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Via Email to efsec@utc.wa.gov

Stephen Posner
Energy Facility Site Evaluation Council
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1300 S. Evergreen Park Dr. S.W.
Olympia, WA 98504-3172

Re: State Environmental Policy Act Scoping Comments on Tesoro/Savage's Proposed Crude Oil Transit Terminal at the Port of Vancouver

Dear Mr. Posner and the Energy Facility Siting Evaluation Council:

The Northwest Environmental Defense Center (NEDC) respectfully submits these comments to the Energy Facility Siting Evaluation Council (EFSEC) regarding Tesoro Savage Petroleum Terminal LLC's (Tesoro) Site Certification application for the Tesoro Savage Vancouver Energy Distribution Terminal Project, Application No. 2013-01, Docket No. EF-131590 (Terminal). Tesoro's proposal for a crude oil transit terminal is of significant interest to NEDC based on the adverse environmental impacts that will result if the Terminal is constructed.

Consistent with the stated purpose of Washington's State Environmental Policy Act (SEPA) to, among other things, "promote efforts which will prevent or eliminate damage to the environment and biosphere," NEDC urges EFSEC to carefully review the environmental risks associated with this Terminal. RCW 43.21C.010. For major actions significantly affecting the quality of the environment, SEPA requires state agencies to prepare a detailed statement, or environmental impact statement (EIS), that addresses, *inter alia*, the environmental impact of the proposed action, any unavoidable adverse environmental effects of the proposal, and alternatives. RCW 43.21C.030. Given NEDC's mission to protect and conserve the natural resources of the Pacific Northwest, we are especially concerned about both (1) the direct, localized adverse environmental impacts, and (2) the substantial indirect and cumulative adverse environmental impacts that will result from the construction and operation of the Terminal.

First and foremost, NEDC is concerned that the lease agreement entered by the Port of Vancouver and Tesoro will improperly limit the range of alternatives that EFSEC

considers, resulting in a faulty EIS. Second, NEDC requests that EFSEC consider the cumulative impacts that will result from the Terminal when considered in addition to the impacts from numerous other fossil fuel transport projects proposed in the region. Last, NEDC identifies a variety of environmental impacts that EFSEC should cover in the EIS.

I. EFSEC's ability to consider a range of alternatives in the EIS is improperly limited by the Port of Vancouver's lease agreement with Tesoro.

Pursuant to SEPA, state agencies must consider alternatives to a proposed action. RCW 43.21C.030. The rules promulgated under SEPA, and adopted by EFSEC,[1] prohibit any action concerning a proposal that would limit the choice of reasonable alternatives. WAC 197-11-070(1)(b). A proposal exists "when an agency is presented with an application or has a goal and is actively preparing to make a decision on one or more alternative means of accomplishing the goal and the environmental effects can be meaningfully evaluated." WAC 197-11-784. Preparation of an EIS and consideration of alternatives should be completed "at the earliest possible time to ensure that planning and decisions reflect environmental values, to avoid delays later in the process, and to seek to resolve potential problems." WAC 197-11-055. In this case, the Port of Vancouver's lease agreement with Tesoro was an agency action on a proposal that limited EFSEC's choice of reasonable alternatives.

Although Tesoro had not yet submitted its site certification application to EFSEC when the Port of Vancouver approved the lease decision on or about July or October of 2013, Tesoro did have a very real goal of transporting crude oil by rail and marine vessel through the Port of Vancouver at that time and Tesoro had already identified the specific Terminal proposal that was later presented in its application to EFSEC. The Port was aware that the timing of its lease decision may have been out of order. EFSEC's Jim Luce presented the EFSEC process to the Port on June 27, 2013. Numerous citizens requested the Port to consider the environmental implications of its lease decision at various workshops hosted by the Port over the summer of 2013. Plus, Port Commissioner Brian Wolfe noted that it appeared the Port was placing the "cart before the horse" by making a lease decision before the environmental impacts of the proposed Terminal had been considered. Yet the Port decided to proceed and sign the lease.

The environmental effects of the proposed Terminal could have, and should have been meaningfully evaluated at the time the Port entered into the lease. Instead, however, the Port of Vancouver signed a lease with Tesoro, committing the Port to specific terms of a lease contract. Tesoro then submitted its application for site certification to EFSEC on August 29, 2013. As a result, public comments on the Terminal as presented to EFSEC have focused on the now-determined location at the Port of Vancouver. This lease decision, made before EFSEC prepared its EIS, precludes many reasonable alternatives that the public has been prevented from commenting on and that EFSEC should consider in its EIS.

[1] WAC 463-47-020 (EFSEC's rule adopting by reference sections of chapter 197-11 WAC, including WAC 197-11-070).

