



January 18, 2016

Stephen Posner, EFSEC Manager
Washington State Energy Facility Site Evaluation Council
1300 South Evergreen Park Drive SW
PO Box 43172
Olympia, Washington 98504-3172

Re: Tesoro Savage Vancouver Energy Distribution Terminal Facility Draft Environmental Impact Statement

Via email: efsec@utc.wa.gov

Dear Mr. Posner:

Thank you for the opportunity to participate in the review of the DEIS on the location of a crude oil terminal at the edge of the critically important Columbia River. We believe that this very complex project is ill-advised and hope our input will assist EFSEC and the Governor to make the correct decision of denial of the project thereby benefiting the environment, visitors and residents of the Columbia River Watershed, and the coastlines of Oregon and Washington.

We incorporate by reference comments of concern submitted by but not limited to, the Washington Environmental Council, Climate Solutions, Friends of the Earth, Sierra Club, Forest Ethics, Washington Dungeness Crab Fishermen's Association, Grays Harbor Audubon, Physicians for Social Responsibility (Washington, Oregon Chapters), Grays Harbor/Willapa Oystergrowers Association, Washington State Council of Fire Fighters, 350.Org, Seattle, The Lands Council, Seattle Rising Tide, Evergreen Islands, Inc., Landowners & Citizens for a Safe Community, Everett Shorelines Coalition, Dan Leahy, Fred Felleman, the Figlar-Barnes, Robin Moore, Arnie Martin, Brady Engvall, the Confederated Tribes of Warm Springs, and the Quinault Indian Nation.

FOGH is a broad-based 100% volunteer tax-exempt 501(c)(3) citizens group made up of crabbers, fishers, oyster growers and caring citizens. The mission of FOGH is to foster and promote the economic, biological, and social uniqueness of Washington's estuaries and ocean coastal environments. The goal of FOGH is to protect the natural environment, human health and safety in Grays Harbor and vicinity through science, advocacy, law, activism and empowerment.

Transporting crude by rail threatens communities all along the route, and its storage and further transport threatens the entire region.

- Rail infrastructure is in poor condition, increasing risk of derailments
- Rail cars (even the "new and improved") have been shown to rupture and explode causing loss of life, property, and environmental function and value.
- Irreplaceable wetlands, floodplains and waterways along the route are at risk.
- Spills will cause permanent harm to fish habitat and economies that depend on marine resources
- Real estate values along rail route and oil terminals decrease dramatically.
- Increased rail traffic causes unacceptable delays and block emergency access.
- Crude oil transport negatively impacts all other developments and investments adjacent to the rail routes and terminal.
- Local communities are ill-equipped to deal with spills, fires or explosions.

- Increasing carbon emissions from extracting the crude oil adds to global climate change.
- The Columbia River Littoral Cell affects waters and sediment from approximately Tillamook Head, Oregon to Point Grenville, Washington. The 103 mile long cell comprises four barrier sub-cells separated by the Columbia River and two large estuaries to the North: Willapa Bay and Grays Harbor.
- The project proposes the daily movement and storage of 15,120,000 gallons of crude oil at the edge of the Columbia River and to place it in tanks on land subject to liquefaction.

Washington and Oregon are simply not ready in terms of spill preparedness or transport safety, and neither is the aging and outdated fleet of rail cars used to transport crude by rail and which would facilitate the rapid and unsafe growth of that industry in our state.

The train derailment and explosions in Lac-Megantic, Quebec in the summer of 2013, the more recent derailment and explosion at Aliceville, Alabama, the pipeline breach along the Kalamazoo River in 2010, and the grounding of the Exxon-Valdez tanker in 1989, the spill of the Nestucca in 1988 are reminders that accidents happen and have devastating consequences when it comes to transporting oil.

Spill readiness: We simply aren't ready for spills by rail, per Ecology's own account. Much of the rail route parallels waterways like Columbia River, Chehalis River, Grays Harbor Estuary, and Puget Sound. With respect to tar sands, we have no meaningful response plan that acknowledges the fate of tar sands in marine or fresh aquatic environments. Current rail standards allow transport of explosive Bakken crude in old and outdated cars--a risk Washingtonians shouldn't have to take.

