by this paragraph must be included in the approval order as enforceable emission limits and must meet all the requirements of WAC 173-460-071.	Adds the option of "emissions netting" across existing units to offset emissions reductions necessary at a new source. Analysis of emissions netting option.
173-460-080(3)		
(3) Criteria for compliance. Compliance with WAC 173-460-070 is demonstrated if the authority determines that, on the basis of the acceptable source impact analysis, the source's maximum incremental ambient air impact levels do not exceed the Class A or Class B acceptable source impact levels in WAC 173-460-150 and 173-460-160; or, if applicable, the source TAP emission rates do not exceed the rates specified in subsection (2)(e) of this section.	(a) If the permitting authority finds that the modeled impact of the increase in emissions of a TAP from the new or modified emission units does not exceed the ASIL for that TAP then the authority may approve the notice of construction application. (b) If the permitting authority finds that the modeled impact of the increase in emissions of a TAP from the new or modified emission units exceeds the ASIL for that TAP then the permitting authority may not approve the project. The applicant may file a second tier review application in compliance with WAC 173-460-090.	Clarification of language and process, stating particular duties of the permitting agency. Combines Class "A" and "B" TAPs into single group. Clarifies that a permit not in compliance with this section may move to second tier review--clarifies existing procedures. No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-090(1)(a)		
(a) The owner or operator who cannot demonstrate class A or class B TAP source compliance with WAC 173-460-070 and 173-460-080 using an acceptable source impact level analysis as provided in WAC 173-460-080(2), may submit a petition requesting ecology perform a second tier analysis evaluation to determine a means of compliance with WAC 173-460-070 and 173-460-080 by establishing allowable emissions for the source. Petitions for second tier analysis evaluation shall be submitted to the local authority or ecology if ecology has jurisdiction over the source. Petitions received by local authorities shall be submitted to ecology within ten days of receipt. A second tier analysis evaluation may be requested when a source wishes to more accurately characterize risks, to justify risks greater than acceptable source impact levels, or to otherwise modify assumptions to more accurately represent risks. Risks may be more accurately characterized by utilizing updated EPA unit risk factors, inhalation reference concentrations, or other EPA recognized or approved methods. Ecology shall specify the maximum allowable emissions of any class A or class B TAP source based on ecology's second tier analysis evaluation.	(1) Applicability. An applicant who cannot demonstrate compliance with WAC 173-460-070 using an acceptable source impact level analysis as provided in WAC 173-460-080, may submit a petition requesting that ecology perform a second tier review to determine a means of compliance with WAC 173-460-070. Petitions for second tier review must be submitted to ecology with a copy to the permitting authority with jurisdiction.	Clarifies language to identify the application process at second tier level of review. No material change. Moved to full subsection 1. No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-090(1)(b)		
(b) Ecology shall evaluate a source's second tier analysis only if: (i) The authority has advised ecology that other conditions for processing the notice of construction have been met; and (ii) Emission controls contained in the conditional notice of construction represent at least T-BACT; and (iii) Ambient concentrations exceed acceptable source impact levels after using more refined emission quantification and air dispersion modeling techniques.	(2)Second tier petition submittal requirements. Ecology will evaluate a second tier petition only if: (a) The permitting authority submits to ecology a preliminary order of approval that addresses all applicable new source review issues with the exception of the outcome of the second tier review, State Environmental Policy Act review, public notification, and prevention of significant deterioration review; and (b) The emission controls contained in the preliminary order of approval represent at least tBACT; and (c) The applicant has developed a health impact assessment protocol that has been approved by Ecology; (d) The ambient impact of the aggregate emissions increase of each TAP that exceeds acceptable source impact levels has been quantified using refined air dispersion modeling techniques as approved in the health impact assessment protocol; and (e) The petition contains a health impact assessment conducted in accordance with the approved health impact assessment protocol.	Rewording and clarification of existing rule. Additionally reiterates requirement that applications be complete for evaluation. Moved to subsection 2. No material change—not analyzed.
173-460-090(2)(a) and (b)		
