Dangerous Waste Corrective Action Permit
Tesoro (Marathon) Anacortes Refinery
Fact Sheet
April 7, 2021

The Department of Ecology is proposing to issue a draft permit for corrective action to Tesoro Anacortes Refinery & Marketing Company LLC (d/b/a Marathon Anacortes Refinery). The refinery is located at 10200 West March Point Road in Anacortes, Washington. The permit references and attaches a State Model Toxics Control Act (MTCA) Agreed Order. The order requires Tesoro to investigate and clean up any releases from their oily water sewer.

This permit is required to meet the corrective action requirements of the Hazardous Waste Management Act, Revised Code of Washington, 70.105. Corrective action is required for all facilities that currently have or had permits to treat, store, or dispose of hazardous waste.

The final permit will allow corrective action at the refinery for the next 10 years from the effective date, unless investigation and cleanup of any releases is completed sooner. However, the permit can be modified at any time during this period. Some permit modifications are subject to public review and comment.

RCRA Corrective Action 2020 Initiative

The Marathon Anacortes Refinery was included as a Resource Conservation and Recovery Act (RCRA) corrective action facility under EPA's RCRA Corrective Action 2020 Initiative. The refinery's oily water sewer was identified as a Solid Waste Management Unit (SWMU) with potential for releases of hazardous substances into the environment. The Marathon Anacortes Refinery is an operating facility. There are no known releases from the oily water sewer. Corrective action at the oily water sewer will be different from remediation at a closed facility.

State and Federal Authorities for Permits and Corrective Action

The U.S. Environmental Protection Agency (EPA) established federal requirements for facilities that manage hazardous wastes or conduct corrective action. The Solid Waste Disposal Act, amended by the Resource Conservation and Recovery Act (RCRA) and the Hazardous and Solid Waste Amendments of 1984 (HSWA), and the regulations promulgated in Title 40 of the Code of Federal Regulations, regulate the management of hazardous waste nationwide.

On January 31, 1986, Ecology received authorization from EPA for the state's hazardous waste program. In Washington, both EPA and Ecology regulate hazardous waste. Washington regulates more wastes than EPA and Washington-regulated wastes are called dangerous wastes.

The Washington State Hazardous Waste Management Act, Chapter 70.105 RCW, and the Dangerous Waste Regulations, Chapter 173-303 WAC, regulate the management of dangerous waste in Washington. EPA authorized the state's hazardous waste corrective action program on November 4, 1994.

Under the federally authorized corrective action program, an order or other administrative mechanism incorporating Washington State's cleanup authority, MTCA, is considered part of the authorized program. However, the order or other administrative mechanism must be incorporated into an existing permit or issued simultaneously with and incorporated by reference into a new dangerous waste permit. This process of placing specific cleanup requirements in an order is used to save time and resources and simplify the decision process.

Corrective action is an environmental cleanup program for facilities subject to treatment, storage, or disposal (TSD) permit requirements. These facilities must have a permit to conduct corrective action. The corrective action program was created to protect human health and the environment from the harmful effects of releases or threatened release of hazardous wastes or hazardous substances from solid waste management units at TSD facilities.

Ecology is proposing to issue a corrective action permit to Tesoro, which incorporates a MTCA agreed order and provides the regulatory framework and legal requirements for continued cleanup actions. The overall regulatory authority for corrective action is RCRA but Ecology uses the procedures and standards in MTCA to conduct corrective action. This has resulted in quicker cleanups that are consistent with other remediation done in Washington.

Facility Description

The Marathon Anacortes Refinery is located in Skagit County approximately five miles east of the city of Anacortes, Washington. The refinery is located on the northern half of the March Point peninsula on Fidalgo Island with Fidalgo Bay to the west and Padilla Bay to the east.

The facility was constructed in 1955 and processes approximately 115,000 barrels per day of crude oil. The refinery separates crude oil into various components for further processing and blending into a variety of petroleum products. These products include gasoline, turbine and jet fuel, diesel oil, liquid petroleum gas, and residual fuel oil.

Facility Permit History

On November 8, 1988, EPA and Ecology issued a Permit for the Land Treatment of Dangerous Waste to Shell Oil Company (now Tesoro). The permit included operating, closure, and post-closure requirements for the land treatment field at the refinery. The permit was modified several times but not renewed because land treatment operations at the facility ended in 1998.

The permit also included corrective action requirements for a number of SWMUs at the refinery. All of the SWMUs have been addressed with the exception of the oily water sewer.

Permit Modification Request

The RCRA Subtitle C hazardous waste management regulations and the state Dangerous Waste Regulations establish a post-closure care period of 30 years for certain hazardous waste treatment, storage and disposal facilities, and specify post-closure activities.

The post-closure care requirements apply to land disposal units (landfills, land treatment units, and surface impoundments) that leave hazardous waste in place after closure. Post-closure care activities consist of two primary responsibilities: monitoring and reporting, and maintaining the integrity of the waste containment systems.