It isn't for us: In total, the new rail terminals substantially exceed Washington's refining capacity, which already receives all the crude needed by vessel and Kinder Morgan's Puget Sound Pipeline. While each of the terminals is nominally intended to receive domestic Bakken shale oil, many have already been demonstrated to be actively soliciting tar sands business from Alberta. In fact it is doubtful that the proposed expansion would make economic sense for Bakken crude alone. With Alberta's tar sands representing the second largest oil deposit on the planet, international market demand will inevitably pressure Washington's crude by rail terminals to become nothing but transshipment points for Canadian crude to the world—leaving us with all the risk and no reward. A simple “chain of custody” certification policy could readily allow the transport of Canadian crude to be exported directly, since there is not a prohibition of export of Canadian-based or other foreign acquired crude oil. And now with the lifting of the ban on crude, the target for Washington State has become even larger.

Terminals would slow Washington's economic recovery: Committing large volumes of rail capacity for raw energy export is bad for Washington jobs and retards economic growth. Mixing coal, Bakken, and tar sands on the rails is a recipe for increased derailment and catastrophic disasters; likewise, repeated risk exposure through a vast increase in crude and bulk carrier vessels in the Columbia, Grays Harbor or Puget Sound virtually guarantees a devastating oil spill of a size that could easily exceed the two Puget Sound spills of that generated so much outcry from citizens ten years ago. Ecology estimates a single major oil spill in Puget Sound to cost our economy \$10.8 billion and impact 165,000 jobs. Many of those jobs would be tribal. The increased likelihood of a spill or accident would threaten guaranteed cultural and historical tribal treaty rights.

Ocean acidification: Opening up the taps to Alberta's tar sands, which this rail terminal would eventually do has been described as “game-over” for defending against catastrophic climate change. Even if this oil is burned elsewhere, the sheer scale of the reserves can easily be traced to dramatic local climate change and ocean acidification effects.



1. We are concerned that the 4,619+ pages DEIS document is just another ill-written apology paper which under reports and underestimates the impacts to the immediate project area and is woefully inadequate in its recognition of the impacts to the broader region.
2. We are concerned that the availability of printed copies of the DEIS were not readily available to much of the affected coastal populations. For example, there were no copies available at the Long Beach, Illwaco or Westport Libraries, despite the fact that significant numbers of residents and businesses would be adversely impacted by the projects should they go forward.
3. We are concerned that the DEIS as presented apparently recommends and believes that the staffing of 30.2 FTE employees with a tax-supported budget of \$11,527,000 can solve and mitigate the potential loss of livelihood of approximately 31% of the Grays Harbor workforce and 36% of the Pacific County workforce who depend on healthy marine resource jobs – a figure which excludes tribal contributions.
4. This proposal is located in a tsunami and liquefaction zone with a 65% chance of a 6.0 or greater earthquake. Spills, accidents or catastrophic occurrences will happen within the life expectancy of these proposals. A Cascadia Subsidence would drop the landform and surrounding area by 2 meters or roughly 6-1/2 feet and would instantly place approximately 113,000,000 gallons of crude oil at or below sea level. This was not adequately addressed in the DEIS.
5. We are concerned that the DEIS inadequately considers Governor Inslee's Executive Order 14-04, which shows concern about sea level rise and ocean acidification. Although RCW 70.235.020 began the process of inventorying the State's greenhouse gas (GHG) contributions and projections, the DEIS did not adequately discuss nor review the proposed coal and crude oil terminals and their operations' contribution to Washington's GHG. These projects programmatically should have been studied using both a consumption-based approach and a production-based approach in order to capture the true impacts of these operations and their product at build-out and at maximum throughput. Separating the GHG contribution into sections and separate documents doesn't adequately show the cumulative impacts. The three Grays Harbor projects and the Vancouver projects alone would increase the State's footprint by 185.5%.
6. A spill in one of our fast-moving waterways presents a great challenge when a water-in-oil emulsion ("mousse") occurs as a result of high-energy mixing. The resulting mousse has properties that prevent dispersion into the water column and clean up becomes ineffective, if not impossible. There is no mitigation possible for this eventual-ity, and the spill modeling was inadequate and unreliable.
7. Treaty and non-treaty tribes, such as the Quinault Nation, Hoh, Jamestown S'Klallam, Lower Elwha Klallam, Quileute, Shoalwater Bay, Makah, and Confederate Tribes of Warm Springs have lived and utilized the waters and lands of the Olympic Peninsula, Pacific Northwest ocean, the estuaries of the Columbia River, Willapa Bay and Grays Harbor, for tens of generations. They depend on the delicate balance that nature provides to sustain their culture and subsistence. The natural flow of waters during flood events depends upon healthy and natural storage of wetlands and riparian areas. Any interruption of natural processes of air, earth and water only exacerbates problems elsewhere - usually downstream or elsewhere into the ocean and estuaries. Additionally, since the late 1800s, generations of non-native fishers, crabbers and shellfish gatherers have accessed the economic bounty of the coastal area. The further introduction of crude oil into these areas can only threaten to destroy these critical components of their combined cultures and heritage. The DEIS fails to satisfactorily address this and the mitigation is completely inadequate and disrespectful.
8. Environmental fate, effects, and transport of released crude oil, dispersed oil, and dispersants on human health and the environment should have been carefully documented and studied. Spills, explosions, fires, and blowouts can have multiple environmental and public health impacts, which should have been quantified and analyzed for their economic impacts. Operational discharges of produced water, drill cuttings, and mud, which remain as a residual of the crude product have chronic effects on benthic (bottom-dwelling) marine communities, mammals,



