

The tribes listed in Table 4-1 submitted comments on the Draft EIS. These comments and responses to those comments are presented after the table. Master responses were developed to address commonly raised comments and are presented in Chapter 2, *Comment Themes and Master Responses*.

The responses refer to the Draft EIS unless information has been revised, in which case the Final EIS is specified.

**Table 4-1. Comment Letters Submitted by Tribes**

Number	Tribe
T-1	Columbia River Inter-Tribal Fish Commission, Babtist P. Lumley
T-2	Confederated Tribes and Bands of the Yakama Nation, Phil Rigdon
T-3	Confederated Tribes of the Warm Springs Reservation, Elmer Ward
T-4	Quileute Tribal Council, Naomi Jacobson
T-5	Quinault Indian Nation, Fawn R. Sharp
T-6	Quinault Indian Nation, President Sharp
T-7	Quinault Indian Nation, Tyson Johnston
T-8	Quinault Indian Nation, Kristen Boyles (EarthJustice)
T-9	Shoalwater Bay Indian Tribe, Douglas Davis

## T1, Columbia River Inter-Tribal Fish Commission, Babtist P. Lumley

### Comment T1-1

November 30, 2015

*Via U.S. Mail and Online*

Westway and Imperium Expansion Projects EISs  
c/o ICF International  
710 Second Street, Suite 550  
Seattle, WA 98104  
<https://public.commentworks.com/cwx/westwayimperiumcommentform>

RE: Draft Environmental Impact Statements for the Projects: Westway and Imperium (Renewable Energy Group) Expansion Projects

To Whom It May Concern:

Thank you for this opportunity to provide comments on the Draft Environmental Impact Statements (DEISs) for the Westway and Imperium Expansion Projects. These comments are provided at the

direction and on behalf of the Yakama, Warm Springs, Umatilla and Nez Perce tribes which formed the Columbia River Inter-Tribal Fish Commission (CRITFC) in 1977. CRITFC and its member tribes have been alarmed at the massive influx of fossil fuels being transported by rail through the Columbia River Gorge. These trains directly affect the lives of tribal people living, working, and exercising their treaty rights along the Columbia River. Similarly, we appreciate and support the Quinault Indian Nation's extensive and thorough comments filed November 24, 2015. We believe that while the Westway and Imperium projects are ultimately situated in Grays Harbor, Washington, with all full trains transiting the rail through the Gorge, the Columbia River tribes share many of the Quinault Indian Nation's concerns, therefore we incorporate by reference all comments of the Quinault Nation and add the following information.

Both DEIS documents analyze the project affects close to the terminus sites in Grays Harbor, and the PS&P rail from Centralia, while lightly acknowledging the rail transit in other parts of the state as the "extended" area. The DEIS notes that the PS&P line is "certain" and infers that all other transport is uncertain. We are certain that the only feasible transport route for full trains to Centralia will be the BNSF rail on the north side of the Columbia River Gorge. For a myriad of reasons, this is unacceptable and will result in unmitigatable impacts and risks to tribal treaty resources.

There are currently several projects in the region accepting crude-by-rail (CBR) shipments, and at least a dozen projects proposed and awaiting permits. Current CBR traffic in the Columbia River Gorge is estimated to be around twenty to twenty-four full unit trains per week. With each additional project, and each additional CBR train, the risks to the resources grows by a magnitude.

If all of the projects currently proposed are approved, the Columbia River Gorge, a regional jewel providing unique scenic, cultural, and recreational value, will be a fossil fuel rail pipeline funneling over 100 CBR trains per week. Ecology must analyze and weigh these effects when considering whether to approve these projects.

The risk of a train derailment and spill increases exponentially with each added CBR train. Rail capacity in the Gorge is currently very high, and adding more trains means more chances of catastrophic failure from derailments, train collisions, oil spill, and fire. From McNary dam at river mile 292 to Longview, Washington (river mile 67), the rail lines on both sides of the Columbia River run perilously close to the river, buffered only by cliff, rock, and/or highway. The image of the BNSF rail line [left] [Photo reviewed but not reproduced.] is a good example of how the rail lines the river. There is very little room for error on the part of the train, and often, very little room for first responders to access the site. In fact, it is likely that most accident sites along the Gorge will either be inaccessible to first responders or will be too far from any necessary equipment to contain a fire or oil spill such that impacts to aquatic and terrestrial resources will be inescapable. An oil spill, of either Bakken crude or Canadian bitumen, would be disastrous to the river's water quality and fish life. A short summary report of potential effects to aquatic resources (and reference list) was created by CRITFC and is attached. These risks are too great for Ecology to ignore.

Furthermore, much of the rail lines and bridges in the Gorge are aging and in desperate need of replacement and/or upgrading. In fact, many of the rail bridges, such as in the image [left], are nearly a century old. [Photo reviewed but not reproduced.] Such infrastructure upgrades are necessary and very expensive. The inadequacies of these systems paired with inadequate safety standards for rail tank cars creates unacceptable risks to the tribes and their resources. Current Department of Transportation (DOT) rules allow for substandard tank cars (DOT-111) to be used to carry crude, but even the newer, more "safe" tank cars (CPC-1232) and other enhanced safety

measures being considered under the U.S. DOT Tank Car Safety Rule are not protective enough. During 2015, there were six derailments of CBR trains with the CPC-1232 tank cars. The Columbia River tribes and the Quinault Indian Nation recently appealed the DOT rules. A copy of that appeal is attached.

As noted in the DEIS and other documents and reports issued by the State of Washington, rail traffic has increased dramatically with the introduction of CBR trains in late 2012. Many routes, including the Gorge, are nearing capacity and will be requiring expansion. Expanding rail would require, in many cases, infill into waterways, as well as creating more impediments to tribal treaty fishing access. In all of the images, including this image [left], tribal fishers had fishing nets just below the rail grade. [Photo reviewed but not reproduced.] At all of these sites, tribal fishers had to cross the rail line at great risk to their personal safety. In short, we do not want more rail traffic, and we certainly don't need risky rail traffic such as CBR, coal, or other hazardous fossil fuels.

As the DEIS notes, more trains on the rails means increased diesel emissions, which will add to the air pollution in the Columbia River Gorge. Currently, the Gorge experiences several days of stagnation during the winter and smoke during the July – September fire seasons. More emissions will add to this particulate load and continue to degrade resources in the Gorge area.

The Columbia River Gorge Commission and many cities and towns in the region have passed resolutions opposing these types of projects because the risks posed by these projects is too great a burden for these communities to bear, especially in light of the relatively little benefit to their economies or the region's economy. Copies of resolutions adopted by Portland, Oregon and Vancouver, Washington are attached.

The piecemeal approach to permitting all of these proposals is frustrating to those who will bear the burdens and risks the most. Ecology must thoroughly and comprehensively evaluate all aspects of the Westway and Imperium projects in conjunction with other projects proposed for the region. To not do so would be short-sighted.