For example, Tesoro's site certification application states that Tesoro will obtain all necessary insurance coverage for construction and operation of the Terminal and outlines in basic terms its planned mitigation measures. *See* August 2013 Tesoro Savage Vancouver Energy Distribution Terminal Application (Application), pages 1-6 to 1-8. Yet the Port's lease agreement with Tesoro sets forth specific obligations for property, liability, and pollution legal liability insurance. *See* August 1, 2013 Ground Lease between the Port of Vancouver and Tesoro Savage Petroleum Terminal LLC, pages 5-6. These amounts were determined before the Port, Tesoro, EFSEC, or the public were able to understand and assess the magnitude of the adverse environmental impacts likely to result from the Terminal. As such, the lease agreement improperly limits EFSEC from requiring insurance commensurate with the environmental impacts of the Terminal, (the impacts of which EFSEC has yet to assess), and making a meaningful comparison with other reasonable alternatives.

Further, the lease indicates the Port's support for the Terminal and creates an investment expectation that EFSEC cannot ignore when considering the impacts that a site certification would have on Vancouver. The lease agreement will be a coercive factor in EFSEC's environmental analysis, contrary to the SEPA's design. Alternatives to the Terminal include transporting the crude oil to refineries by pipeline rather than rail, transporting the crude oil directly to the refineries by rail, and a no action alternative.

The terms of the lease agreement cabin specific aspects of the proposed Terminal, restrict EFSEC's and the public's review of the Terminal, and thereby limit the range of alternatives that EFSEC will consider. Because decisions made in violation of SEPA are *ultra vires* and should be set aside, *see Noel v. Cole*, 98 Wash. 2d 375, 655 P.2d 245 (1982), EFSEC should set aside the lease agreement between the Port of Vancouver and Tesoro before completing its EIS to allow for full consideration of all reasonable alternatives.

II. EFSEC should consider the cumulative impact on the environment that will result from this crude oil transit terminal, when considered in combination with the impacts of the numerous other fossil fuel transport projects in the region.

It is crucial that EFSEC consider the cumulative impacts of this Terminal in combination with the other various fossil fuel transport projects underway in the Pacific Northwest, either in a comprehensive detailed statement under SEPA or by addressing those projects as cumulative or similar actions. An individual analysis of each fossil fuel transport facility would ignore the inescapable result that, in the cumulative, these projects will have significant, adverse impacts on the environment of the Pacific Northwest. Currently, there are at least ten crude oil-by-rail construction or expansion projects underway in Washington:

- (1) BP and (2) Phillips 66 in Ferndale
- (3) Tesoro and (4) Shell in Anacortes

- (5) Phillips 66 and (6) US Oil in Tacoma
- (7) US Development, (8) Westway Marine and (9) Imperium in Grays Harbor
- (10) Tesoro's proposal for this Terminal at the Port of Vancouver.

In addition, NEDC is aware of other fossil fuel export terminals in Washington and Oregon that have recently been permitted or are currently in the permitting process:

- BHP Billiton potash export facility at the Port of Vancouver, WA
- Millennium Bulk coal export terminal in Longview, WA
- Gateway Pacific coal export terminal at Cherry Point, WA
- Ambre Energy coal export terminal proposed for the Port of Morrow, Oregon

SEPA requires all branches of Washington's government to "[i]dentify and develop methods and procedures . . . which will insure that presently unquantified environmental amenities and values will be given appropriate consideration in decision making along with economic and technical considerations." RCW 43.21C.030. The environmental impacts that will result from the Terminal alone are substantial, and are even more so when added to similar impacts that will be caused by the numerous other fossil fuel transport facilities currently seeking approval in the Pacific Northwest that have yet to be quantified. These facilities, considered in the cumulative, could add as many as forty unit trains per day on one stretch of track in Spokane and other Eastern Washington communities. Such projects are likely to add a substantial number of trains traveling in other areas of the state as well, including along the tracks adjacent to the Columbia River.

In addition, these proposals have the potential to dramatically increase vessel traffic in Washington's waterways and along its coast. Given the numerous fossil fuel transport terminals under consideration for the Pacific Northwest, and the significant regional, national and international impacts that will result from these projects, a comprehensive EIS is the best vehicle to analyze these impacts and address alternatives. EFSEC should work collaboratively with Washington's Department of Ecology to prepare a comprehensive detailed statement under SEPA that accounts for the cumulative impacts that will result from this crude oil transit terminal when considered in combination with the other fossil fuel transport projects proposed for the region.

In the alternative, EFSEC should consider the other fossil fuel transport projects proposed for the region as connected or similar actions. *See* WAC 197-11-792(2)(a) (defining connected actions as "proposals or parts of proposals which are closely related," and defining similar actions as "proposals that have common aspects and may be analyzed together"). Here, the numerous fossil fuel transport facilities described above have both common timing and common geography.

Similarly, EFSEC should consider the increase in rail and marine vessel traffic and mining activities, and associated impacts (described below), as either connected or similar actions in the EIS. Tesoro cannot achieve its stated purpose of providing North American crude oil to U.S. refineries to offset or replace declining Alaska North Slope

crude reserves without increasing the amount of rail and marine traffic to transport the 360,000 barrels of crude oil it anticipates shipping each day. The SEPA Handbook explains:

> A large proposal involving actions in vastly different locations, such as material being mined at one site, then transported to and processed at another, is another example of defining the entire proposal. Appropriate environmental review would look at the impacts of all the related activities.