birds, and humans. Humans can also be affected by occupational exposure to oil and other chemicals while participating in response and cleanup operations, or by environmental exposure such as ingesting oil-contaminated seafood.

9. Marine mammals are affected by the oiling of their fur and skin, and through consumption of oil-contaminated foods (e.g., mussels, clams and oysters), or via inhalation of fumes that have liver, kidney, and central nervous system toxicity. The marine mammals most commonly affected include seals, sea otters, sea lions and whales. Sea otters are particularly vulnerable as they feed near the surface, have little blubber, and depend upon an intact fur coat to maintain their body temperature. An oil spill in the Columbia estuary similar to the Nestucca, which spread from Grays Harbor to Vancouver Island on the north and ended up in Newport, Oregon to the south, would potentially wipe out the existence of sea otters off the coast of Washington. The DEIS failed to research and understand these impacts and how to mitigate the effects of an oil spill before it has affected the species at risk, including humans. Ecotoxicity research should have been presented in areas beyond human health effects, including research about effects on animals and other aspects of the environment.

10. The DEIS understates the whale population present in the estuary or near the coast. This is inadequate and impacts to and from whale collisions should be further analyzed.

11. The safe transportation of crude oil is complicated by the varied nature of the product itself. Bakken crude oil is inherently volatile with a flash point at or under 74° F and a vapor pressure similar to gasoline. An additional and serious danger is often the amount of dissolved natural gas and volatile organic compounds within the crude. This gas affects the vapor pressure of the crude. When contained in tank cars or other vessels, the vessel itself can become highly pressurized, almost like a soda can. The vapor pressure of a liquid, which varies with temperature, is a measure of how much vapor the liquid releases during evaporation. Materials with high vapor pressures tend to burn more violently because the liquid can change into vapor more readily, feeding a fire. The classification and packaging of crude oil does not currently account for vapor pressure. This was inadequately addressed in the DEIS.

12. While the spike in Bakken crude oil has focused attention on the transportation of crude oil into Washington, there is also a concern over the probability of transporting Canadian Tar Sands crude oil through the state. Canadian Tar Sands oil presents a different set of challenges to effective prevention and response. Tar Sand oil is less volatile than Bakken crude oil, but can become heavier than water and will sink to the bottom of any waterway particularly after volatile diluents have evaporated. If transported through Washington State, the Canadian tar sands crude oil would travel along, or on many of the state's major waterways, including the salmon-critical Columbia and Chehalis Rivers. Since Tar Sand oil sinks when introduced to water, different spill response equipment and protocols would be needed. The Bakken Crude also was shown to sink and persist as we learned from the tragic Lac Megantic disaster.

13. The Northwest Area Contingency Plan (NWACP) administered by EPA Region 10 and the U.S. Coast Guard (USCG) recently has begun its 2015 update. The NWACP also provides guidance on issues such as identifying sensitive areas and the size of the response organization that may be required. Content of the NWACP is identified in the Clean Water Act (CWA). The National Oceanographic and Atmospheric Administration (NOAA) administers the Environmental Sensitivity Index (ESI). As with the NWACP, the ESI covering the Columbia and Chehalis River is inadequate and needs to be updated to account for the increased dangers of crude oil transportation by tanker, barge and/or railroad. Neither the NWACP nor the ESI was discussed or addressed in the DEIS.

14. Rail conditions may not be adequate to handle the increased volume of this heavy load commodity. A detailed study of the conditions of the bed, ties, rails, crossings and bridges must be undertaken and quantified. The DEIS fails to do this.

15. Financial responsibility must be determined before any crude oil is transported. These items were mentioned in the DEIS, but no analysis was done to quantify this nor was there a discussion of the impacts should repairs not



be implemented prior to the shipping of crude. Since there is no funding for the repairs, a study should have been made which would have quantified the risks and costs attributable to an accident or disaster.