Thank you for your time and consideration. If you have further concerns or questions, please contact me or my staff, Julie Carter, at 503-238-0667.

Sincerely,

Babtist P. Lumley

Executive Director

[Attachments]

## **Response T1-1**

Draft EIS Chapter 5, *Extended Rail and Vessel Transport*, addresses potential impacts from rail transport—1.25 unit train trips per day on average—in the extended study area qualitatively for the reasons described in the Master Response for the Geographic Scope of the EIS. Chapter 5 acknowledges that the routine transport of crude oil in the extended study area related to the proposed action could increase impacts similar in nature to those described in Chapter 3, *Affected Environment, Impacts, and Mitigation*.

Final EIS Chapter 5 reflects additional information characterizing potential risks related to rail transport in the extended study area under existing conditions, the no-action alternative, and the

proposed action. Final EIS Chapter 6, *Cumulative Impacts*, reflects additional information about the potential risks under cumulative conditions. Although the proposed action could result in an increase in the likelihood of an incident involving the release of crude oil, individually and cumulatively, the potential consequences would be similar in nature and magnitude to those that could occur under existing conditions and the no-action alternative and could not be completely eliminated. Depending on the specific circumstances of the incident, there is the potential for significant impacts. The potential impacts described in Section 4.7, *Impacts on Resources*, would apply to the extended study area.

Chapters 4, 5, and 6 of the Final EIS reflect updated information about ongoing efforts to address existing safety concerns within the extended study area. These efforts would also help to reduce any risks related to the proposed action.

All supporting material submitted during the public comment period is listed by commenter in Chapter 8, *Attachments*.

## **T2, Confederated Tribes and Bands of the Yakama Nation, Phil Rigdon**

### **Comment T2-1**

Brian Shay, City Administrator, City of Hoquiam City of Hoquiam 609 8th Street Hoquiam, WA 98550

Sally Toteff, Director Director, Southwest Regional Office Washington State Department of Ecology  
300 Desmond Drive SE Lacey, WA 98503

Re: Yakama Nation Comments on Westway/Imperium Expansion Draft EIS

Dear Ms. Barnes:

The Confederated Tribes and Bands of the Yakama Nation (Yakama Nation) received a letter from the City of Hoquiam and the Washington State Department of Ecology in regards to the proposed Westway and Imperium Expansion Projects. The proposed projects are within the Ceded Lands, and the Usual and Accustomed places of the Yakama Nation.

The Yakama Nation reserved rights in its treaty with the United States signed in 1855 and ratified by Congress in 1859 (12 Stat 951). The Treaty set forth that Yakama Nation shall retain certain rights and resources upon these lands and, therefore, it is with the assistance and backing of the United States Federal Government that Yakama Nation claims authority to protect traditional resources. You must seek consultation with the Yakama Nation's sovereign government before undertaking any action that might adversely impact the Yakamas' territories and the rights reserved to the Yakamas on those lands.

Comments on Westway/Imperium Expansion Draft EIS

#### 3.12 Tribal Resources

The Yakama Nation does not believe the Tribal Resources have been adequately addressed and the study area correctly defined. The area of potential effect (APE) needs to be expanded to include the point of origin, the route of transport, and the end location. You mention the "tribal resources that could be affected during routine rail transport.." in 3.12.1. The study area needs to include the length

of track that goes through the heart of Yakama traditional territory. There is a significant portion in which full loads will travel along the Columbia River. This area is not included the APE and should be as it includes many known culturally sensitive sites located along rail routes and within close proximity.

### **Response T2-1**

Refer to the Master Response for Geographic Scope of the EIS for an explanation of how the extent of the study area was determined for different impacts associated with the proposed action.

Draft EIS Chapter 5, *Extended Rail and Vessel Transport*, addresses potential impacts from rail transport—1.25 unit train trips per day on average—in the extended study area qualitatively for the reasons described in the Master Response for the Geographic Scope of the EIS. Chapter 5 acknowledges that the routine transport of crude oil in the extended study area related to the proposed action could increase impacts similar in nature to those described in Chapter 3, *Affected Environment, Impacts, and Mitigation*.

Final EIS Chapter 5 reflects additional information characterizing potential risks related to rail transport in the extended study area under existing conditions, the no-action alternative, and the proposed action. Final EIS Chapter 6, *Cumulative Impacts*, reflects additional information about the potential risks under cumulative conditions. Although the proposed action could result in an increase in the likelihood of an incident involving the release of crude oil, individually and cumulatively, the potential consequences would be similar in nature and magnitude to those that could occur under existing conditions and the no-action alternative and could not be completely eliminated. Depending on the specific circumstances of the incident, there is the potential for significant impacts. The potential impacts described in Section 4.7, *Impacts on Resources*, would apply to the extended study area.

Chapters 4, 5, and 6 of the Final EIS reflect updated information about ongoing efforts to address existing safety concerns within the extended study area. These efforts would also help to reduce any risks related to the proposed action.

### **Comment T2-2**

#### 4.3 Risk Considerations

This portion of the Draft EIS does not include the Columbia River, where a large portion of the transport route lies within the State of Washington. Full loads of crude oil will be transported along an area with ESA listed species and large culturally sensitive areas. Flow patterns or models for the Columbia River have not been established to forecast effects a possible oil spill.

### **Response T2-2**

Refer to Response to Comment T2-1.

### **Comment T2-3**

#### 4.7 Impacts on Resources

Without properly identifying the study area and APE of the proposed project, a proper impact on resources study cannot be completed. The Yakama Nation has a treaty with the U. S. government, in

which resources are retained and guaranteed to the tribe. Any action that threatens these resources would have further complications other than to the environment.

### **Response T2-3**

The EIS does not make a determination of significance related to tribal resources or treaty rights. The risks in the extended study area are addressed qualitatively for the reasons discussed in the Master Response for the Geographic Scope of the EIS. If an incident has the potential to or does affect tribal resources, the responsible party would be required to address impacts on tribal resources in compliance with all applicable local, state, and federal laws and regulations consistent with the regulations discussed in the Master Response for Liability and Responsibility for Incidents. Nonetheless, as noted in Final EIS Chapter 5, Section 5.6, *Would the proposed action have unavoidable and significant adverse impacts on rail and vessel transport in the extended study area?* implementation of the proposed action could increase the chance of an incident in the extended study area. Similar to existing conditions and the no-action alternative, these risks cannot be completely eliminated. Depending on the specific circumstances of the incident, there is the potential for significant impacts, including those that could affect tribal resources.

### **Comment T2-4**

#### 6.1 Cumulative Impacts

Without properly identifying the study area and APE of the proposed project, a proper cumulative impacts study cannot be completed. The transport and use of fossil oil would have significant greenhouse gas emissions, thus contributing to and exacerbating climate change. Increased traffic to other portions of the track and impacts from similar projects within the region have not been taken into account and need to be included in this study. Deaths from tribal members on the reservation and accessing fishing sites would be increased from additional train traffic.