The federal and state regulations include provisions in which a post-closure care period may be shortened where the reduced period is sufficient to protect human health and the environment. EPA has developed criteria for a permitting authority to consider in evaluating a change in a post-closure care period.

Tesoro's current RCRA permit includes post-closure care requirements for the landfarm at Site 1. In December 2020, Tesoro submitted a request to modify the permit to shorten and end the post-closure care period for Site 1. The permit modification request includes information and data addressing the EPA criteria for allowing changes in the post-closure care period.

Ecology is proposing to approve Tesoro's permit modification request. The draft approval letter includes several conditions requiring that Tesoro maintain the deed restriction for Site 1 and perform an annual inspection of the site to check fencing, signage, and vegetative cover. The letter also encourages Tesoro to review local decommissioning requirements in addition to state requirements if the refinery decides to decommission the ground water monitoring wells at Site 1.

Once the post-closure care period for Site 1 ends, there will no longer be the need for a full permit, as the site status will change from a post-closure permitted facility to an operating large quantity generator. The OWS will be addressed through the proposed corrective action permit and agreed order.

Oily Water Sewer

The oily water sewer (OWS) has been in operation since the refinery was constructed. The OWS is the underground piping system, which conveys process wastewater, stormwater runoff from process areas, and fire water to the refinery's wastewater treatment system. The wastewater can contain total petroleum hydrocarbons (gasoline and diesel range); benzene, toluene, ethylbenzene, and xylene (BTEX), polycyclic aromatic hydrocarbons (PAHs), and metals.

Agreed Order

Ecology and Tesoro are entering into a MTCA agreed order that requires Tesoro to investigate and clean up any contamination from the oily water sewer. The Order includes requirements to:

- Submit an Investigation and Response Plan to identify and cleanup releases.
- Fix the cause of a release.
- Determine the nature and extent of any soil or groundwater contamination from a release.
- Submit a work plan describing the interim action (partial cleanup) that will be implemented to address contamination.
- Submit annual progress reports to summarize findings of the oily water sewer investigation and any remedial actions taken to address releases.

The Order specifies a number of presumptive interim actions based on Ecology-developed MTCA model remedies for petroleum contaminated soils and petroleum contaminated groundwater. The purpose of the model remedies is to streamline and accelerate cleanup actions. Tesoro may select from one of these presumptive interim actions or propose a different remedy in the work plan submitted to Ecology.

State Environmental Policy Act

Ecology must make a SEPA threshold determination for any proposed interim actions under a MTCA agreed order (WAC 197-11-268). For SEPA purposes, Ecology determined that reasonable "bounding" assumptions could be made in Tesoro's environmental checklist based on the nature of the presumptive interim actions prescribed in the Agreed Order and facility-specific information. So long as a future interim action fits within these bounding assumptions, the assumptions should be sufficient to inform a threshold determination. This approach would not apply to interim actions that do not implement the presumptive interim actions in the Agreed Order. In these cases, a separate public notice and SEPA threshold determination will be required for the work plan submitted to Ecology for approval.

Tesoro submitted an Environmental Checklist for the presumptive actions prescribed in the Agreed Order. Ecology reviewed the checklist and determined that the proposed action will not have a probable significant adverse impact on the environment and has issued a Determination of Nonsignificance.

Public Comment Period

Ecology welcomes public comment on the draft Tesoro corrective action permit. Ecology will consider all comments before making the permit final. Comments must be submitted online or mailed **by June 7, 2021** to be considered.

Submit comments on the draft Tesoro permit:

- Online at https://hwtr.ecology.commentinput.com/?id=pW8Dk
- By mail (postmarked no later than June 7, 2021) to:

  Greg Gould
  Department of Ecology
  Industrial Section
  P.O. Box 47600
  Olympia, WA 98504-7600

Public Hearing

Ecology will hold an online public hearing on **May 20, 2021**, starting at **4:00 pm Pacific Time**. The hearing will include a short presentation regarding the proposed approval of Tesoro's permit modification request and the proposed investigation and cleanup action for the oily water sewer. Join the event online at https://tinyurl.com/anacortesOWSevent.

Appealing Ecology's Decision

Anyone who comments on a permit or participates in the public hearing may appeal Ecology's final decision on the permit within 30 days of when the permit is issued. Others may appeal changes made between the draft permit and the final permit, even if they did not comment during the comment period. Ecology's decision must be appealed to the Pollution Control Hearings Board.

Effective Date of Decision

Normally, a permit is effective 30 days after Ecology gives notice of its final decision to the permittee and all persons who commented. If there are no comments on the draft permit, Ecology may specify an earlier date for the final permit. If Ecology makes significant changes to the draft permit, there will be a new comment period.

Tesoro (Marathon)Anacortes Refinery Dangerous Waste Permit
Response to Comments
October 2021

Ecology made the draft Tesoro dangerous waste corrective action permit, draft oily water sewer agreed order, permit modification request, draft permit modification approval, draft SEPA DNS, SEPA environmental checklist, and fact sheet available for public review and comment before issuing the final permit. Ecology published notice of the opportunity to comment on the renewal of this permit in *The Anacortes American* on April 7, 2021. An ad was also run on several local radio stations about the public comment. In the newspaper notice and radio ad, we invited public review of the proposed permit and provided a 60-day public comment period.