16. The DEIS doesn't identify insurance coverage for these trains, but rather talks about flood, fire and life insurance. This leaves important questions unanswered: Is it even possible for an oil shipper to get the coverage it needs for worst-case scenarios? What assurance is there that the companies involved will not declare bankruptcy?

17. The disaster in Lac Megantic in Quebec that killed 47 people demonstrates the extent of the threat. The DEIS fails completely in addressing this danger.

18. The DEIS barely touches on threats to Tribes, for example, the potential damage to traditional fishing areas from a spill into the Columbia River and/or along its ocean shorelines.

19. There is also a glaring absence to address the concerns of the Washington Dungeness Crab Fishermen's Association, Columbia River Crab Fisherman's Association, Coalition of Coastal Fisheries, Westport Charterboat Association and the Willapa/Grays Harbor Oysterman's Association.

20. We encourage the incorporation into the FEIS, the statement made in Appendix C, PDF page 103 of the Marine and Rail Transportation Study: "Oil spills can threaten some of Washington's most productive and valuable ecosystems. All spills can threaten public health, safety, the environment, and ultimately damage the state's economy and quality of life. Almost 2,500 miles of major rivers in Washington run within 1,000 feet of a rail line. An incident involving oil transported by rail in bulk could adversely and significantly impact the natural resources and economic health of the state. Oil spills of any size, depending on product type and location, threaten productive and valuable ecosystems, killing birds and marine life, contaminating beaches, shellfish, and groundwater. Spilled oil poses serious threats to fresh water and marine environments. It affects surface resources and a wide range of subsurface organisms that are linked in a complex food chain that includes human food resources. Significant oil spills can cause millions of dollars in damage to important industries, including shellfish production, fishing, tourism, and recreation".

21. Seismic and wind design requirements do not provide adequate protection to fuel storage containers during tsunami events. Earthquake induced damage can be characterized by elephant foot or diamond buckling of the base of the container, anchorage failures, base sliding, and sloshing damage to the upper shell and roof [Malhorta, Wenk, and Weiland 2000]. Damage to fuel storage tanks during the 2004 Indian Ocean Tsunami were observed by Goto [Goto 2005]. He discovered instances of failure due to sliding, floating, and buckling. Page 2 Tsunami Impact on Fuel Storage Containers - Hillary Brooker Lehigh University, Project PI: Clay Naito Lehigh University August 2011. (Clarify these references) This has not been covered nor mitigated.

22. We are concerned about the lack of consistency throughout the DEIS on impacts. Statements are contradictory and misleading.

23. We are concerned that environmental damage analysis related to a tsunami event will be conducted after the permits are issued. This needs to be done prior to permitting.

24. The DEIS inadequately assessed the impact of earthquakes. Earthquakes impact areas hundreds and even thousands of miles away from the fault and are predicted to occur much more frequently than claimed in the DEIS. Recent seafloor core samples measuring Cascadia Subduction suggests that there are dangerous rupturing every 250 years. Our last recorded CSZ quake was 315 years ago in 1700. It appears that a major event may be over-due.

25. The discussion of rail traffic impacts is woefully inadequate. The DEIS states that future improvements on the track were included in the simulation, but are "not funded or programmed for implementation." What will happen if the improvements aren't funded? All discussion of rail traffic and impacts are based on infrastructure improvement that is speculation.