(a) Any second tier analysis application submitted by a source wishing to emit toxic air pollutants at levels greater than the acceptable source impact level contained in WAC 173-460-150 or 173-460-160 shall be approved or rejected by ecology. (b) Any new emission limits approved by ecology as a result of the second tier analysis evaluation shall be enforced by the authority provided the authority approves the new emission limits.	(9) Recommendation. Within sixty days of determining that a petition is complete ecology must make a recommendation to the permitting authority. (a) If ecology recommends approval of the second tier petition, the permitting authority may approve the notice of construction application. Any new emission limits or conditions specified by ecology must be incorporated into the approval order. (b) If ecology recommends denial of the second tier petition then the permitting authority may not approve the project.	Reorganization: moved to subsection 9. Incorporates time limit for ecology recommendation of 60 days, taken from 173-400. No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-090(3)(a)		
(a) Based on the second tier analysis, ecology may approve the emissions of TAPs from a source where ambient concentrations exceed acceptable source impact levels only if it determines that emission controls represent at least T-BACT and the source demonstrates that emissions of Class A TAPs are not likely to result in an increased cancer risk of more than one in one hundred thousand. The emission of Class A TAPs at levels likely to result in an increased cancer risk of more than one in one hundred thousand requires the approval of the director after complying with WAC 173-460-100.	(6) Approval criteria for second tier review. Ecology may recommend approval of a project that is likely to cause an exceedance of acceptable source impact levels for one or more TAPs only if it determines that the emission controls for the new and modified emission units represent tBACT and the applicant demonstrates that the increase in emissions of TAPs is not likely to result in an increased cancer risk of more than one in one hundred thousand and ecology determines that the non-cancer hazard is found to be acceptable.	Rewording and clarification of existing rule. Incorporates class "A" and "B" TAPs into one group. Moved to subsection 6. No material change—not analyzed.
173-460-090(3)(b)		
(b) Ecology shall consider the second tier analysis and other information submitted by the applicant as well as department of health comments. (i) Comments from other agencies and universities with appropriate expertise may also be considered in the decision to approve emissions that exceed acceptable source impact levels. (ii) Public comments shall be considered if the source applies for a risk management decision under WAC 173-460-100.	(8) Public involvement. All notice of construction approval orders with a second tier component are subject to the public notice and comment requirements of WAC 173-400-171, which may be integrated with the permitting authority's public notice and comment procedures.	Reorganization: moved to subsection 8. Clarification of existing language. Dept. of Health comments may be part of public comment. Public comments for Third Tier review section moved to 173-460-100. No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-090(4)		
(4) Contents of the second tier analysis. (a) The second tier analysis consists of a health impact assessment. The applicant shall complete and submit a health impact assessment to ecology which includes the following information. Ecology may approve the submittal of less information if it determines that such information is sufficient to perform the second tier analysis evaluation. The health impact assessment shall be prepared in accordance with EPA's risk assessment guidelines as defined in WAC 173-460-020(9). (i) Demographics such as population size, growth, and sensitive subgroups; … (ix) Length of exposure and persistence in the environment.	(3) Health impact assessment (HIA) protocol. The HIA presents data about the new or modified source and its built and natural environment. A HIA includes but is not limited to: site description, TAP concentrations and toxicity, identification of exposed populations and an exposure assessment. The HIA protocol must be reviewed and approved by ecology prior to development of the HIA. The health impact assessment must utilize current scientific information. New scientific information on the toxicological characteristics of toxic air pollutants may be used by ecology to justify modifications of risk-based concentrations.	HIA requirements do not change. Clarification and rewording of existing requirements. Moved to subsection 3. No material change—not analyzed.
New Section 173-460-090(4)		
	(4) Background concentrations of TAPs will be considered as part of a second tier review. Background concentrations can be estimated using: (a) The latest National Ambient Toxics Assessment data for the appropriate census tracts, or (b) Ambient monitoring data for the project's location, or (c) Modeling of emissions of the TAPs subject to second tier review from all stationary sources within 1.5 kilometers of the source location.	Clarifies use of background concentrations of TAPs. Background emissions are considered under the existing rule, in background cancer risk. This section makes the consideration and source materials explicit. No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
New Section 173-460-090(5) (Reduction of TAPs from existing emission units)		
	(5) Reduction of TAPs from existing emission units. For the purpose of offsetting emissions of a particular TAP, an applicant may propose reductions in actual emissions of that TAP from existing, unmodified emission units at the source or existing, unmodified emission units at other nearby sources. The health impact analysis must evaluate the benefits of the emission reductions. The reductions in TAP emissions authorized by this paragraph must be included in an approval order as enforceable emission limits and must meet all requirements of WAC 173-460-071.	New concept for this rule. Allows "emissions netting" across the new source and existing sources. Analysis of new emissions netting option.