On May 20, 2021, Ecology held a public meeting and hearing via webinar. The public meeting included a presentation by Ecology and a question and answer period. There were six attendees at the meeting. Brent Lyles from Friends of the San Juans provided oral testimony on the draft oily water sewer agreed orders for both refineries at the hearing. The deadline for submittal of written comments was June 7, 2020.

During the comment period, we received written comments from the following entities and individuals:

- Friends of the San Juans
- Friends of the San Juans, RE Sources, Evergreen Islands, Zero Waste Washington, Washington Physicians for Social Responsibility, Friends of the Earth, San Juan Islanders for Safe Shipping, 350 Seattle, Washington Environmental Council, Sierra Club, Friends of Grays Harbor – joint letter
- Kristin Edmark
- Marian Gillis
- RE Sources, Kirsten McDade
- Skagit River System Cooperative on behalf of the Swinomish Indian Tribal Community and the Sauk-Suiattle Indian Tribe

The comments and Ecology's responses are presented below. The original comments comprise part of the legal record for this permit. The record is available for public review at Ecology's Industrial Section office in Lacey, WA. Anyone interested in reading the full text of the comments or in obtaining a copy of a particular comment will need to contact the Public Records Office to make a formal request. Their contact information is provided below:

E-mail: RecordsOfficer@ecy.wa.gov

Mail: Public Records Office
Washington Department of Ecology
P. O. Box 47600
Olympia, WA 98504-7600

Comments appear in regular text, followed by Ecology's responses in italicized text.

Ecology will send a copy of the permit documents and Response to Comments to each entity and individual who provided comments.

Ecology will send a notice of the final permit issuance to all interested parties and will post the documents on the Industrial Section webpage at https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Industrial-facilities-permits.

Comments from Friends of the San Juans (Comments 1-3)

Comment 1:

The draft Agreed Order for the Marathon Anacortes refinery and Tesoro Refining and Marketing Company, LLC includes, as Exhibit A, a map of the oily water main trunk lines. According to the draft Agreed Order, the oily water sewer for the Marathon refinery was constructed in mid-1950s. So, these onsite and underground oily water sewer systems are 60 plus years old.

Friends of the San Juans supports the draft Agreed Order's requiring some portions of the oily water systems, oily water sewer systems, to be investigated and that the refineries repair and remediate any releases or threatened releases from the oily water sewers that are discovered during the investigation.

However, the draft Agreed Order should be revised to require the Marathon refinery to investigate their entire oily water sewer. It is unfathomable that Ecology is only now requiring just a portion of the oily water sewers to be inspected after at 60 plus years of use with a potential for underground leaks that could be causing undetected environmental damage.

And if I may bring in a personal analogy - I recently bought a house and the County, on behalf of the State, required me to repair my entire septic system. I wasn't required to inspect and repair a portion of the drain field or something like that. I was required to document that the entire onsite system is operating properly and that there are no environmental impacts, you know. And compare this to a draft order that only requires a portion of an onsite oily water sewer to be inspected and a plan prepared for repairs and remediation.

So, at the very least, the draft Agreed Orders for the Marathon refinery should be revised to include maps of the refinery's entire oily water sewer systems, including all of the trunk lines and all of the feeder lines. The public needs this information, and a new public comment period, in order to effectively and realistically comment on these dangerous waste permits.

Response to Comment 1:

Over the past 60 years, portions of the Oily Water Sewer (OWS) have been replaced and new infrastructure has been constructed. These upgrades were made during sewer modifications and construction projects at the refinery. Several investigations of the OWS have been performed including groundwater and soil gas monitoring. Tesoro conducts annual inspections that include system-wide checks for blocked valves, faults in seals, and other potential problems. Sewer lines have been excavated as needed for visual inspection and repair.

Corrective actions are typically performed for known releases of hazardous substances from a closed unit or facility. Ecology is not aware of any current releases from Tesoro's OWS. The "find it, fix it" program is a new requirement that is unique to the Washington refineries. Corrective action at the OWS is being implemented in a phased approach to account for technical, physical, and safety considerations at an operating facility.

The first phase of the find it, fix program targets the sewer lines with the greatest potential risks and impacts to the environment. We will evaluate the results of this first phase at the end of the permit cycle to determine if additional next steps are needed.

The main trunk lines and feeder lines are all within the refinery footprint that is shown on the map in Exhibit A of the agreed order.

Comment 2:

Did Ecology address the location of the Oily Water Sewers' minor trunk lines and/or feeder lines and their proximity to the shoreline and/or critical areas and/or flora and fauna habitats when the decision was made to exclude the minor trunk lines and/or feeder lines from the required investigation, remediation, and reporting actions?

Response to Comment 2:

Ecology used its knowledge of the facility and site from numerous inspections and environmental and geotechnical investigations conducted over the years, to prioritize the parts of the system to focus on in this first round of implementing this new program.