SEPA Handbook, at 11-12. Because Tesoro cannot realize it stated goals without the increased rail traffic, increased marine vessel traffic, and continued fracking, these actions constitute connected actions that should be considered in EFSEC's EIS. *See* WAC 197-11-060(3)(b) (noting that "[p]roposals or parts of proposals that are related to each other closely enough to be, in effect, a single course of action shall be evaluated in the same environmental document").

At the very least, EFSEC must consider the impacts of the other fossil fuel transport projects in its cumulative impacts analysis. *See* WAC 197-11-060(4) (requiring an EIS under SEPA to analyze "direct, indirect, and cumulative impacts"). *See also* WAC 197-11-792(2)(c) (stating that in determining the scope of an EIS, agencies must consider direct, indirect and cumulative impacts). The numerous proposals for fossil fuel transport facilities in the Pacific Northwest will have cumulative impacts that should be considered in EFSEC's detailed statement. *See Cheney v. City of Mountlake Terrace*, 87 Wash.2d 338, 344, 552 P.2d 184 (1976) (explaining that SEPA requires decision-makers to consider more than just the "narrow, limited environmental impact of the immediate pending action," and implying that the scope of indirect and cumulative impacts are not limited by local jurisdictional borders).

A majority of these fossil fuel transport projects are also likely to occur, as they are farther along in the permitting process than Tesoro's proposed Terminal and many have completed leases with the relevant ports. *See* WAC 197-11-060(4)(a) (requiring consideration of environmental impacts, "with attention to impacts that are likely"). It is likely that construction and operation of each of the pending fossil fuel transport facilities described above will overlap with this Terminal because many of the projects are actively seeking or have received permits.

The number of pending similar actions that will have similar impacts from transportation by rail or marine vessel constitute a substantial and pressing need for EFSEC to account for these cumulative impacts together in a single EIS. The fourteen proposals are likely to add sizable stress on the environment and communities that are in or near where these transportation impacts will occur. These proposals will add substantial stress to Washington's railways and waterways. This is precisely the type of situation where analyzing cumulative impacts strongly serves the public interest: such analysis may bring to light important information relating to impacts and alternatives that can help facilitate proper planning moving forward.

Finally, EFSEC should consider the impacts of increased rail and marine vessel traffic as indirect impacts. Indirect impacts are those that occur away from the project area but are nonetheless caused by the project. *See, e.g.*, SEPA Handbook at 56. Construction and operation of the Terminal will cause significant indirect impacts across the state. For example, Tesoro anticipates four separate unit trains and one large ocean-going vessel will travel to and from the Terminal daily. Each train will measure approximately 7,800 feet in length, or about 1.5 miles. *See* Application at 2.3.3.1. Four round trip trains would result in twelve miles of additional trains on the same tracks each day. The projected increased marine traffic is likewise staggering. The Port currently handles about 400-500 vessel calls per year. The Terminal project would nearly double that number by adding an additional 365 vessel calls per year. The environmental impacts of these increased train and rail trips will cause adverse impacts to air, water, spill risk, safety, emergency response times, and public health.

Absent this analysis, adding this many trains and vessels at once to Washington's system without a clear plan is risky and dangerous. Thus NEDC urges EFSEC to consider the cumulative impacts of this Terminal in addition to the numerous other fossil fuel transport facilities proposed in the region.

III. EFSEC should clarify and restate Tesoro's statement of purpose.

The statement of purpose is central to a proper EIS because it provides the guideposts for the analysis of actions, alternatives, and effects. If the statement is too narrow, it prevents useful analysis of alternatives that could meet the broad goal of a project. *See* WAC 197-11-060 (stating that "[p]roposals should be described in ways that encourage considering and comparing alternatives" and noting that "[a]gencies are encouraged to describe public or nonproject proposals in terms of objectives rather than preferred solutions"). Consistent with these goals, EFSEC should clarify and restate the purpose of Tesoro's proposed Terminal.

Tesoro's stated purpose for the Terminal is to transfer crude oil from rail cars to ships. *See* Application at 2.1.4. This purpose is far too narrow to facilitate analysis of meaningful alternatives for two reasons. First, it does not include the necessary transportation to and from the Terminal as part of the project proposal, even though the SEPA handbook indicates that these are precisely the types of activities that should be included as part of the project itself. *See* SEPA Handbook at 11-12. In other words, the current statement of purpose is limited solely to the Terminal site itself but the direct impacts of project fall within a much broader geographic scope. Second, the stated purpose to "transfer crude oil from rail cars to ships" improperly limits the concept to a rail-to-marine vessel transport project, thereby precluding other viable alternatives such as transporting petroleum products through a pipeline or solely by rail to the refineries.