Currently, we believe the current draft needs to expand the study area to include, the point of origin, transport route and end terminals, as well as the Columbia River, to ensure proper protection of and determine potential effects to resources. It is the policy of the Yakama Nation to preserve, protect, and perpetuate all significant natural and cultural resources. Only the Yakama Nation can determine what is significant to our Tribe.

If you have any questions or comments please feel free to contact Brady Kent at (509) 865-5121.

Sincerely,

Phil Rigdon, Superintendent Yakama Nation Department of Natural Resources

### **Response T2-4**

Refer to Response to Comment T2-1 regarding how impacts in the extended study area were addressed in the Draft EIS. Final EIS Chapter 6, Section 6.5.1.2, *Air, Cumulative Impacts*, reflects the greenhouse gas emission estimates from rail and vessel transport related to the cumulative projects from the likely source to the furthest likely destination. Refer to the Master Response for Crude Oil Extraction, Transport, and Combustion for more information on the potential sources of crude oil and the potential for the proposed action to drive production at those sources.

## **T3, Confederated Tribes of the Warm Springs Reservation, Elmer Ward**

### **Comment T3-1**

November 30, 2015

Westway and Imperium Terminal Services Expansion Projects EISs c/o ICF International

710 Second Ave., Suite 550

Seattle, WA 98104

Re: Westway and Imperium Draft EISs

Dear Sirs,

The Confederated Tribes of the Warm Springs Reservation (CTWS) opposes the transport of fossil fuels and other potentially hazardous materials by train or vessels, or the storage of large quantities of such materials, in areas that could adversely affect its treaty protected rights and resources. The following comments articulate our concerns which underlie our opposition to the Westway and Imperium Terminal Services expansion. Plainly, there are unacceptable impacts to federally protected anadromous species. The CTWS reserved the right to harvest fish in the Treaty With the Tribes of Middle Oregon, signed June 25, 1855, (12 Stat. 963).

Provided, also, that the exclusive right of taking fish in the streams running through and bordering said reservation is hereby secured to said Indians; and at all other usual and accustomed stations, in common with citizens of the United States, and of erecting suitable houses for curing the same; also the privilege of hunting, gathering roots and berries, and pasturing their stock on unclaimed lands, in common with citizens, is secured to them.

Actions which militate against the ability of the CTWS to exercise its right to engage in fisheries harvests are disfavored by the CTWS. Development actions which have the effect of disrupting the habitat of anadromous species or that interfere with the passage of such species to and from the Pacific Ocean are objectionable.

The federal courts have determined that a reserved treaty right to engage in a fisheries harvest includes the right to ensure that the habitats essential to the survival of the fish upon which the ability of treaty tribes to exercise their reserved Treaty rights depend are protected. In *Kittitas Reclamation District v. Sunnyside Valley Irrigation District*, 763 F.2d 1032 (9th Cir. 1985), the court ruled in favor of protection of fishery habitat in a case involving "... the collision of two interests: the Yakama Nation's interest in preservation of their fishing rights, and the Eastern Washington farmers' interest in preservation of water needed for crops in dry spring and summer." *Kittitas*, slip op. at 2. In *Kittitas*, a court-appointed water master had asked the district court for guidance when it became clear that diverting water for agricultural purposes would leave important salmon egg nests in spawning areas exposed, thus destroying those nests. The Ninth Circuit upheld the district court's directive to the water master to release more water to protect fish. It rejected the argument that the court had no jurisdiction to protect treaty-fishing rights. The right to take fish necessarily includes a right to the existence of a habitat, which will sustain such fish.

In *U.S. v. Washington*, 506 F. Supp. 187 at 203 (1980), the court stated:

... There can be no doubt that one of the paramount purposes of the treaties in question was to preserve to the tribes the right to continue fishing as an economic and cultural way of life. It is equally beyond doubt that the existence of an environmentally acceptable habitat is essential to the survival of the fish, without which the expressly, or -- reserved right to take fish would be meaningless and valueless. Thus, it is necessary to recognize an implied environmental right in order to fulfill the purposes of the fishing clause.

### **Response T3-1**

Draft EIS Chapter 3, Section 3.12, *Tribal Resources*, describes tribal resources in the study area. Section 3.12.2, *What laws, regulations, and treaty rights apply to tribal resources?* describes the laws, regulations, court orders, and treaties that apply to tribal resources, including treaty-reserved fishing rights, in the study area. The treaties and federal court cases referenced in the comment are included in this section and were considered as part of the regulatory framework for the Draft EIS analysis. Additional information is included in Draft EIS Appendix B, *Laws and Regulations*.

Section 3.12.4, *What tribal resources are in the study area?* acknowledges the treaty-reserved fishing, gathering, and hunting rights of the Quinault Indian Nation and the importance of access to traditional fishing and gathering areas. As described in that section, Quinault Indian Nation has treaty-reserved rights for salmon, halibut, lingcod, rockfish sablefish, sardines, and shellfish; a federal ruling in 1994 (*United States v. Washington*, 873 F. Supp. 1422) concluded that the Quinault Indian Nation's treaty-reserved rights extend to shellfish, for which they are entitled to 50% harvestable catch on most Washington State beaches. In addition to fisheries, the Draft EIS acknowledges Grays Harbor as a traditional gathering area for the Quinault Indian Nation where sweetgrass, cattail, other grasses, and willow are collected for weaving.

Section 3.12.5.2, *Proposed Action*, acknowledges that vessel activity related to routine operation of the proposed action could affect the ability of the Quinault Indian Nation to access tribal fisheries in Grays Harbor and to thereby meet their seasonal quotas. The EIS does not make a determination of significance related to tribal resources or treaty rights.

Chapter 4, *Environmental Health and Safety*, presents the analysis of risk of oil spills, fires, and explosions related to the proposed action. The analysis considers the effectiveness of existing regulations and proposes additional mitigation measures in Sections 4.4.3, 4.5.3, and 4.6.3 that would reduce the likelihood of a spill reaching the environment and the potential impacts of an incident at the terminal, along the PS&P rail line, or in Grays Harbor, respectively. As noted in Chapter 4, mitigation would not eliminate the possibility of an incident. Depending on the location, amount spilled, type of crude oil, and environmental conditions, such as the time of year, water flows, and weather conditions, environmental impacts could be significant including those that could affect tribal resources. Final EIS Chapter 4, Section 4.7.1.7, *Tribal Resources*, reflects additional information on the potential impacts on tribal resources from an oil spill.

Draft EIS Chapter 5, *Extended Rail and Vessel Transport*, addresses the potential for impacts from rail and vessel transport—1.25 unit train trips and less than one tank vessel trip per day on average—in the extended study area qualitatively for the reasons described in the Master Response for Geographic Scope of the EIS. Final EIS Chapter 5 reflects additional information characterizing potential risks related to rail and vessel transport in the extended study area under existing conditions, the no-action alternative, and the proposed action.