Comment 3:

Did Ecology address environmental and health inequities by incorporating environmental justice considerations into the permit renewal process negotiated between Ecology and the two refineries, and if so, how. Would you please provide a list of the Tribes and a summary of the consultation process and/or what approval/support Ecology received for these draft permits and approvals of permit changes?

Response to Comment 3:

Ecology used data from the Washington Tracking Network's Environmental Health Disparities mapping tool and EPA's EJSCREEN to identify any overburdened communities that met the thresholds for environmental indicators. The nearby Indian tribes were the only overburdened communities identified. Tribes are always considered an overburdened community where they have treaty, fishing, or usual and accustomed rights.

For other demographics, the EJ thresholds are:

- *Language access/translation = 5% of a population or 1,000 people*
- *Disparities in the 80th percentile and above = engage with the overburdened community and/or underserved population based on requirements in the HEAL Act*

The Tesoro dangerous waste permit renewal action didn't meet either of these thresholds. We notified the following Tribes and Tribal organizations that have treaty, fishing, and/or usual and accustomed rights for the area, as well as those who have specifically asked to be informed of actions that the Industrial Section takes:

- *Jamestown S'Klallam Tribe*
- *Lower Elwha Klallam Tribe*
- *Lummi Nation*
- *Swinomish Tribe and their partner, the Skagit River Cooperative*
- *Port Gamble S'Klallam Tribe*
- *Samish Indian Nation*
- *Sauk-Suiattle Indian Tribe*
- *Shoalwater Bay Tribe*
- *Stillaguamish Tribe of Indians*
- *Tulalip Tribes*
- *Upper Skagit Indian Tribe*
- *Affiliated Tribes of the Northwest Indians*
- *Northwest Indian Fisheries Commission*
- *Confederated Tribes of the Umatilla Indian Nation*
- *Columbia River Intertribal Fish Commission*

Ecology participated in a staff-level government-to-government consultation with the Swinomish Tribe and the Skagit River System Cooperative (SRSC). Responses to comments submitted by SRSC on behalf of the Swinomish Indian Tribal Community and the Sauk-Suiattle Indian Tribe are included in this document.

Comments from Friends of the San Juans, RE Sources, Evergreen Islands, Zero Waste Washington, Washington Physicians for Social Responsibility, Friends of the Earth, San Juan Islanders for Safe Shipping, 350 Seattle, Washington Environmental Council, Sierra Club, Friends of Grays Harbor (Comments 4-6)

Comment 4:

The undersigned do not support Ecology's approval of a permit that only addresses part of the Tesoro/Marathon Refinery's Oily Water Sewer system under MTCA agreed order.

The undersigned ask Ecology to require the draft Agreed Order for Interim Action for the Tesoro/Marathon Refinery's Oily Water Sewer to include and address the entire Oily Water Sewer system or provide detailed and transparent justifications for which specific sections of the Oily Water Sewer system should be exempt.

The draft Agreed Order, section V., states that the Tesoro/Marathon Refinery's Oily Water Sewer system:

- Was constructed in the mid-1950s;
- Had results from recent groundwater sampling from one well that are above applicable MTCA groundwater standards;
- Has had previous releases or threatened releases of hazardous substances that include Total Petroleum Hydrocarbons - gasoline and diesel range (TPH-G and TPH-D); Benzene, Toluene, Ethylbenzene, and Xylene (BTEX); polycyclic aromatic hydrocarbons (PAHs), and metals; and
- May continue to release hazardous substances into the environment, including:
    - surface water drainage areas;
    - groundwater beneath and beyond the Dangerous Waste Management Facility;
    - air;
    - human work areas; and
    - floral and faunal habitats.

The draft Agreed Order's EXHIBIT A - Map of Oily Water Sewer Major Trunk Lines, does not include the Tesoro/Marathon Refinery's entire 66-year-old Oily Water Sewer system. The draft Agreed Order (section VII.) requires the Tesoro/Marathon Refinery to investigate the Oily Water Sewer and develop a plan to respond to any releases or threatened releases from the Oily Water Sewer that are discovered during the investigation. However, this is required for only the Oily Water Sewer main trunk lines, and not the entire Oily Water Sewer system. Ecology staff have stated that Ecology, EPA, and the Tesoro/Marathon Refinery agreed to this approach for the next 10-year permit cycle since it targets the Oily Water Sewer pipelines conveying the largest volume of wastewater beneath the refinery. Did Ecology address the location of the Oily Water Sewers' minor trunk lines and/or feeder lines and their proximity to the shoreline and/or critical areas and/or flora and fauna habitats when the decision was made to exclude the minor trunk lines and/or feeder lines from the required investigation, remediation, and reporting actions? Have releases and threatened releases associated with the minor trunk and/or feeder lines already been properly remediated?

For the public to review and comment on this draft dangerous waste corrective action permit and Agreed Order, a map that shows the Tesoro/Marathon Refinery's entire 66-year-old Oily Water Sewer system and a new public comment period are needed.