NEDC recommends that EFSEC redefine the statement of purpose to be more objective and avoid a narrow description that precludes consideration of alternatives. For example, EFSEC could state the purpose in the following way: "The objective of this project is to transport petroleum products to refineries." While this objective stays true to

the project's purpose, it also incorporates the correct scope of the project and facilitates discussion of meaningful alternatives.

IV. Tesoro's proposed Terminal will have wide-ranging adverse environmental impacts that EFSEC must address in its EIS.

It is clear that Tesoro's proposed Terminal will have numerous direct, indirect, and cumulative adverse impacts on water quality, air quality, wildlife, and human health that EFSEC must consider in its EIS. NEDC has highlighted a few of these impacts below.

Increased rail traffic

The increase in train traffic that will result if the Terminal is approved will have multiple repercussions for the region's resources. The high volume of oil being transported to the Terminal will require 4 daily trains (8, considering return routes), each a mile and a half in length. This increase in rail traffic will undoubtedly have numerous direct consequences for the environment, local human populations, and existing infrastructure. For example, increased rail traffic is likely to cause traffic delays throughout Washington. *See* Dan Seedah & Robert Harrison, *Measuring the Impact of Intermodal Rail Movements in State Transportation Planning*, The University of Austin, Texas (attached hereto as Exhibit 5). That same increased rail traffic is likely to decrease property values for homes near the freight rail lines, increase delays in emergency response times for communities located along the rail lines, and increase the noise pollution that these communities are subjected to on a daily basis.

Increased marine vessel traffic

Tesoro proposes to add 730 deep draft freighter trips to vessel traffic on the Lower Columbia River. EFSEC should consider the risk of spills stemming from loading individual vessels at the Terminal. It should also consider the increased risk of vessel accidents that could lead to a spill on the Columbia River as a result of the cumulative increase in vessel traffic for each of the pending fossil fuel transport projects across the state. EFSEC should consider additional escort resources for vessels as a means to reduce the risk of spills associated with increased vessel traffic. For example, increasing the number of personnel on an escort tug from one to two individuals could substantially reduce the risk that human error might lead to a vessel accident.

EFSEC's EIS should consider air quality impacts associated with vessels, which are extraordinarily high emitters of criteria and hazardous pollutants. For example, the county of Santa Barbara, California, notes that more than half of its ambient NO_x originates from vessels. *See* Santa Barbara County Air Pollution Control District, *The Need to Reduce Marine Shipping Emissions: A Santa Barbara County Case Study*, Paper # 70055 (attached hereto as Exhibit 1).

Finally, EFSEC should carefully consider the risk that vessels may introduce

invasive species through their ballast water releases. Specifically, greater vessel traffic increases the risk of introducing invasive species through ballast water carried from foreign ports that is discharged into the Columbia River. Like the risk of oil spills, although the chance of occurrence might be slim (based on Washington's ballast water discharge program, which requires an open sea exchange before discharging ballast water), the result would be devastating. The United Nations has identified the introduction of invasive species into new environments through ballast water as one of the greatest threats to the world's oceans. EFSEC should address the impact of increased vessel traffic and the increased risk of introducing invasive species to the region.

Risk of disaster: fire, explosions, and spills

Additional train and vessel traffic transporting crude oil increases the risk of disaster, which itself is an impact that EFSEC should address in the EIS. More trains will mean an increase in the likelihood of train derailment. Derailment could result in either oil being directly added to the aquatic ecosystem or indirectly as a result of surface runoff. Although a Burlington Northern Santa Fe (BNSF) HAZMAT official testified at the Spokane hearing that BNSF does not see many derailments, just one accident would be catastrophic to the environment. Current numbers on historic rail accidents paint an illusory picture because they are based on historically lower rail traffic. In the past year, commodity transport by rail has increased dramatically. *See* Eric de Place, *US Oil Train Trends: Four Basic Pictures,* Sightline Daily (2013) (attached hereto as Exhibit 2). The number of rail accidents and derailments are likely to correspondingly increase.

Further, a 2005 New York Times article, reporting the findings of a BNSF study, determined that coal dust can increase the likelihood of train derailments. *See* Josh Vorhees, *Railroads, Utilities Clash Over Dust From Coal Trains,* New York Times (2010) (attached hereto as Exhibit 3). When coal dust builds up in track beds, it prevents water from draining properly "which in turn can push steel rails out of gauge and cause derailments." *Id.* Given the simultaneous proposals for coal export facilities and the coincident increase in coal trains traversing the same tracks as the oil trains to the Terminal, EFSEC should account for this risk.

Any oil train derailments that occur on sections of track near the Columbia River could have severe environmental repercussions. On July 6, 2013, an oil train near Montreal, Canada, derailed, causing a massive explosion with a 1km blast radius that killed 42 people and destroyed over 30 buildings. *See* Montreal, Maine & Atlantic Railway (MMA), *Derailment in Lac-Megantic, Quebec*, July 6, 2013 (attached hereto as Exhibit 4). Oil was spilled and burned as a result. This very recent example highlights the importance of accounting for these kinds of risks in this project's EIS, which will directly cause four fully loaded, mile and a half long oil trains to embark across the state of Washington each day.