173-460-090(5)(a)		
(a) If approved by ecology, newly discovered scientific information which was unavailable at the time of the original submission of the health assessment may be used to justify modifications of the original health assessment. Ecology may approve the additional information if the source exercised due diligence at the time of original submission.	(3) Health impact assessment (HIA) protocol. The HIA presents data about the new or modified source and its built and natural environment. A HIA includes but is not limited to: site description, TAP concentrations and toxicity, identification of exposed populations and an exposure assessment. The HIA protocol must be reviewed and approved by ecology prior to development of the HIA. The health impact assessment must utilize current scientific information. New scientific information on the toxicological characteristics of toxic air pollutants may be used by ecology to justify modifications of risk-based concentrations.	Rewording and clarification of existing requirements. Moved to subsection 3. No material change—not analyzed.
173-460-090(5)(b)		
(b) Within thirty days after receipt of the second tier analysis and all supporting data and documentation, ecology may require the submission of additional information needed to evaluate the second tier analysis.	(7) Application processing. Within thirty days after receiving a second tier petition ecology must either notify the applicant in writing that the application is complete or notify the applicant in writing of all additional information required to make it complete.	Rewording and clarification of existing requirements. Moved to subsection 3. No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-090(6)		
(6) Determination. (a) If the second tier analysis is approved by ecology, ecology will return the petition to the authority and the authority may approve the notice of construction. (b) The authority shall specify allowable emissions consistent with ecology's second tier analysis evaluation determination expressed in weight of pollutant per unit time for each emissions unit involved in the application. The notice of construction shall also include all requirements necessary to assure that conditions of this chapter and chapter 173-400 WAC are satisfied.	(9) Recommendation. Within sixty days of determining that a petition is complete ecology must make a recommendation to the permitting authority. (a) If ecology recommends approval of the second tier petition, the permitting authority may approve the notice of construction application. Any new emission limits or conditions specified by ecology must be incorporated into the approval order. (b) If ecology recommends denial of the second tier petition then the permitting authority may not approve the project.	Rewording and clarification of existing requirements. Clarification of duties of Ecology and local agencies. Moved to subsection 9. No material change—not analyzed.
173-460-090(7)		
Ecology decisions regarding second tier analysis or decisions under WAC 173-460-100 shall comply with public notification requirements contained in WAC 173-400-171.	(8) Public involvement. All notice of construction approval orders with a second tier component are subject to the public notice and comment requirements of WAC 173-400-171, which may be integrated with the permitting authority's public notice and comment procedures.	Rewording and clarification of existing requirements. Moved to subsection 8. No material change—not analyzed.
173-460-100(1)		
(1) Applicability. The owner or operator of a source that emits Class A TAPs that are likely to result in an increased cancer risk of more than one in one hundred thousand may request that ecology establish allowable emissions for the source.	(1) Applicability. An applicant for a project that exceeds the second tier review thresholds may submit a third tier petition requesting that the director of ecology approve the project based on a risk management analysis.	Rewording and use of synonymous terms, by definition or requirement from previous sections. No material change—not analyzed.
173-460-100(2)		
(2) Contents of the application. The applicant shall meet the submittal requirements of WAC 173-460-090(1) and submit all materials required under WAC 173-460-090 (4) and (5). The applicant may submit the request for a risk management decision concurrently with the second tier analysis application. Prior denial of the second tier analysis application under WAC 173-460-090(6) is not required.	(2) Contents of the petition. The petition must meet the submittal requirements of WAC 173-460-090. The applicant may submit the request for a risk management decision concurrently with the second tier petition. Prior denial of a second tier petition submitted under WAC 173-460-090(8) is not required.	Rewording of existing requirements, change in references to correspond to reorganization of document. Clarification of "analysis" to "petition". No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-100(3)		
(3) Criteria for approval. Ecology may approve the emissions of TAPs from a source where ambient concentrations are likely to result in an increased cancer risk of more than one in one hundred thousand only if the source first demonstrates the following:	(3) Criteria for approval. Ecology's director must find that the following conditions are met before approving a third tier petition:	Specifies that Ecology's director must approve the third tier petition. Ecology does not expect third tier applications except in exceptional circumstances, and so does not expect this specification to be a substantial change. No material change—not analyzed.