## Comment T3-2

These expansions will directly result in water contamination. Oil train spills hit record levels in 2014. In 2013 more oil spilled from trains into rivers, lakes, and marine waters than in the previous forty years combined. Such a spill would have an immediate, catastrophic impact upon anadromous fish species in both their adult and juvenile stages. We cannot foresee how such a circumstance could be readily reversed or ameliorated.

### Response T3-2

Draft EIS Chapter 4, *Environmental Health and Safety*, presents the analysis of risk of oil spills related to the proposed action. The analysis considers the effectiveness of existing regulations and proposes additional mitigation measures that would reduce the likelihood of a spill reaching the environment and the potential impacts of an incident along the PS&P rail line. As noted in Chapter 4, the mitigation would not completely eliminate the possibility of an incident. Depending on the location, amount spilled, type of crude oil, and environmental conditions, such as the time of year, water flows, and weather conditions, environmental impacts could be significant. Section 4.7, *Impacts on Resources*, describes the types of impacts that could result from an oil spill, including impacts on fish.

Chapter 5, *Extended Rail and Vessel Transport*, addresses the potential for impacts from rail transport—1.25 unit train trips per day on average—in the extended study area qualitatively for the reasons described in the Master Response for Geographic Scope of the EIS. Chapter 5 acknowledges that the routine transport of crude oil in the extended study area related to the proposed action could increase impacts similar in nature to those described in Chapter 3, *Affected Environment, Impacts, and Mitigation*. Final EIS Chapter 5 reflects additional information characterizing potential risks related to rail transport in the extended study area under existing conditions, the no-action alternative, and the proposed action.

## Comment T3-3

There is safety risk attached to transportation of oil by rail cars. Oil train fires, explosions and derailments. At least 10 crude oil trains have exploded recently in North America, including in July 2013 when an oil train accident in the province of Quebec killed 47 people. Between June 2011 and December 2013 a freight train derailed on average every 3.5 days in the Northwest region. There is no safe way to move oil by train: The tank cars that split open and burst into flames in Illinois in March 2015 were retrofitted to meet a higher safety standard than federal law requires according to railroad officials. The oil cars that derailed in West Virginia in February 2015, leaking oil into the Kanahwa River and burning down a house, were the newer 1232 cars that were supposed to be safer than the older DOT-111 models blamed for previous accidents. The rail traffic in the Gorge, quite near many tribal fishing sites, would put tribal fishermen, exercising their treaty rights, at risk.

### Response T3-3

Final EIS Chapter 5, *Extended Rail and Vessel Transport*, and Chapter 6, *Cumulative Impacts*, reflect additional information about risks in the extended study area related to existing conditions, the no-action alternative, and the proposed action, individually and cumulatively. As noted, the proposed action could increase the likelihood of an oil spill, fire, or explosion in the extended study area. The potential consequences of such events are anticipated to be similar to those that could occur under existing conditions and the no-action alternative and generally similar to the types of impacts

described in Chapter 4, Section 4.7, *Impacts on Resources*. Depending on the location, amount spilled, type of crude oil, and environmental conditions, such as the time of year, water flows, and weather conditions, such an event could result in significant environmental impacts.

### **Comment T3-4**

There is a concern regarding air pollution including diesel particulates and volatile organic compounds. There would be an enhanced level of diesel particulate pollution shown to increase the risk of cancer, asthma and other respiratory ailments.

### **Response T3-4**

Draft EIS Chapter 3, Section 3.2, *Air*, and Chapter 6, Section 6.5.1.2, *Cumulative Impacts*, describe potential air impacts related to emissions from construction, onsite operations, and offsite transport related to the proposed action and cumulative projects, respectively, including an analysis of cancer risk from emissions of diesel particulate matter. The Final EIS sections have been updated to reflect revised assumptions regarding rail operations (types and number of locomotives), based on information received from PS&P. Chapter 5, *Extended Rail and Vessel Transport*, addresses the potential for impacts from rail and vessel transport in the extended study area qualitatively for the reasons described in the Master Response for Geographic Scope of the EIS.

### **Comment T3-5**

There will be an increased cost to local governments in bolstering their respective levels of emergency preparedness and in responding to disasters occurring in the Columbia Gorge as a result of the transportation of oil tank cars along the Columbia River.

The proposed expansion puts at risk the public health safety and welfare of the members of the Confederated Tribes of the Warm Springs. Water contamination, oil tank car explosions, air pollution, the increased burden upon local governments due to the necessity of emergency preparedness, the adverse effects upon climate change and the proximity of oil tank cars to tribal fishermen are concerns which are not justified by the benefits which would be realized by a select few private interests. The Northwest is rapidly moving away from fossil fuels and towards renewable sources which meet the region's needs while responding to climate change.

### **Response T3-5**

Refer to the Master Response for Geographic Scope of the EIS for an explanation of why Chapter 5, *Extended Rail and Vessel Transport*, addresses potential impacts from rail and vessel transport in the extended study area qualitatively.

## **T4, Quileute Tribal Council, Naomi Jacobson**

### **Comment T4-1**

Quileute Tribal Council La Push, Washington 98350-0279

Telephone (360) 374-6163 FAX (360) 374-6311

Received: November 24, 2015

November 19, 2015

Westway and Imperium Expansion Projects EISs c/o ICF International 710 Second Street, Suite 550  
Seattle, WA 98104

Re: Westway and Imperium expansion projects Draft EISs; rail terminals for petroleum in Grays  
Harbor

To the Project leads:

The Port of Grays Harbor is not just an industrial port, not just a shipping terminal. It lies within a major estuary, home to a complex ecosystem supporting fish and shellfish, part of our food chain-- and supportive of the many other businesses that depend on the health of this ecosystem: commercial fisheries, tourism, and their satellite operations as just some examples. There are also homes and businesses adjacent to the rail lines and port facilities. This location is ill advised as an expansion facility for petrochemical transport for a number of reasons, but here are some:

- Because of the richness of the fisheries in the Grays Harbor area (and the whole Washington coast, which many commercially important species use in their migration);
- because of the number of economies dependent on them;
- because of the risk to drinking water;
- because of the cost and time involved in cleanup of material that is hazardous in nature--even though oil and gas are exempted from this category as a matter of law; and
- because of the public safety concerns in handling such a large volume of volatile and combustible material.

It is of concern whether a spill could be contained sufficiently to only impact the immediate area. Any major industry involved in the handling of petroleum knows spills happen despite the best precautions. Rail cars leave tracks, containment drums leak--the opportunity for "events" is ongoing and spills will occur. We are operating with aging infrastructure. The present protections and plans regarding derailment, spill, or prompt and effective cleanup, are insufficient to avoid huge safety concerns (e.g., fire) or economic loss (from contaminants) in such event, and ensuing irreparable harm to people's livelihoods. A huge risk is being placed on the local populace. For the above reasons, we do not support the Westway and Imperium Expansion Projects in Grays Harbor.