EFSEC should pay special attention to risks associated with this type of disaster occurring in an environmentally sensitive and valuable region, such as the trains that will cut through the Columbia River Gorge. EFSEC should also address the risk of a disaster

occurring in a populated area. BNSF's approach of addressing accidents or spills once they occur is backwards looking and likely to result in adverse impacts to the environment that could be avoided. Instead, EFSEC should require Tesoro and BNSF to proactively address the threat of a spill or accident by implementing measures to reduce risks and improve safety.

The Terminal's storage tanks will hold as much as 2,280,000 barrels of crude oil at any given time (6 tanks of 380,000 barrel capacity). For comparison, this is substantially more oil than spilled in the tragic Exxon Valdez disaster and is about 2/3 of the carrying capacity of the world's largest existing crude oil tanker. Given the carrying capacity of this facility combined with its explosive risk and risk of catastrophic environmental harm if released in large quantity, EFSEC should carefully consider the risk of fires, explosions, natural disasters, and spills to humans and the natural environment in its EIS.

In particular, EFSEC should carefully consider the impact of a 100 year and 1,000 year earthquake event on this facility, which is expected to have a lifespan of 20 years. Given the expected longevity of this facility, these risks are very real. Moreover, even if the risk of an event such as a 1,000 year earthquake is fairly small, the large quantity of volatile materials that will be stored at this facility means that a low risk event could nonetheless have catastrophic impacts. Tesoro's Application provides insufficient detail for how it plans to address the earthquake hazards for this region. *See* Application, page 1-10 – 1-11. EFSEC's analysis should require additional information from Tesoro to address the risk of an earthquake and the potential impacts to the surrounding area.

NEDC notes that Tesoro plans to use standard earthquake building codes for this facility. *See* Application, pages 1-10 – 1-11. EFSEC should carefully consider whether the bare minimum required by law is sufficient for this type of facility, especially given the high risk of liquefaction at the site and its adjacency to the Columbia River.

Water Quality

EFSEC should address the impacts to water quality from construction and operation of the Terminal, as well as water quality impacts that will result from the associated transportation activities and infrastructure. This includes impacts to groundwater from infiltration of runoff on the site. EFSEC should consider the impacts to surface water from storm water runoff from the site and additional marine vessel traffic on the Columbia River, and impacts to surface and groundwater due to increased risk of spill, including increased risks at the terminal, along the rail lines, and along the marine shipping routes. Finally, EFSEC should consider the impacts from storm water runoff from the rail lines and from the marine vessels.

Lands and Wildlife

EFSEC should consider the impact of additional train traffic on the stability of the shorelines along the Columbia River resulting from the increased development, rail

traffic and marine vessel traffic. The additional marine vessel traffic is likely to lead to bank erosion along the Columbia River. In addition, the development of the Terminal and associated rail and marine vessel traffic will likely adversely affect the City of Vancouver's master plan for the Columbia Waterfront Development project. EFSEC should consider the cumulative impacts from the construction of the Terminal in addition to this development, which will entail 3,300 residential units and 1 million square feet of commercial space on 32 acres of riverfront property that is bordered by the rail lines. EFSEC should also consider the adverse impacts to and cumulative impacts of the Waterfront Park Plan development, a 7.3 acre park and train within the waterfront.

Tesoro's proposed Terminal will also impact native vegetation and wildlife at the construction site as well as along the rail lines due to increased rail traffic. Trains have the potential to import invasive species, which may endanger native vegetation and wildlife. Because Tesoro is open to receiving petroleum products from various sources, including tar sands in Canada, the risk of introducing invasive species by passing train cars is very real. Plus, EFSEC should identify any plant or wildlife species listed under the Endangered Species Act as threatened or endangered. Finally, EFSEC should consider how the increased volume of trains will increase the number of wildlife deaths along the rail lines.

In addition, the Lower Columbia and its estuaries are critical habitat to threatened and endangered species. Increasing the volume of freight traffic, as noted above, increases the risk of introducing invasive species that might harm these listed species' and/or their designated critical habitat. Increased marine vessel traffic will also harm species by causing species to avoid the areas with greater traffic, increasing the risk of collision with species, and adversely modifying species' habitats through wave action prop wash.

Local Air Quality

Numerous sources at the Terminal will adversely impact air quality, each of which should be accounted for in the EIS. Specifically, EFSEC should account for criteria, HAP, and TAP emissions from sources located at the Terminal. These sources include: storage areas boilers, the unload boiler, the marine vapor combustion unit, dockside marine vessels, and locomotives actually operating at the facility.[2]

[2] Although Tesoro explains in the Application that vessel and train emissions need not be included in its PSD permit, these emissions must nonetheless be accounted for as impacts resulting from the facility in the EIS. Further, NEDC disagrees that dockside emissions should not be included in the PSD permit. Rather, "certain activities of a ship docked at a terminal (i.e., when the vessel is stationary) may be considered emissions of the terminal if the activities would 'directly serve the purposes of the terminal and be under the control of its owner or operator to a substantial extent' (45 FR 52696)." *See* Letter from EPA to Ken Waid (Jan. 8, 1990). EFSEC must first collect information to determine whether dockside emissions meet that test.