173-460-100(3)(a)		
(a) Proposed emission controls represent all known available and reasonable technology; and	(a) Proposed emission controls represent at least tBACT; and	Rewording of existing requirement. No material change—not analyzed.
173-460-100(3)(b)		
(b) Application of all known available toxic air pollution prevention methods to reduce, avoid, or eliminate toxic air pollutants prior to their generation including recycling, chemical substitution, and efforts to redesign processes; and	(b)A HIA has been completed as described in WAC 173-460-090(3).	Rewording of existing requirement by reference. Application of available methods requirement repeated in 173-460-100(4) of existing rule and amended rule. No material change—not analyzed.
173-460-100(3)(c)		
(c) The proposed changes will result in a greater benefit to the environment as a whole.	(c) Approval of the project will result in a greater environmental benefit to the State of Washington.	Rewording of existing requirement, with specification to Washington State. Clarification of existing rule. No material change—not analyzed.
173-460-100(4)		
(4) Additional methods to reduce toxic air pollutants. In addition to the requirements in subsection (3) of this section, the owner or operator may propose and ecology may consider measures that would reduce community exposure, especially exposure of that portion of the community subject to the greatest additional risk, to comparable toxic air pollutants provided that such measures are not already required.	(4) Additional methods to reduce toxic air pollutants. In addition to the requirements in subsection (3) of this section, the applicant may propose and ecology may consider measures that would reduce community exposure, especially exposure of that portion of the community subject to the greatest additional risk, to comparable toxic air pollutants provided that such measures are not already required.	Change of "owner or operator" to "applicant", by definition. No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-100(5)		
(5) Public involvement. Ecology will initiate public notice and comment within thirty days of receipt of a completed risk management decision application. In addition to the public notice and comment requirements of WAC 173-400-171, the owner or operator shall hold a public hearing to:	(6) Public involvement. Ecology will initiate public notice and comment within sixty days of determining that a third tier petition is complete. In addition to the public notice and comment requirements of WAC 173-400-171, the applicant must hold a public hearing to:	Change in time limit for initiating third tier public notice. Ecology does not expect third tier applications except in exceptional circumstances, and so does not expect this specification to be a substantial change. Moved to subsection 6. No material change—not analyzed.
173-460-100(6)		
(6) Time limitation. The owner or operator shall commence construction within eighteen months of the director's approval.	(Deleted.)	Time limitation exists in 173-400-110(9). No material change—not analyzed.
New Section 173-460-100(5) (Application processing)		
	(5) Application processing. Within thirty days of receiving a third tier petition ecology must determine if the petition includes the information required in WAC 173-460-090. If the petition is deemed complete, ecology must begin substantive review. If the petition is deemed incomplete, ecology must give written notification to the applicant of the information that is required to make the petition complete	Moved from existing 173-400-110(5). No material change—not analyzed.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-110		
There are three types of acceptable source impact levels: Risk-based, threshold-based, and special acceptable source impact levels. They are computed as follows: (1) Risk-based acceptable source impact levels for Class A TAPs. Risk-based acceptable source impact levels means the annual average concentration, in micrograms per cubic meter, that may cause an increased cancer risk of one in one million. Ecology shall calculate the risk-based acceptable source impact levels for Class A TAPs in WAC 173-460-150(2) using the following equation: Risk based ASIL (ug/m3)=RISK/URF, Where RISK = Cancer risk level (1 in 1,000,000) URF = Upper bound unit risk factor as published in IRIS data base or other appropriate sources (ug/m3)-1 … (3) Special acceptable source impact levels. (a) Ecology may establish special acceptable source impact levels for TAPs for which upper bound risk factors or TLVs have not been established, or for mixtures of compounds if it determines that the above acceptable source impact level methods are not appropriate, do not adequately protect human health or are overly stringent. (b) The averaging times for special ASILs are listed in WAC 173-460-150(3).	(Deleted.)	Calculation of sources does not impact requirement to use ASIL, SQER, and/or de minimis emissions levels as listed in tables. While explanation of calculations has been deleted, it is available in a separate document from Ecology, and does not create an impact other than the direct impact of changes to the ASIL, SQER, and de minimis values themselves. Analysis of impacts due to changes in ASIL, SQER values, and addition of de minimis values.