Quileute Tribe comments on Westway and Imperium expansion projects Page 2

Sincerely,

Naomi Jacobs, Chairwoman Quileute Tribal Council

Cc: U.S. Senator Patty Murray U.S. Senator Maria Cantwell U.S. Representative Derek Kilmer WA State Representative Steve Tharinger WA State Representative Kevin Van de Wege WA State Senator Jim Hargrove Hon. Fawn Sharp, President, Quinault Indian Nation Hon. Maria Lopez, Chairwoman, Hoh Tribal Business Committee Marine Resource Committees: North Pacific Coast, Grays Harbor County, Pacific County

## Response T4-1

Refer to the Master Response for the Purpose and Focus of the EIS. For information about fisheries and the species found within the study area, refer to Chapter 3, Section 3.5, *Animals*. For information specific to tribal and commercial fisheries, refer to Section 3.12, *Tribal Resources*, and Section 3.17, *Vessel Traffic*. For a discussion of the social and economic costs of oil spills, refer to Chapter 7, Section 7.3, *Cost-Benefit Analysis*. For information about potential environmental impacts from oil spills, fires, and explosions, including risks to drinking water and human health effects, refer to Chapter 4, Section 4.7, *Impacts on Resources*.

## T5, Quinault Indian Nation, Fawn R. Sharp

### Comment T5-1

Comments include an uploaded cover letter and memo from the Quinault Indian Nation. Forty-five additional documents are referenced in the attached memo as supporting information provided on CDs, which were mailed to Ecology Director Maia Bellon, Hoquiam City Administrator Brian Shay, and Sally Toteff by U.S. Mail on November 30, 2015.

Quinault Indian Nation

PO Box 189 Taholah, Washington 98587

Telephone (360) 276-8211

November 30, 2015

Maia Bellon, Director

Washington State Department of Ecology

P.O. Box 47600

Olympia, WA 98504-7600

Brian Shay, City Administrator

City of Hoquiam

609 8th Street,

Hoquiam, WA 98550

Via Email and U.S. Mail

Re: Westway and Imperium Oil Terminal Projects

Dear Director Bellon and Mr. Shay:

The Quinault Indian Nation requests you deny the substantial development permits applied for by Westway Terminal Co. LLC and Imperium Terminal Services for two crude-by-rail terminal projects proposed in Grays Harbor based on unacceptable risks to and impacts on Washington's public trust resources.

The Grays Harbor ecosystem provides extraordinary ecological benefits and services to Washington's citizens, including members of the Quinault Indian Nation. Your agencies may and should rely on the Public Trust Doctrine to protect these ecological benefits and services now, and for future generations. Your agencies must also invoke the Public Trust Doctrine to address the direct and cumulative impacts of global climate change. Attached please find the Quinault Indian Nation's memorandum on use of the Public Trust Doctrine as a basis to deny permits to the proposed Westway and Imperium crude-by-rail oil terminal projects. This letter and memorandum have also been transmitted online to become part of the DEIS comment file.

As you know, 2015 has been an exceptionally difficult year with closures and postponements on salmon and razor clam fisheries throughout the Grays Harbor region. These closures are having a severe impact on tribal, commercial and recreational fishing interests. The Quinault Nation's recent closure of the coho fishery was absolutely necessary, but occurs at great cost. These closures also have secondary affects, sapping the vitality of the Grays Harbor local economy. Global climate change has already begun to directly impact the Quinault Indian Reservation. On March 26, 2014, the Quinault Indian Nation declared a state of emergency due to a breach in the Taholah seawall that caused flooding and destruction of residential and commercial properties. On January 5, 2015 we again declared an emergency as torrential rains caused flooding, landslides, culvert failures and road closures around the Reservation, including closure of the main highway to Taholah.

We believe these extreme sea level events and intensified storm systems to be a direct result of global climate change, a long-term crisis of the first order that cannot be ignored. While we may not understand the full extent to which climate change has contributed to the 2015 drought, we do take heed that this year has been described as a "dress rehearsal" for climate change. As we are obliged to do as a government of and for our people, we look to the future, and are beginning to take action. As one example, the Quinault Nation has launched the development and funding of a master plan to relocate the lower portion of Taholah to ensure the safety of the 25% of the village population at risk of losing their homes and businesses to sea level rise and extreme flood events.

As you can see, climate change is already causing significant problems on Washington's western coast. I offer this information in order to make two points.

First, it is absolutely essential that Washington's governments take action to slow and reverse the damage that climate change holds for the future. To do this, we must reduce and eventually eliminate the use of fossil fuels. It is imperative that Washington reject the proposition that its railways, ports and navigable waters are available as conduits to transport the very carbon-based products that, when combusted, will contribute to the degradation of our resources. Yes, we are but one state among many that has the potential to facilitate transfer. But we must do what we can. In so doing, we will provide leadership and example to other states and communities confronting similar proposals to act as carbon conduits.

Second, we must preserve the resilience of our coastal resources so that today's citizens and future generations may continue to use them. This means avoiding unnecessary damage and risk of damage that is posed by oil terminals in Grays Harbor.

The enclosed memorandum and attachments document the public trust value of Grays Harbor and its aquatic resources. The memorandum also discusses how the Washington laws that you administer encompass and promote the Public Trust Doctrine. Your agencies are responsible for making decisions about shoreline uses that in turn impact navigable waters, fisheries, migrating and resident birds and other aquatic resources, as well as the commerce and recreation dependent on

those resources. As such, you have an obligation as public trustee to reject the Westway and Imperium oil terminals proposals.

Thank you for your consideration.

Yours very truly,

Fawn R. Sharp, President

Quinault Indian Nation

cc: Sally Toteff, Regional Director, SWRO

Diane Butorac, Regional Planner, Southwest Region

Gordon White, Program Manager, Shorelands and Environmental Assistance

Tom Laurie, Tribal Liaison

Tom Young, AAG

Jack Durney, Mayor

Steve Johnson, City Attorney

### **Response T5-1**

Comment acknowledged. All supporting material submitted during the public comment period is listed by commenter in Chapter 8, *Attachments*.

### **Comment T5-2**

The Public Trust Doctrine and the Westway and Imperium Oil Terminal Proposal DEISs

Prepared by Rachael Paschal Osborn, Attorney at Law

November 25, 2015

#### 1. Introduction.

The Westway Terminal Company LLC (Westway) and Imperium Renewables, Inc. (Imperium) oil terminal proposals (Proposals) pose a wide range of impacts and risks to Grays Harbor. *[Footnote: Renewable Energy Group, Inc. headquartered in Ames, Iowa acquired Imperium Renewables, Inc. in August 2015, including its 100-million gallon biodiesel refinery and terminal operations at the Port of Grays Harbor.]* This memo discusses the State of Washington's duty and authority to address these problems Proposals through application of the Public Trust Doctrine.