This analysis should include a facility-wide TAP dispersion modeling analysis that accounts for preexisting ambient levels of: arsenic, benzene, cadmium, hexavelent chromium, diesel particulates, 7,12-Dimethylbenz(a)anthracene, NO_2, and SO_2. Given the large number of other air emitters in and around the port, determining baseline ambient air quality is particularly important to ensure that construction and operation of this facility will not lead violation of TAP ambient air quality regulations. *See* WAC 173-460-070.

NEDC notes that the TAP modeling already undertaken by Tesoro is flawed because it applied rural dispersion coefficients for facility dispersion simulations. See Application at 5.1.4.2.2. This approach was incorrect. The Terminal is located approximately three miles from Interstate 5 in Vancouver, which slices directly through the center of the city. For both the EIS and the PSD application, this analysis should be re-done to incorporate an appropriate urban dispersion coefficient and to further account for emissions from mobile sources immediately on the property itself such as dockside vessels and trains in the unloading area. EFSEC should consider vessel cold-ironing as one alternative in the EIS to reduce these ambient air emission levels.

Regional Air Quality

Emissions of criteria pollutants will sizably increase as a result of this project due to fuel oil emissions from vessels, diesel emissions from trains, and emissions from onsite processes at the Terminal. Criteria pollutants tend to have regional as opposed to merely localized impacts. For example, particulate matter, at minimum, tends to impact areas within an airshed, depending on the size and mass of the PM. Similarly, ozone caused by ozone-forming pollutants such as NO_x and VOCs can traverse hundreds or even thousands of miles. For this reason, even though emissions from trains, vessels, and the terminal will often occur in different locations, NEDC nonetheless describes these impacts together because they all will impact similar areas or regions.

First, EFSEC should account for fuel oil emissions from ocean-going ships calling at the Port, one of which is expected to dock at the Terminal each day. These ships are extraordinarily high emitters of criteria pollutants, especially NO_x, but also SO_x, CO, and PM, and will emit substantially more criteria pollutants than the terminal itself. For example, the county of Santa Barbara, California, notes that more than half of its ambient NO_x originates from vessels. *See* Exhibit 1. The Port of Los Angeles has also calculated detailed emission factors for various ships, including ocean-going ships, and has concluded that the main engine of a typical ocean-going ship emits 1,742 tpy NO_x, 469 tpy SO_x, 263 tpy CO, and 87 tpy PM. *See* Port of Los Angeles, Inventory of Air Emissions (July 2012), page 52 (attached hereto as Exhibit 6).

EFSEC should ensure that it accounts for the actual fuel(s) that will be used by these ships, noting that fuel standards are changing in 2016 and 2020 due to operation of the North American Emission Control Area. Because criteria pollutants can travel great distances, EFSEC should include ship emissions originating up to 200 nautical miles from the coastline in its analysis. Because dockside emissions from ocean-going vessels

could be largely or completely eliminated through cold-ironing (i.e., providing shore power to ships), EFSEC should include this option as a potential mitigation measure in its analysis, noting the tpy reduction of pollutants this option would facilitate along with the cost.

Similarly, EFSEC should quantify criteria pollutant emissions from escort vessels, such as tug and pilot boats, which will occur due to the construction of the Terminal. These ships also can emit a significant quantity of air pollutants. Detailed emission factors are available both through EPA and the Port of Los Angeles report cited above.

The EIS should examine the direct adverse effects of increased carcinogenic diesel emissions due to increased locomotive traffic. The EIS should examine the reasonably foreseeable air emissions from the operation and maintenance of the railways. These emissions are a serious concern for people living close to train tracks, which increases a person's exposure to diesel particulate matter to a level comparable to exposures in industrial settings. Thus, the EIS should consider the detrimental health effects that people living near the tracks will experience as a result of increased diesel particulate matter in the air.

The EIS should consider emissions from the facility itself, which have already been projected by Tesoro in its JARPA application, together with those from ships and trains traveling to and from the facility.

Most importantly, train and vessel trips resulting from the other fossil fuel transport facilities should be considered as cumulative impacts in this EIS. Because ships in particular are such high emitters of pollutants and trains repeatedly traverse the same locations, this analysis is essential to ensure that no violation of PSD increments NAAQS, or air quality related values (AQRVs) will occur and, on a practical level, to ensure that public health impacts of this many additional ships and trains are appropriately accounted for. These impacts should be converted into a quantifiable health risk analysis, noting especially any increased risk of mortality associated with this pollution. This quantification is important given that researchers estimate over 200,000 Americans die from air pollution every year. *See* Caiazzo et al, Air pollution and early deaths in the United States. Part I: Quantifying the impact of major sectors in 2005, 79 Atmospheric Environment, 198-208 (Nov. 2013) (attached hereto as Exhibit 7).