EXISTING RULE LANGUAGE	NEW RULE LANGUAGE	CHANGE AND ANALYSIS?
173-460-120		
Scientific review and amendment of acceptable source impact levels and lists. (1) Ongoing scientific review. (a) To use the best available scientific information, ecology shall conduct an ongoing review of information concerning whether to add or delete toxic air pollutants to WAC 173-460-150 or 173-460-160, what acceptable source impact levels should be used to review emissions of TAPs, source applicability and exemptions. (b) A complete review shall be made at least once every three years at which time ecology shall consider scientific information developed by the E.P.A., Washington department of health, other states or other scientific organizations, scientific information provided by any person, and results of second tier analyses evaluations … (3) Acceptable source impact level (ASIL). Ecology may adopt an ASIL only if ecology determines that concentrations at that level will not unreasonably endanger human health.	(Deleted)	All requirements of this section are required by statute (RCW 70.34.331). No material change—not analyzed.
173-460-130		
Fees. (1) Pursuant to RCW 70.94.152, ecology or the authority may charge a fee for the review of notices of construction. (2) The fee imposed under this section may not exceed the cost of reviewing plans, specifications, and other information and administering such notice.	(Deleted.)	Removes duplicated requirement. Fees for NOC permits located in 173-400-116. No material change—not analyzed.
173-460 Tables		
Existing ASIL and SQER values, and existing averaging periods in multiple tables.	New ASIL and SQER values, standardized averaging periods, new de minimis emissions levels. Consolidated into single list.	Increasing, decreasing, added, and eliminated screening levels create impacts. Analysis of impacts due to changes in ASIL, SQER values, standardized averaging periods, and addition of de minimis values.