26. The DEIS study on rail line capacity does not seem to adequately discuss the logistics of mixed rail use. It also does not quantify costs or from where the funds would be obtained, nor the time frame that would be required to achieve the mitigation.
27. The proximity of schools, hospitals, health care facilities and first responders was not indicated or enumerated.
28. Tribal and cultural constitutional treaty rights and concerns have not been adequately addressed. This is a major deficiency. They hold tribal treaty fishing rights and these cannot be interfered with or mitigated.
29. There is an inadequate analysis on impact of oil spills on razor clams, shellfish, economies of coastal communities as well as tribes.
30. Impacts to health and related issues are inadequately analyzed. In addition to diesel, toxic fumes, hazardous materials, there are mental health issues: fear of explosions, impacts of continuous noise, etc. There is no analysis of human health impacts in case of a spill or explosion.
31. The modeling done of potential problems caused by or in association with an earthquake event was inadequate. It was not based on local and/or site specific data. The modeling didn't include tidal fluctuations nor rain and wind events, which seem to occur more often.
32. The new storage tanks and related infrastructure carrying and storing crude oil could rupture in the event of a tsunami and expose people and the environment to increased harm. Tabletop exercises of the Grays Harbor Emergency Management Office have outlined potential dangers and outcomes of an earthquake experienced in that local area. These exercises indicate that power loss, infrastructure collapse and other quake-related impedances will severely inhibit emergency response. This was not adequately addressed in the DEIS.
33. Bunkering operations are not adequately addressed nor are their mitigations proposed. The specific regulations under which bunkering operations fall are as follows:
WAC 317.40 Bunkering Operations; 33 CFR 153 Notice of Discharge and Removal of Discharged Oil; 33 CFR 155 Oil or Hazardous Material Pollution Prevention Regulations for Vessels; 33 CFR 156 Oil and Hazardous Material Transfer Operations; 46 CFR 30-40 Tank Vessels; and WAC 173.184. Despite these 6 specific regulations, the DEIS does not quantify fueling and refueling operations that would be required for ocean going vessels. An increase of these vessel calls and the possibility of the export ban being lifted requires an in depth analysis of how much bunker fuel might be exchanged during the vessel and barge visits. Also there must be an analysis of where these fuels might come from and via which routes they would take. The DEIS states that bunkering will not be allowed at the project site and therefore avoids further discussion.
34. The DEIS traces some of the Green House Gas impacts of the vessels, but neglects a discussion or analysis of tug boat contributions during docking maneuvers and bunkering operations.
35. The DEIS throughout uses comparison scales of convenience. If it is to the advantage of the proposed project, then the impact is compared to subject area, however if it is to the project's advantage to minimize the impacts they are compared to an entire area or region. Proper scaling requires consistency. The Legislative intent of SEPA is to provide a process that responsibly "promotes efforts which will prevent or eliminate damage to the environment and biosphere." Mixing scales that presents an advantage to the project is contrary to this intent. An honest evaluation of impacts must be consistent.
36. The DEIS states that the majority of impacts cannot be mitigated: therefore these proposals must be denied.
37. The Final EIS must include a rigorous No Project Analysis, which is missing here. The dismissiveness with which the No-Action Alternative is treated throughout the DEIS shows a bias to the projects at hand and doesn't properly reflect the absence the proposed projects. To imply that we should go ahead with an unwise, destruc-



tive project now, because someone will propose one in the next 20-year period is insulting to the citizens whose livelihoods and traditions depend upon clean water, and a healthy river and estuary.

38. The modeling on sea level rise was inadequate and did not rely on best available science.

39. The value of nearshore ecosystems was inadequate, therefore minimizing the impacts of crude oil transport and storage in Grays Harbor.

40. The value of saltmarshes to carbon sequestration was ignored. Saltmarshes would be particularly vulnerable to any type of crude oil spill. (National Fisheries Conservation Center studies).

41. There is no listing of fugitive emissions from the rail cars storage area or transfer from and to tanks. Toxic emissions during these processes can cause serious health issues for workers and others.

42. Mitigation and response for crude oil tank fires are totally inadequate and underscores the lack of understanding of the nature of these fires. Firefighters are told to step back and let the fires burn.

43. The economic impacts of an oil spill have not adequately been expressed in the DEIS and as a consequence their impacts have been minimized. See FOGH economic study (attached) for non-tribal impacts and Quinault Indian Nation's economic study for tribal impacts. While this economic study focuses on Grays Harbor the principals of its review would apply for similar operations on the Columbia River and its ocean coastline.

44. The DEIS fails to consider the compatibility of the proposed project with existing tenants and the impacts of loading/unloading, storage and transferring of crude oil might have on those tenants.

45. A recent study by NOAA analyzing the aftermath of the Exxon Valdez spill found that extremely low levels of crude oil can cause heart problems in fish, this needs to be studied for its affects in the Columbia River area.

46. The tides, currents and river flows do not reflect the reality of the Columbia River Watershed, its estuary and the ocean currents within the area. As a result spill modeling and accurate fate and transport of crude oil was not properly assessed and is underrated, under-assessed and not properly mitigated.

It must be concluded that the DEIS fails to address the magnitude of the impacts transporting and storing crude oil on every aspect of life in along the Columbia River and the surrounding areas of its littoral cell. We MUST NOT expand crude oil transport, storage or refinery anywhere in our State, as there is no mitigation possible for the complex, cumulative, and contrary impacts to these projects. This DEIS must not enable these projects going forward. The permit must be denied.

Sincerely,



Arthur (R.D.) Grunbaum
President

ATTACHMENTS:
FOGH Economic Impacts Study
Tsunami Impact on Fuel Storage Containers