Carcinogenic diesel emissions from the increase in marine vessel and towboat traffic will have a direct adverse effect on air quality. The Terminal will transport crude oil onto marine vessels at the project site. These vessels have the capacity to create significant diesel emissions, both in transit and while docked. EFSEC should examine the reasonably foreseeable air emissions from the operation and maintenance of the vessels along with any necessary support vessels such as tugs, pilots, and other escort vessels. These emissions should be accounted for within the North American Emissions Control Area (i.e. roughly to a distance of 200 nautical miles from the Pacific Coast), as ship emissions facilitated by the Terminal are most likely to impact overland air quality management districts within this vicinity. The analysis should include an investigation of

the types of fuel being used, as well as the efficiency of the technology used to operate the vessels.

EFSEC should incorporate reasonable mitigation measures such as cold-ironing, the use of effective scrubbing technology on ships, and the use of cleaner fuels by incoming cargo ships in the EIS. These mitigation measures should be compared against the baseline of ambient air quality that would be expected to occur but for these mitigation measures.

Hazardous air pollutants

EFSEC should evaluate the direct effects of hazardous air pollutants (HAPs) in the EIS. Specifically, the EIS should address the HAPs likely to be emitted from diesel emissions from trains, marine vessels, and any trucks associated with the construction or operation of the Terminal. The EIS should also address that HAPs can and will vary depending on the type of bulk commodity being exported. A list of potential export commodities that contain hazardous materials should be included in the EIS and the impact of fugitive emissions of each type of commodity identified should be evaluated. For example, coal contains mercury, a listed HAP.

Human health

Nitrogen oxide (NO_x) and nitrous oxide (N_2O) emissions from increased maritime traffic will have significant ozone-related effects. Commercial maritime shipping significantly contributes to NO_x emissions. NO_x emissions cause the formation of ground-level ozone, which reduces visibility and presents very serious human health risks. Also, N_2O is the leading cause of depletion of stratospheric ozone. *See* Ravishankara, et al., *Nitrous Oxide (N2O): The Dominant Ozone-Depleting Substance Emitted in the 21st Century*, 326 Science 123, 123–125 (2009) (attached hereto as Exhibit 8). EFSEC should address the effects of NO_x emissions from shipping and construction activities on ground level ozone and stratospheric ozone. Moreover, the EIS should model NO_x emissions and ground level ozone concentrations for the area.

Additional trains mean an increase in localized air pollutants along rail corridors. These localized impacts are extremely important for EFSEC to take into account because the same communities will be subjected to these emissions repeatedly, multiple times per day. Specifically, EFSEC should quantify the increased health risk on communities within a half mile of the train corridor that will be used by trains traveling to and from the Terminal. This risk should be expressed in terms of increased mortality risk due to carcinogenic and other health-related impacts. This analysis should account for the cumulative impacts of trains traveling to and from the Terminal along with trains traveling to and from the other fossil fuel transport projects identified in Section II. And this analysis should identify the impact of these emissions on at-risk members of the population, especially young children.

An example may highlight the importance of analyzing the cumulative impacts of

trains on communities near rail corridors. Every train associated with these projects must travel through a "rail funnel" in and around Spokane. Each train emits approximately the same quantity of air pollutants as 35 trucks. With forty trains traveling through Spokane per day, this is will result in diesel emissions equivalent to 1400 trucks per day, or approximately one truck per minute, repeatedly traveling through the same heavily-populated area.

A major concern is the exposure of vulnerable populations to these emissions. Exposure to diesel exhaust from train traffic has been connected to asthma and cardiovascular problems. Children's lungs are the most vulnerable, and if they are exposed to air pollution they can suffer from decreased lung function for the rest of their lives. Diesel pollution can irritate those who are susceptible to respiratory illness. Many of the pollutants found in diesel emissions will worsen the effects of respiratory illnesses, such as asthma. EFSEC EIS should carefully consider any and all health effects faced by local populations as a result of diesel emissions from locomotive engines.

Visibility

Fugitive emissions from the proposed site and locomotive traffic will have a direct adverse impact on visibility in the region, and in particular on the Columbia River Gorge. Haze-forming pollutants, including nitrogen oxides, sulfur dioxide, and particulate matter, pose a serious risk to the visual experience of these majestic natural areas that have come to define the Pacific Northwest.

With the many additional ships operating in Washington's waterways and coastal areas, impacts to visibility and regional haze must also be accounted for. As noted above, one individual ship, on average, emits 1,742 tpy NO_x. *See* Exhibit 6. This is approximately 17% of PGE's coal-fired Boardman plant, which is the largest emitter of ozone-forming pollutants in Oregon and has by far the largest impact on visibility in that state. Just five or six additional large ocean-going vessels operating off of Washington's coastline could have a similar impact on visibility. Given this aesthetic impact to hundreds of thousands, or potentially millions, of residents and visitors, EFSEC should address these cumulative adverse impacts on visibility and aesthetics.