APPENDIX B: Setting the Acceptable Source Impact Level, Small Quantity Emission Rates, and De Minimis Values

Selecting the sources and values for the Acceptable Source Impact Level (ASIL) was a major portion of the work involved in revising chapter 173-460 WAC. The AQP selected risk-based concentrations from three sources – the U. S. Environmental Protection Agency (EPA), the Agency for Toxic Substances and Disease Registry (ATSDR) and the California Office of Environmental Health Hazard Assessment (OEHHA).

What major elements were considered as the ASIL list was developed?

A few major decision points formed the base for creating the list in the proposed rule. We decided that:

- Only those pollutants with an identified risk factor would be included on the list.
- Each pollutant would have only one ASIL and one concentration averaging time.
- Each ASIL could have either a short term value or a long term value but not both.
- A short term ASIL can have a 1-hour or 24-hour averaging period.
- If the three data bases had acute, chronic, and cancer based values, the ASIL is set on the most recently promulgated carcinogenetic value.
- We would set chronic ASILs with 24-hour time weighted averages rather than with annual averages as chronic RELs, RfCs and MRLs have virtually the same definition. Continuous exposure is emphasized as opposed to intermittent brief high level acute exposures not occurring daily.
- If the data source didn't provide an averaging period, Ecology set it at 24-hours.
- A 24-hour averaging period was set for non-carcinogenic, chronic RELs or MRLs
- All short term (24-hrs or less) RELs, RfCs MRLs values are based on the most recently published number.
- We would not use intermediate or draft MRLs, RELs URFs, or RfCs.

How were chronic non-cancer risks considered?

We looked at the definitions of chronic noncancer risk-based concentrations used by EPA, ATSDR and OEHHA. EPA and ATSDR emphasize daily continuous exposure for their RfCs and MRLs, whereas OEHHA does not give a clear expression of concentration averaging time for its chronic RELs. Nonetheless, in most cases, the chemical-by chemical concentrations listed by EPA and ATSDR are the same as those of listed by OEHHA.

Each agency uses a different term for its concentration:

- A Reference Concentration (RfC) is defined by the federal EPA as "an estimate… of a daily exposure to the human population, (including sensitive subgroups) that is likely to be without appreciable risk of deleterious effects during a lifetime of exposure."
- A chronic Minimal Risk Level (MRL) is defined by the federal ATSDR as "an estimate of daily human exposure to a substance that is likely to be without an appreciable risk of non-carcinogenic adverse effects over a lifetime of exposure."
- A chronic Reference Exposure Level (REL) is defined by the California OEHHA as a "concentration level …at or below which no adverse health effects are anticipated following long-term exposure."

How were the Small Quantity Emission Rates set?

Each pollutant on the TAP list has a small quantity emission rate (SQER). The SQER values are derived from the ASIL values, calculated through modeling. The screen model used in determining the SQERs in WAC 173-460-150 was Screen 3 Version 96043.

SQER values are based on the following model inputs and calculations:

Questions in the screen model	**Answers to insert**
Source?	Point
Emission rate?	1 gram per second
Stack height?	5 meters
Stack diameter?	0.33 meters
Exit velocity?	0.00001 meters per second
Stack temperature? (assume ambient)	293.15 K
Receptors above ground?	Yes, 1.6 meter
Urban or rural?	Rural
Building downwash?	Yes
Building height?	5 meters
Minimum horizontal dimension?	10 meters
Maximum horizontal dimension?	20 meters
Complex terrain?	No

Meteorology	Full
Automated distance array:	Y 10,0000
Use discrete distances?	Yes, 50 meters
Terrain height above stack base?	No

Note: A value of 1 as a g/sec input to Screen results in a 3623 µg/m3 concentration at a 50 meter fence line (compliance point).

SQER Calculations

	Carcinogenic TAPS	**Non-carcinogenic TAPS**
Averaging time	Annual	24 hours
Emission unit	Grams/second	Grams/second
Formula	ASIL/(3623*0.1)	ASIL/(3623*0.4)
Result	Pounds/year	Pounds/hour

Example: Calculating SQER from annual and 24-hr ASIL

SQER (lb/yr) = Annual ASIL (ug/m3) x 60 (sec/min) x 60 (min/hr) x 8760 (hr/yr)

3623 (µg/m3) x 0.1 x 453.6 (g/lb)
(g/sec)

SQER (lb/hr) = 24-hr ASIL (ug/m3) x 60 (sec/min) x 60 (min/hr)

3623 (µg/m3) x 0.4 x 453.6 (g/lb)
(g/sec)

We used the following formula to convert ppm to mg/m^3:

Y mg/m^3 = (X ppm)(molecular weight)/24.45

To convert from mg/m^3 to $\mu g/m^3$ multiply by 1000

Screen Conversion Factors

Convert from	Convert to	Multiply by
1-hr	2-hr	0.95
1-hr	3-hr	0.9
1-hr	4-hr	0.9
1-hr	6-hr	0.7
1-hr	7-hr	0.7
1-hr	8-hr	0.7
1-hr	24-hr	0.4
1-hr	Annual	0.1

How were the de minimis values established?