Please provide a map that shows the Tesoro/Marathon Refinery's entire Oily Water Sewer and a detailed account of the criteria used to select which Oily Water Sewer lines to include and which to exclude in the draft Agreed Order.

The undersigned are extremely concerned that this Dangerous Waste Permit would only require an internal integrity inspection and implementation of measures to correct the causes of hazardous substance releases or threatened releases of only a portion of the Tesoro/Marathon Refinery's 64-year-old Oily Water Sewer. The undersigned are extremely concerned that the permit would allow hazardous substance releases and threatened releases to persist over a full decade. It is unconscionable that the Tesoro/Marathon Refinery is allowed to operate a 66-year-old Oily Water Sewer without ongoing and regular inspections of its entire Oily Water Sewer with all releases and threatened releases of hazardous substances promptly addressed.

Response to Comment 4:

Please see the response to Comments 1 and 2 above.

Comment 5:

Ecology is required to make a SEPA threshold determination for any proposed interim actions under a MTCA agreed order (WAC 197-11-268). Ecology determined that the proposed action will not have a probable significant adverse impact on the environment and has issued a Determination of Nonsignificance (DNS). The undersigned object to the SEPA DNS issued for the draft Agreed Order (No. DE 16299), given that the draft Agreed Order allows for portions of the 66-year-old Oily Water Sewer to continue to operate without inspections and without addressing releases and/or threatened releases of hazardous substances which would have probable significant adverse impacts to the environment.

Response to Comment 5:

The interim action that is being proposed includes the corrective actions that may be taken to clean up any releases that are discovered during the investigation of the OWS. Based on our review of the SEPA environmental checklist, Ecology has determined that the scope of any of the model remedies in the agreed order will not have a probable significant adverse impact on the environment. If a release requires remedial action different than one of the model remedies, Tesoro will have to submit a new SEPA checklist for Ecology's review. The SEPA determination for such a remedial action would require a new public review and comment period.

Comment 6:

The undersigned ask Ecology to deny the Tesoro/Marathon Refinery's request for early termination of the post-closure care period for the Site 1 CAMU.

Materials disposed at the Site 1 CAMU in 1971-1974 included:

- 30 barrels (bbls) of Catalytic Cracking Unit (CCU) feed;
- 2,400 bbls of slop oil emulsion solids;
- 75 bbls of crude oil tank bottom sludges;
- 6,670 cubic yards of silts from WWTP final retention ponds;
- 250 cubic yards of storm flume silt; and
- 28,000 bbls of biosludges and API separator sludges.

Materials disposed at the Site 1 CAMU in 2006 included:

- Approximately 78,639 cubic yards of hazardous fill excavated and transported from Site 3.

It has been only 5 years since 78,639 cubic yards of hazardous fill was disposed of at the Site 1 CAMU. The undersigned assume that this was done with the Tesoro/Marathon Refinery's full understanding and agreement to the post-closure care period requirements. The request for early termination of the post-closure care period for the Site 1 CAMU should be denied.

Response to Comment 6:

Tesoro and its predecessor, Shell Anacortes Refinery, originally treated the materials listed in the comment at the refinery landfarm known as Site 3. Site 3 was closed in 1999 and post-closure care began in 2000. In February 2006, Tesoro requested to remove the waste residuals and soil from Site 3 to a closed solid waste management unit know as Site 1. Ecology approved this request and post-closure care of the waste residuals was continued at Site 1.

Site 1 was designated as a corrective action management unit (CAMU) for the purposes of allowing the waste residual/soil transfer from Site 3 to Site 1. Tesoro certified clean closure of Site 3 in September 2006.

Ecology's decision to reduce and end the post-closure care period for Site 1 is based on a review of monitoring data and other information that indicates that the waste residuals are contained and not migrating beyond Site 1 boundaries above risk-based levels.

Comments from Kristin Edmark (Comments 7-8)

Comment 7:

Please require the Draft Agreed Order for Interim Action for the Tesoro/Marathon Anacortes Refinery's Oily Water Sewer (SMMU 12) NO. DE 16299 address the Tesoro/Marathon Anacortes Refinery's entire Oily Water Sewer System or provide detailed and transparent justifications for which specific sections of the Oily Water Sewer System should not be addressed.

Response to Comment 7:

Please see the response to Comment 1 above.

Comment 8:

Please deny the modification request for Early Termination of the Post-Closure Care Period for Site 1 Corrective Action Management Unit. Continued post-closure care is needed.

Response to Comment 8:

Please see the response to Comment 6 above.

Comments from Marian Gillis (Comment 9)

Comment 9:

No more oil in Anacortes. Do not listen to me. Listen to the scientists!!!

Response to Comment 9:

Comment noted.