The Public Trust Doctrine is an ancient law that protects public interests in navigation, commerce and fisheries relating to shorelines and navigable water bodies. It is used regularly, including by Washington courts, to protect modern public values in these resources, including recreation and environmental quality. The Public Trust Doctrine is linked with the Shoreline Management Act (SMA), and as such must be considered and utilized by the agencies that implement SMA provisions. Importantly, the Public Trust Doctrine operates as a shield to regulatory takings claims when agencies deny permits for shoreline development.

The Public Trust Doctrine can also operate to deny the Proposals based on their contribution to greenhouse gas emissions that in turn are causing climate change impacts to Grays Harbor's traditional public trust resources. These impacts including sea level rise, ocean acidification, coastal flooding and erosion, and the consequent loss of fisheries and wildlife habitat.

Grays Harbor serves as a commercial and recreational fishing resource as well as providing unique and important wildlife habitat. It deserves and requires protection under the Public Trust Doctrine. The Westway and Imperium oil terminal Proposals will harm public trust resources and should therefore be denied.

## 2. Origins of the Public Trust: The Washington Constitution and Common Law.

The Public Trust Doctrine has existed in Washington since statehood in 1889. In 1987, the Washington Supreme Court explicitly recognized that the Public Trust Doctrine applies to Washington's navigable waters. *[Footnote: Caminiti v. Boyle, 107 Wn.2d 662 (1987).]* The "doctrine reserves a public property interest, the jus publicum, in tidelands and the waters flowing over them, despite the sale of these lands into private ownership." The state cannot give away or abdicate this public property interest. *[Footnote: Esplanade Properties LLC v. City of Seattle, 307 F.3d 978 (2002).]* Further, private parties may not make use of public trust resources in a way that substantially impairs the public's interest in those resources. *[Footnote: Esplanade Properties LLC v. City of Seattle, 307 F.3d 978 (2002).]* The Public Trust Doctrine imposes a duty on state governments and their agencies to protect specific public resources. *[Footnote: See Section 3.A below.]*

In Washington, the Public Trust Doctrine protects multiple public uses of navigable waters.

Historically, the trust developed out of the public's need for access to navigable waters and shorelands, and thus the trust encompassed the right of navigation and fishery. . . . Recognizing modern science's ability to identify the public need, state courts have extended the doctrine beyond . . . navigational and commercial fishing rights to include 'incidental rights of fishing, boating, swimming, water skiing, and other related recreational purposes . . . *[Footnote: Orion Corp. (citations and footnotes omitted).]*

The Public Trust Doctrine also functions to protect wildlife and habitat. In Washington, the courts have utilized the Public Trust Doctrine to prevent tidelands development in Padilla Bay in Skagit County, and found that a San Juan County ban on jet skis was consistent with the public trust duty to protect wildlife in the waters of the San Juan Islands. *[Footnote: In other states, wildlife has also been a focus of public trust protections. In a case involving proposed fill of tidelands in the Tomales Bay estuary in northern California, the Court held that "one of the most important public uses of the tidelands—a use encompassed within the tidelands trust—is the preservation of those lands in their natural state, so that they may serve as ecological units for scientific study, as open space, and as environments which provide food and habitat for birds and marine life, and which favorably affect the scenery and climate of the area." Marks v. Whitney, 491 P.2d 374, 380 (1970). When Virginia sought damages for an oil spill cleanup in Chesapeake Bay, a federal court held that "[u]nder the Public Trust Doctrine, the State of Virginia and the United States have the right and duty to protect and preserve the public's interest in natural wildlife resources. Such right does not derive from ownership of the resources but from a duty owing to the people." In re Steuart Transportation Co., 495 F.Supp. 38 (U.S.D.C. E. VA, 1980). The California courts utilized the public trust to prevent impairment of Mono Lake because of its importance as a stop on the Pacific Flyway for millions of migratory birds. National Audubon Soc'y v. Superior Court, 658 P.2d 709 (CA 1983).]*

The Public Trust Doctrine is an evolving legal tool and Washington courts have expanded its scope and application over time to meet changing public needs.

Washington's Public Trust Doctrine is "partially encapsulated" in the Washington State Constitution. [Footnote: *Rettkowski*, 122 Wn.2d 219 (1993); *Caminiti*, at 669, citing *Wilbour v. Gallagher*, 77 Wn.2d 306, 316 (1969); *Utter, Robert F. and H.D. Spitzer, The Washington State Constitution: A Reference Guide*, at pp. 212-17 (2002).] Article XVII, Section 1, asserts public ownership over all navigable waters of the state, including harbors, rivers and lakes. [Footnote: *WA Const. Art. XVII, Sec. 1. The Public Trust Doctrine derives also from the Equal Footing Doctrine, which vested ownership and sovereign authority over navigable waterways at the time Washington entered the union of the United States. Orion Corp.*, 109 Wn.2d at 639.] This public ownership is the source of the public right to utilize navigable waters, including bedlands, tidelands, shorelands, and navigable inland waterways [Footnote: *Wilbour v. Gallagher; Caminiti v. Boyle.*] Grays Harbor and the Chehalis River, along with Washington's outer Pacific coast, are navigable waterways and protected for the public under Washington's Constitution.

### 3. Statutory Foundations of Washington's Public Trust Doctrine.

*"The heart of the Public Trust Doctrine . . . is that it imposes limits and obligations on governments."*  
*Prof. Charles Wilkinson, The Public Trust Doctrine in Public Land Law*, 14 U.C. Davis L. Rev 269, 284 (1980)

#### A. The Department of Ecology has direct duties to protect public trust resources.

The Shoreline Management Act (SMA) encompasses the Public Trust Doctrine. Through the SMA, and other statutes, particularly the Department of Ecology's enabling statute [Footnote: *In enacting the Department of Ecology's enabling statute, RCW Ch. 43.21A, the State Legislature has adopted a policy that mirrors the state's public trust duty to protect the public interest in natural resources. "[I]t is a fundamental and inalienable right of the people of the state of Washington to live in a healthful and pleasant environment and to benefit from the proper development and use of its natural resources." Acknowledging inevitable growth in population and industrial and economic activities, it is the policy of the state to "plan, coordinate, restore and regulate the utilization of our natural resources in a manner that will protect and conserve our clean air, our pure and abundant waters, and the natural beauty of the state." RCW 43.21A.010. "In recognition of the responsibility of state government to carry out the[se], policies", the State Legislature created the Department of Ecology and designated it as the agency authorized and obligated to implement water, air, and other environmental programs, including the Shoreline Management Act. RCW 43.21A.020]* and the State Environmental Policy Act (SEPA) and associated resources.