The de minimis values are set at 1/20 of the small quantity emission rates, SQER. This is the same concept that was applied to the de minimis values in WAC 173-400-110(5). In this rule the de minimis is set at 1/20th of the Prevention of Significant Deterioration Significant Emission Rates. Both de minimis rates are appropriate regulatory vehicles.

The table in chapter WAC 173-460-150 lists de minimis rates in pounds per year, pounds per day, or pounds per hour.

Where can I find more information about the toxic air pollutants?

Each of the chemicals listed in WC 173-460-150 can be found in one of indexes referenced below. These web links can be searched by chemical name or CAS number.

California OEHHA

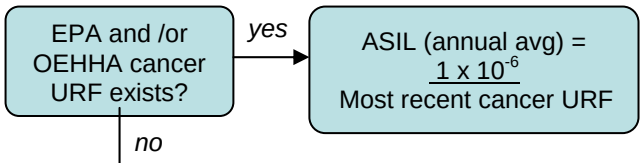
http://www.oehha.ca.gov/air/chronic_rels/12Dec2001CRELs.html
http://www.oehha.ca.gov/air/chronic_rels/pdf/22chrels.pdf
http://www.oehha.ca.gov/air/chronic_rels/22more.html
http://www.oehha.ca.gov/air/chronic_rels/16Chrels.html
http://www.oehha.ca.gov/air/hot_spots/pdf/111407memo.pdf
http://www.oehha.ca.gov/air/chronic_rels/pdf/DISULFIDEAdoptChronREL.pdf
Acute RELs: http://www.oehha.org/air/acute_rels/allAcRELs.html
Chronic RELs: http://www.oehha.org/air/chronic_rels/AllChrels.html
URFs: Appendix A in the linked document
http://www.oehha.org/air/hot_spots/pdf/May2005Hotspots.pdf

Agency for Toxic Substances and Disease Registry ATSDR
http://www.atsdr.cdc.gov/mrls/index.html

U. S. Environmental Protection Agency EPA
http://cfpub.epa.gov/ncea/iris/index.cfm

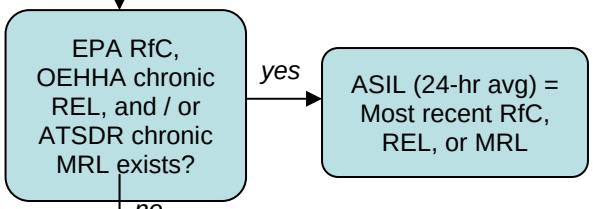
Hierarchy for choosing toxicological values used in establishing ASILs

Hierarchy I



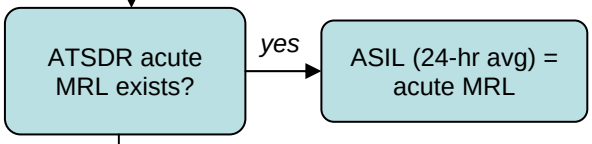
no

Hierarchy II



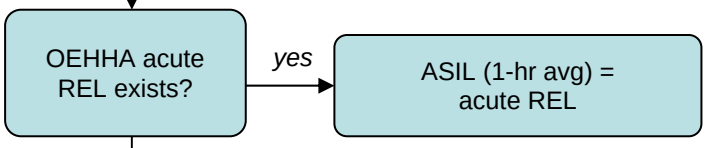
no

Hierarchy III



no

Hierarchy IV



no

ASIL –	Acceptable Source Impact Level (ug/m^3)
ATSDR –	Agency for Toxic Substances and Disease Registry
EPA –	U.S. Environmental Protection Agency
OEHHA –	California Office of Environmental Health Hazard Assessment
MRL –	Minimal Risk Level
RfC –	Reference Concentration
REL –	Reference Exposure Level
URF –	Unit risk factor (cancer potency)