Comments from RE Sources – Kirsten McDade (Comments 10-12)

Comment 10:

These two refineries are nestled between Fidalgo Bay and Padilla Bay, both of which are aquatic marine reserves for critically important species such as eelgrass, pacific herring, surf smelt, Dungeness crab, and Olympia oysters. Also, one of the largest great blue heron rookeries is located on March's Point. Padilla Bay is a shoreline of statewide significance in Washington and also a National Estuarine Research Reserve. Furthermore, Fidalgo Bay is classified as a Usual and Accustomed area for Lummi, Nooksack, Suquamish, and Tulalip tribes and considered a traditional territory for the Samish and Swinomish Tribe. Therefore, the risk of pollution to the surrounding environment is profound. The Oily Water Sewer (OWS) at both of these refineries are old and aging systems that are at a high risk to release petroleum hydrocarbons, BTEX, PAHs, and metals into the surrounding environment.

These drainage systems can also accumulate explosive vapors that pose a risk to refinery employees. Given the proximity of these refineries to sensitive habitats, common recreational sites, and residential areas we have concerns about the potential harm that could come from even a very small leakage in the system.

We appreciate that the Department of Ecology (Ecology) is starting the "Find it, Fix it" program to help ensure that the OWS at both facilities are not contributing pollutants in any way. The draft Agreed Order states that the refineries have ten years to fully complete their evaluation and inspection of their OWS system. That means that if there are leakages, even minor ones, a considerable amount of toxic pollutants could be released before the leak is discovered and repaired. We would like to see that the initial investigations occur in a shorter time frame.

At this time, only major or main trunk lines of the OWS are required to be inspected. We feel that all lines, regardless of size or capacity, should be included in the inspections. Some of the pollutants associated with the OWS bioaccumulate and bio magnify in the environment and in organisms so again, even small leakages over time can have severe impacts especially to large mammals such as the orca whale.

Response to Comment 10:

Ecology is requiring that Tesoro perform an internal integrity assessment of the OWS lines. This will likely involve temporarily shutting down a segment of the line being investigated and diverting the oily wastewater to another line. A sewer line may need to be shut down for a long period (to repair or replace piping, conduct sampling for site characterization, and perform soil remediation) and this could affect refinery operations. Some portions of the sewer are only accessible during major refinery turnarounds, which occur approximately every 5 years.

The timelines were developed to provide Tesoro time to meet all of the requirements of the agreed order (e.g., work plan submittals and reporting) and sufficient time for Ecology's review of these documents.

Also, please see the response to Comment 1 above.

Comment 11:

The Washington State legislature has recently committed to reducing the amount of greenhouse gas emissions produced in the state which will presumably reduce the amount of petroleum used and processed in Washington. We feel that future dangerous waste permits should include the necessary actions to accommodate the inevitable downscaling of refineries, particularly funding available for environmental cleanup. With a likely decrease in revenue both from the refineries and the Hazardous Substance Tax that fund many Model Toxics Control Act cleanup sites, we feel that assurances need to be made that the cleanup will be completed even when the refineries are obsolete.

Response to Comment 11:

Cleanups under MTCA are paid for by persons responsible for the contamination, called potentially liable persons (PLPs). A PLP can be a current or former owner or operator of a facility. When there is more than one PLP, each person is jointly and severally liable for cleanup at the site. This means that any one PLP can be held liable for the entire cost of the cleanup. If the persons responsible for the cleanup refuse to do the work, Ecology has the authority to perform the cleanup and take legal action to recover the costs.

The proposed permit states that the Permittee must fulfill RCRA corrective action responsibilities using MTCA. It also states that when Ecology selects a final cleanup action for the Tesoro refinery, the permit will be modified to include the selected remedy and reference a consent decree (CD) or other administrative mechanism such as an order, which implements the remedy. These mechanisms are legally enforceable documents requiring the cleanup.

The CD or order implementing a final cleanup will require that the responsible parties maintain financial assurance for the cleanup and long term monitoring and maintenance to make sure the cleanup actions remain effective. The financial assurance requirements are binding and enforceable.

If additional contamination is found during cleanup activities or at a later date, the responsible parties will be required to investigate and clean it up as necessary. Contingency funds are built into the financial assurance estimate in case additional contamination is discovered during final cleanup or at a later date. Ecology reviews cleanup costs and financial assurance amounts annually to check that the amount of coverage is sufficient.

Comment 12:

We request that Ecology look beyond the current industrial use of the land and prepare for a more stringent cleanup plan that includes other land uses such as recreation, seafood harvesting, and residential. The current standards for Industry zoned land use may hamstring other more environmentally and community oriented land uses. Keeping this land in industrial use will continue to provide environmental risk to the surrounding sensitive marine waters and tidelands.

We support Ecology's formal attempt to investigate and manage oily water sewer lines that have been overlooked since their inception. We encourage Ecology to be proactive in ensuring that these lands are managed for long term and future uses that go beyond petroleum refining.

Response to Comment 12:

The cleanup of any releases from the OWS is being conducted as an interim action under MTCA.

An interim action is distinguished from a final cleanup action in that it only partially addresses the cleanup of a site. The cleanup levels established in the agreed order are for an industrial property based on the current land use.

In Washington, zoning and land use planning decisions are made by local government. Ecology establishes MTCA cleanup standards based on the current and intended land use of a property as established locally. If land use changes are approved for this property, then Ecology will take those new uses into account when setting cleanup standards for the final cleanup action. Regardless of land use, Ecology takes potential impacts to adjacent resources into account when evaluating reasonable maximum exposure scenarios and establishing cleanup standards.