[Footnote: *The State Environmental Policy Act, or SEPA, also codifies public trust principles, including that "each person has a fundamental and inalienable right to a healthful environment . . ." RCW 43.21C.020(3). See also RCW 43.21C.020(2). To fulfill this right, the State Legislature has imposed on all agencies of the state, including Ecology, a duty to use all means to:*

- a. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- b. Assure for all people of Washington safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
- c. Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;
- d. Preserve important historic, cultural, and natural aspects of our national heritage;
- e. Maintain, wherever possible, an environment which supports diversity and variety of individual choice;
- f. Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

- g. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources. ]*

Pursuant to these policies, Ecology possesses substantive authority to deny project permits based on significant adverse environmental impacts that cannot reasonably be mitigated. WAC 197-11-660(f). SEPA, in its policies and substantive authority, provides a mechanism by which Ecology fulfills public trust duties to protect the common interests of the public in Washington's navigable waters. Statutory language is replete with provisions that embody and reflect public trust principles. A Washington Court recently held that Ecology's enabling statute, while not establishing a statutory duty, does provide evidence of the State Legislature's view of the people's rights retained under the State Constitution. [Footnote: *Foster v. Wash. Dep't of Ecology, King Co. Sup. Ct. Cause No. 14.2.25295-1 SEA, Order Affirming the Dept. of Ecology's Denial of Petition for Rule Making at pp. 8-9, citing Washington State Constitution, Article 1, Sec. 30.*] SEPA policies provide similar evidence of the retained rights of Washington's citizens to have a healthful environment.

Washington courts have fully addressed the relationship between the Public Trust Doctrine and the SMA. [Footnote: *As discussed in Section 3.B(c) below, the courts have rejected delegation of public trust duties to Ecology via water resources permitting statutes. These cases did not address Ecology's public trust duties under the SMA.*] The courts do not lightly invoke the Public Trust Doctrine, but will do so when threats to public resources are clear. Courts have expressly used the Public Trust Doctrine to reject development permits, or support local legislation, to eliminate threats to Lake Chelan, Padilla Bay, Elliott Bay, the waters surrounding the San Juan Islands, and Eagle Harbor.

Importantly, as discussed more fully below, Washington courts have utilized the Public Trust Doctrine to reject constitutional "takings" claims arising out of denial of substantial development permits under the SMA.

B. The Shoreline Management Act manifests public trust duties to protect Grays Harbor resources.

- a. The SMA reflects public trust principles.

The Court in *Caminiti v. Boyle* expressly adopted the public trust into Washington law, acknowledging that the doctrine had applied to Washington's shores and tidelands since no later than statehood. [Footnote: *Caminiti, 107 Wn.2d at 669.*] *Caminiti* involved the state Aquatic Lands Act, but several subsequent court decisions have examined the relationship between the Shoreline Management Act, RCW Ch. 90.58 (SMA), and the Public Trust Doctrine, including *Orion Corp. v. State, Weden v. San Juan County, Esplanade Properties v. Seattle, and Samson v. Bainbridge Island*. These cases are discussed below.

As the Courts have noted, the SMA's policies enunciate explicit public trust principles: "This policy contemplates protecting against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life, while protecting generally public rights of navigation and corollary rights incidental thereto." [Footnote: *RCW 90.58.020.*]

The SMA's findings direct Ecology and local government to follow a hierarchy of uses for state shorelines that promote environmental protection:

- 1) Recognize and protect the statewide interest over local interest;
- 2) Preserve the natural character of the shoreline;
- 3) Result in long term over short term benefit;

- 4) Protect the resources and ecology of the shoreline;
- 5) Increase public access to publicly owned areas of the shorelines;
- 6) Increase recreational opportunities for the public in the shoreline;
- 7) Provide for any other element as defined in RCW 90.58.100 deemed appropriate or necessary.

While SMA policy acknowledges the value of shoreline-dependent development, including ports, these uses operate within the envelope of a preference hierarchy that emphasizes protection of the natural character, ecology and public use of shorelines. [Footnote: Undefined.] These statutory preferences reflect protected trust uses, i.e., public rights of navigation, fishing, boating, recreational purposes, and environmental quality.

And, this statutory hierarchy of preferences is where Washington courts have located the symmetry between the Shoreline Act and public trust principles. The Orion Court recognized that the SMA established a regulatory scheme, then observed that

...trust principles are reflected in the SMA's underlying policy, which contemplates 'protecting against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life, while protecting generally public rights of navigation and corollary rights incidental thereto. [Footnote: Orion Corp., at FN 11, citing Portage Bay-Roanoke Park Comm'ty Coun. v. Shorelines Hearings Bd., 92 Wn.2d 1, 4 (1979) (quoting RCW 90.58.020).]

In *Esplanade Properties*, the Ninth Circuit explained:

The doctrine is also reflected in Washington's Shoreline Management Act ("SMA"), adopted in 1971. Following a long history of tideland privatization, "the Washington legislature found that the SMA was necessary because 'unrestricted construction on the privately owned or public owned shorelines ... is not in the best public interest. [Footnote: 307 F.3d at 985-86 (citations omitted).]

- b. Ecology and Hoquiam have an obligation to implement the Shoreline Management Act in a manner that promotes and does not destroy or impair the public trust.

The State Legislature is the trustee of Washington's public trust resources, and the Department of Ecology (Ecology) and City of Hoquiam (City), as agents of the state with the power to implement the Shoreline Management Act and to otherwise regulate trust resources, are therefore encumbered by public trust obligations. [Footnote: Foster, supra; see also Blumm & Wood, *The Public Trust Doctrine in Environmental and Natural Resources Law* at pp.5-6 (Carolina Press, 2d ed. 2015), citing, *Ctr. For Biological Diversity v. FPL Group Inc.*, 83 Cal.Rprt.3d 588 (2008).] This is a substantial duty, because the decisions made by Ecology and the City relating to the Westway and Imperium oil terminal proposals will potentially impact every recognized public trust use of Grays Harbor resources. These uses include the Harbor's navigability, its use for recreation, the viability of habitat necessary for fisheries, shellfisheries, and wildlife (including migratory birds), and water quality [Footnote: "The public trust is a dual concept of sovereign right and responsibility. . . . The trust, in the Court's simplest terms, 'requires the government of the State to preserve such waters for the use of the public.'" *In re Waiahole Ditch*, 9 P.3d 409, 447, 448 (2000), citing *Illinois Central Railroad v. Illinois*, 146 U.S. 387, 453 (1892). "Thus, the public trust is more than an affirmation of state power to use public property for public purposes. It is an affirmation of the duty of the state to protect the people's common heritage of streams, lakes, marshlands and tidelands, surrendering that right of protection only in rare cases when the abandonment of that right is consistent with the purposes of the trust." *National Audubon Soc'y v. Superior Court*, 658 P.2d at 723-24.]