There are numerous Class 1 areas in Oregon and Washington, each of which is under a federal mandate that visibility should be improved to "natural conditions" by 2064 and that reasonable further progress must be made toward this goal. *See* 40 C.F.R. § 41.308(d)(1) (2013). Given the substantial increase in vessel traffic in particular, EFSEC should initiate a consultation process with the federal land managers at Class I areas, including Mount Hood, Mount Adams, Goat Rocks, Mount Ranier and the Columbia River Gorge. Those Federal Land Managers may require an additional air quality related values analysis to model visibility impacts on those areas. *See* Federal Land Managers' Air Quality Related Values Work Group (FLAG) Phase I Report—Revised (2010) (attached hereto as Exhibit 9).

Global greenhouse gas emissions

Carbon dioxide (CO_2) and N_2O emissions from increased maritime traffic and the burning of crude oil will have significant ozone-related effects and greenhouse gas effects. The EIS should include an accounting of greenhouse gas emissions associated with all aspects of the project, including but not limited to: (1) pre-construction; (2) construction; (3) operation; (4) maintenance; (5) decommissioning; (6) increased rail and ship transportation, reasonably expected to occur due to operation of the Terminal; (7) increased oil combustion, reasonably expected to occur due to operation of this Terminal; and (8) increased oil extraction, reasonably expected to occur due to operation of this export terminal. Some of these impacts may be viewed as direct or indirect impacts. Items (1)-(5) should address both stationary and mobile emissions sources. Items (7)-(8) relate specifically to oil. All of the above sources of emissions should be estimated over the life of the project and in cumulative fashion.

Most importantly, the impact of combusting the crude oil proposed to be transported through the Terminal must be accounted for in the EIS. This Terminal stands to become the largest crude oil transfer terminal in the Pacific Northwest, facilitating the transfer and eventual combustion of 360,000 barrels per day of crude oil at full build-out. Given the extremely high volume of carbon-emitting fuels that will be transported through this facility, EFSEC should quantify the global warming potential of the combustion of this fuel. This analysis has recent precedent based on Ecology's SEPA scoping analysis for the Gateway Pacific Terminal.

Climate Change

Construction of the Terminal will result in numerous sources negatively affecting regional air quality and global climate change. Tesoro acknowledges that "most scientists concur that anthropogenic global emissions of greenhouse gases are affecting climate, [but] there are no analytical tools or established procedures for evaluating climate impacts from individual projects." *See* Application at 3-256. This statement flies in the face of what our federal government has found achievable under the analogous statute, the National Environmental Policy Act (NEPA).

In 2010, the Council on Environmental Quality (CEQ) promulgated draft guidance on the ways in which Federal agencies can improve consideration of the effects of greenhouse gas emissions and climate change in their evaluation of specific project proposals under NEPA. *See* February 18, 2010, CEQ Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions (attached hereto as Exhibit 10). This guidance recognizes climate change is a global problem, and directs agencies to focus on aspects of climate change that may lead to changes in the impacts, sustainability, vulnerability, and design of a proposed action and alternative courses of action. It notes that agencies can use the NEPA process to reduce vulnerability to climate change impacts, adapt to changes in our environment, and mitigate the impacts of actions that are exacerbated (or that exacerbate) climate change.

During his June 29, 2013 weekly address, President Obama called on all

Americans to speak up about climate change in their communities and remind their elected officials that we must take action to protect our future generations from the ravages of climate change. Tesoro's claim that climate change simply cannot be evaluated on an individual project level blatantly ignores existing guidance for analogous environmental assessments and President Obama's call for elected officials to address climate change in meaningful ways. Tesoro's approach also turns a blind eye to the inevitable climate change impacts that will result from the Terminal it proposes for the transportation of massive amounts of crude oil. This crude oil when then be burned in the United States, and once refined, abroad. At bottom, EFSEC should address the Terminal's impacts on climate change from the various emissions related to the project as well as the induced demand that this crude oil supply will create domestically and abroad.

Conclusion

NEDC urges EFSEC to prepare an EIS that focuses not only on the impacts from the construction and operation of Tesoro's proposed Terminal at the facility location itself, but also the impacts of this Terminal when considered in the cumulative with the numerous other fossil fuel transport projects proposed for the Pacific Northwest. Failure to consider the cumulative impacts of authorizing these projects would ignore the very real environmental impacts that stand to follow. Indeed, as a council with representatives from a wide range of state agencies, EFSEC is uniquely positioned with the opportunity to conduct a comprehensive review of the cumulative impacts of these projects. Such impacts must be fully understood before EFSEC can make a rational recommendation to the Governor regarding the certification of the Terminal.

Sincerely,

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Legal Fellow

JJ England
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