Comments from Skagit River System Cooperative on behalf of the Swinomish Indian Tribal Community and the Sauk-Suiattle Indian Tribe (Comments 13-16)

Comment 13:

We have concerns about the Human Exposure Assessment (required under WAC 173-303-610(4)(d)(ii)). We are concerned that the Human Exposure Assessment evaluated exposure for the general population, rather than disproportionately affected Tribal communities, including the Swinomish Tribe. Consumption of locally harvested fish and shellfish by American Indians is likely to be much higher than it is for the general U.S. population, and locally-accessed shellfish beds are located adjacent to the refinery and downslope from Site 1 in Padilla Bay.

A 2006 Swinomish human consumption study found that contaminants in shellfish resources in Fidalgo Bay contribute to a human health risk. The contaminants that contributed the most were PCBs, arsenic, and dioxins/furans, with lesser contributions from mercury and other heavy metals and PAHs. Risks from eating portions of each species daily are in the range of concern, and risks from a fully subsistence level consumption rate are even higher.

In a 2007 EPA guidance document for Human Risk Assessments at RCRA sites, preference is given to considering consumption rates derived from well-designed consumption surveys of Puget Sound Tribes. We request consultation on the site-specific exposure assumptions of the Human Exposure Assessment to ensure impacts to the Swinomish Tribal populations have been appropriately considered and fully mitigated.

Response to Comment 13:

WAC 173-303-610(4)(d)(ii) requires a human exposure assessment as part of the request to modify a dangerous waste permit to allow land application of non-dangerous wastes. Tesoro's permit modification request is solely to reduce the post-closure care period.

RCRA Section 3019 states that one of the three elements needed to establish a complete human exposure pathway is a release of hazardous waste or hazardous waste constituents from a RCRA unit. Based on monitoring for the list of hazardous constituents developed using EPA guidance (see response to the comment below), there is no evidence that contaminants are migrating beyond the Site 1 above risk-based levels. Monitoring data indicate that contaminant levels are stable and wastes continue to degrade and immobilize within the unit.

Any land-based unit where waste has been left in place is subject to RCRA corrective action and Model Toxics Control Act (MTCA) cleanup requirements. The authorities provided under these regulations allow Ecology to impose additional requirements to investigate and address releases of hazardous constituents from these units. It is Ecology's intent to require a site-wide investigation and cleanup of the facility in the future. Site cleanups under RCRA corrective action and MTCA require property owners to identify potential pathways and reasonable maximum exposure scenarios for human exposure as part of the cleanup process.

Comment 14:

Shellfish and forage fish extensively utilize the shoreline surrounding the March's Point refineries. Any introduction of chemical contamination to the fish, shellfish, and macroinvertebrates that serve as the foundation of the Salish Sea food web threatens to travel up the food web through predation and consumption, often bioaccumulating and magnifying its effects in biota. This is especially concerning when contaminants reach our threatened and endangered salmonid populations, particularly Skagit River Chinook and Steelhead, as well as Southern Resident Killer Whales. **We believe that insufficient consideration of both the risks of contamination of the nearby aquatic environment and the cumulative effects of those contaminants existing in the aquatic environment have been presented and analyzed.**

We have concerns that monitoring for pollutants was limited to those included in MTCA Method B and Method C and did not monitor for chemicals of emerging concern and that may be associated with chemicals utilized at a petrochemical facility. The science and understanding of chemicals in the environment is ever-evolving. We have learned in the past year about chemical byproducts from ozonation of tire rubber and the lethal effects on Coho salmon, for example. As scientific methods and understanding grows, we recognize the 'known unknowns' that present a risk to our native species and associated food webs. We are learning more by the month about the high levels and resulting significant adverse effects of not only PCBs in protected Southern Resident Killer Whales, but also the presence of PBDEs. PBDEs have recently emerged as a major concern. The endocrine-disrupting nature of these two fire retardants are having a devastating effect on reproductive health, the immune system, and development in exposed mammals at the top of the food chain.

Considering the array of wastes that have been placed in Tesoro Site 1 (including API separator sludge, slop oil emulsion, and other oily wastes) or the types of materials that might travel through an Oily Waste Sewer at a refinery, we find it unlikely that the list of analytes is inclusive of all components of those above listed materials, nor the by-products of those components produced in the course of their decay.

Response to Comment 14:

In the late 1970s, EPA conducted an extensive assessment of existing land treatment facilities in the U.S., including those located at the two Anacortes refineries. The results of this assessment formed the basis for hazardous waste regulatory requirements and guidance for permit writers. EPA evaluated the types of waste being land applied, the characteristics of each waste, and the suitability of land treatment. The wastes were analyzed for the list of priority pollutants in 40 CFR Appendix VIII, which included PCBs, PAHs, dioxins/furans, pesticides, and heavy metals.

From these analyses, EPA developed a list of hazardous constituents reasonably expected to be in, or derived from, petroleum refinery wastes to be land treated. This list is known as the Skinner List. The Skinner List was initially developed in 1985 and updated in 1993 and 1997.

Extensive preliminary testing was required before permitting a particular waste stream to be land treated at the Tesoro facility. Tesoro (then Shell) was required to analyze their hazardous and non-hazardous waste streams for the Skinner List constituents. From these analyses, EPA identified site-specific principal dangerous constituents (PDCs) that would be analyzed for in soil, lysimeter, and groundwater monitoring during operations, closure, and post-closure.

PDCs are dangerous constituents contained in the wastes to be land applied, that are the most difficult to treat considering the combined effects of degradation, transformation, and immobilization. EPA established PDCs in refinery permits if it found, based on waste analyses, treatment demonstrations, or other data, that effective degradation, transformation, or immobilization of the PDCs would assure treatment of at least equivalent levels for other dangerous constituents in the wastes.

Tesoro's hazardous waste land treatment permit also included a waste analysis plan that required characterization of new or changing wastes, such as non-hazardous wastes. Tesoro was required to submit waste analysis data to Ecology for review and obtain approval for land application of these additional waste streams.

Comment 15:

We request expansion of the analyte list to include PCBs, PBDEs, and other Persistent Organic Pollutants (POPs) in the groundwater, BTZ, and soil pore water adjacent to and downgradient from Site 1. Should the expanded analytes go undetected for a period of monitoring, then we feel the termination of post-closure care and monitoring may be considered.

There is no way to definitively determine that this is an ongoing dangerous waste storage facility unless someone is looking for them. We are unclear if Method B or C are staying at pace with our understanding of POPs, so a modified clean up and monitoring program may be appropriate to ensure protection of aquatic life and those that consume it. Due to the bioaccumulating nature of some of these pollutants, small amounts can contribute to significant ecological and human health problems.

Until a broader, more appropriate and comprehensive examination at what chemicals may exist downslope from this dangerous waste storage field, and the Human Risk Assessment is revised to account for Tribal consumption of shellfish from the adjacent marine waters, **we believe that the request to end the post-closure period be denied**.

Response to Comment 15:

As mentioned in the previous response, waste analyses for PCBs and a number of other POPs were required and evaluated by EPA in developing the Skinner List and establishing the PDCs in Tesoro's permit. These analyses did not include PBDEs or another emerging chemical of concern, per- and polyfluoroalkyl substances (PFAS).

PBDEs are not manufactured or used at the Tesoro refinery. The only source of these chemicals might be in the flame retardant clothing worn by employees working at the refinery but this clothing is laundered offsite. Ecology does not believe there is potential to find PBDEs in the groundwater downgradient of Site 1 so we are not planning to require analysis for this parameter.

Ecology agrees that additional information is needed on PFAS at the facility. In the past, Tesoro used firefighting foam that contained PFAS in their fire training area. The science and regulatory status of PFAS is changing rapidly. EPA recently approved methods for analyzing PFAS in groundwater, surface water, and wastewater. Work is still being done to develop accredited laboratory methods for measuring PFAS in soils and sediment. Laboratories will need to be accredited to run these new tests. And while Washington's Department of Health has proposed rules for some PFAS in drinking water, currently there are no state or federal regulatory standards to determine whether detected PFAS concentrations pose a health risk. We expect that additional clarity regarding analytical methods, applicable standards, and cleanup guidance will be available in the coming months.

Ecology is proposing to look more broadly at the fate and transport of PFAS from the refinery as part of Tesoro's NPDES permit renewal and future site-wide investigation and cleanup. Ecology believes that it is important to allow the analytical methods and regulatory standards to be established before designing a program to answer questions about the presence and risks associated with PFAS in soils, groundwater, and discharges from the refinery. Ecology can request that Tesoro maintain groundwater wells at Site 1 for sampling in the future for PFAS and other emerging chemicals of concern.

Comment 16:

The Oily Water Sewer (OWS) includes underground pipes, drain plugs, manholes, hatches, and other access points. In consideration of the issues regarding emerging chemicals of concern, **we request that the Agreed Order expand the chemical contaminants of concern to include all potentially present POPs, PBDEs, and PCBs.**

Response to Comment 16:

The OWS Agreed Order requires Tesoro to submit an Investigation and Response Plan (IRP) for Ecology's review and approval. This plan must include procedures for determining the nature and extent of any soil or groundwater contamination related to releases from the OWS.

In reviewing the IRPs submitted by BP and Phillips 66 under their OWS orders, Ecology has requested that sampling and analysis plans be prepared for each release that is discovered. The release-specific sampling and analysis plan must include testing for any constituents that could have been in the wastewater conveyed by that particular section of piping. The Order refers to Ecology's Guidance for Remediation of Petroleum Contaminated Sites, revised June 2016, which contains an example list of chemicals of concern for various petroleum products. PCBs, PAHs, gasoline additives (e.g., MTBE), and metals are part of this list. We are requesting that PFAS also be tested for, when applicable. Ecology will make this same request of Tesoro.