The essence of Ecology and the City's trust duties derive from the judicially recognized interplay between the Public Trust Doctrine and the Shoreline Management Act. Just as Ecology has a duty to follow statutory law, it must also make its decisions in view of and consistent with constitutional and common law parameters. Ecology recognizes this, stating on its "shoreline management" webpage that "[p]rotection of the trust is a duty of the State, and the Shoreline Management Act is one of the primary means by which that duty is carried out. The doctrine requires a careful evaluation of the public interest served by any action proposed." [Footnote: *Dept. of Ecology, The Public Trust Doctrine*, website at [www.ecy.wa.gov/programs/sea/sma/laws\\_rules/public\\_trust.html](http://www.ecy.wa.gov/programs/sea/sma/laws_rules/public_trust.html).] The City of Hoquiam also recognizes these public interests in its Shoreline Management code. [Footnote: *City of Hoquiam Municipal Code, Ch. 11.04.020*, at <http://cityofhoquiam.com/code/Hoquiam11/Hoquiam1104.html#11.04>.]

The Public Trust Doctrine, as a constitutional requirement enforced primarily by the judiciary, must be a consideration in the agency decision process. Washington courts have found that Article XVII, Section 1 of the State Constitution requires the state, through its administrative agencies, to protect trust resources under their administrative jurisdiction. "The state has a constitutional obligation to protect the public's interest in natural resources held in trust for the common benefit of the people of the state." [Footnote: *Foster, supra*, at pp. 7-8, citing *Wash. Geoduck Harvest Assn. v. Wash. Dept. of Natural Resources*, 124 Wn.App. 441, 447-48 (2004).]

With respect to Hoquiam's public trust duties, it follows that, as an entity implementing the Shoreline Management Act, the City's decisions will affect public trust resources. While a plurality of the Washington Supreme Court rejected a local duty to protect public trust resources [Footnote: *Biggers v. City of Bainbridge Island*, 162 Wn.2d 683 (2006)], the Shoreline Act's express and de facto delegation of public trust duties to Hoquiam requires that the City act in a manner that does not impair public trust resources. Washington courts have scrutinized and upheld local legislation as consistent with the Public Trust Doctrine, including San Juan County's ban on personal watercraft and the City of Bainbridge Island ban on private docks. [Footnote: *Weden v. San Juan County*, 135 Wn.2d 678 (1998); *Samson v. City of Bainbridge Island*, 149 Wn.App. 33 (Div. 2 2009).]

Ecology's duty to consider and apply the public trust is not supplanted by statutes.

While there is symmetry between the Shoreline Act and the Public Trust Doctrine, and both reinforce principles of natural resource protection, the doctrine is not superfluous. As courts have recognized, "The doctrine itself is reflected in the SMA, but is not superseded by it . . ."

Further, cases involving the state's water right permitting statutes are not relevant to Shoreline Act decisions. In three water rights appeals, Washington courts have declined to apply the Public Trust Doctrine, stating that the doctrine does not serve as an independent source of authority to make regulatory decisions relating to water resources. [Footnote: *Rettkowski*, 122 Wn.2d at 232; *R.D. Merrill v. PCHB*, 137 Wn.2d 118, 134 (1999); *Postema v. PCHB*, 141 Wn.2d 68 (2000).] All three cases involved enforcement and permitting of water rights, and must be read in context.

In making these decisions, there is no credible argument that courts were repudiating or overturning decisions applying the Public Trust Doctrine in the context of shoreline or aquatic lands management. In executing its duties and decisions under the SMA, Ecology is obligated to act in conformity with public trust duties. "[T]he public trust is more than an affirmation of state power to use public property for public purposes. It is an affirmation of the duty of the state to protect the people's common heritage of streams, lakes, marshlands and tidelands. . . ." [Footnote: *Nat'l Audubon Society v. Superior Court*, 658 P.2d 709 (1983).]

When addressing a conflict between public trust uses, courts choose to protect larger public interests.

When confronted with conflicts between public trust uses, Washington courts focus on protection of public and environmental values. Here, access to and use of Grays Harbor by oil barges and vessels derives from the Public Trust Doctrine, i.e., the public right to navigate on and make commercial use of navigable waters. When confronted with a conflict between multiple public trust uses, Washington courts have chosen in favor of protection of larger public interests.

Washington cases offer two explicit examples. In *Weden v. San Juan County*, the Washington Supreme Court found that a local ban on operation of motorized personal watercraft in the waters surrounding the San Juan Islands did not conflict with and was consistent with the Public Trust Doctrine, stating that “it would be an odd use of the Public Trust Doctrine to sanction an activity that actually harms and damages the waters and wildlife of this state.” [Footnote: *Weden v. San Juan County, supra.*] In *Samson v. City of Bainbridge*, the Court of Appeals found that the city’s ban on private docks promoted public trust interests in navigation and recreational use of the harbor. [Footnote: *Samson v. City of Bainbridge, supra.*]

Navigation interests, i.e., boating and private docks, were alleged as uses requiring public trust protection in these cases. The courts found that where there was a conflict, interests in navigation did not “trump” the larger public need for environmental protection. Thus, although the Public Trust Doctrine protects the right to navigate on navigable waters, it does endorse a right to navigate at the cost of other public trust values.

- c. The Public Trust Doctrine operates to shield agency action to deny permits for activities that will injure public trust resources.

One important element of the Public Trust Doctrine is the shield it provides when agencies take action to protect trust resources. Should the Department of Ecology and City of Hoquiam deny permits to the Westway and Imperium oil terminals on the basis of harm to trust resources, the Public Trust Doctrine is available as a defense to subsequent Fifth Amendment takings or other constitutional claims.

In *Orion Corp. v. State and Esplanade Properties v. Seattle*, Washington courts held that the public trust attached to the subject tidelands at statehood. Therefore, developers who sought SMA substantial development permits in order to dredge and build residential properties on those tidelands “never had the right” to do so and could not prevail in their takings claims against the state and local agencies that denied the permits. [Footnote: *Orion Corp., supra; Esplanade Properties, supra.*]

About 60% of Washington’s tidelands have been sold into private ownership, but this fact did not trouble the courts. In other words, that other developers and the state itself have engaged in past actions that harm trust resources does not undermine or eliminate the state’s power and duty to protect such resources in the present and future. With respect to the developer’s takings claims, the Orion court held:

Because title in and sovereignty over Washington's tidelands and shorelands vested in the state upon admission into the Union, the Public Trust Doctrine applies to Orion's Padilla Bay tidelands. . . . [P]rior to the adoption of the SMA, Orion's property was burdened by the Public Trust Doctrine. . . . Therefore, Orion had no right to make any use of its property that would substantially impair the public rights of navigation and fishing, as well as incidental rights and purposes recognized previously by this court. . . . Orion never had the right to dredge and fill its

tidelands, either for a residential community or farmlands. Since a “property right must exist before it can be taken,” neither the SMA nor the SCSMMP effected a taking by prohibiting Orion's dredge and fill project. *[Footnote: Orion Corp., 109 Wn.2d at 639 (citations omitted).]*

*Esplanade Properties* relied on *Orion*, and went further in finding that Washington's Public Trust Doctrine is a viable defense in a claim of regulatory takings under the Fifth Amendment of the U.S. Constitution. Specifically, the Court found that Washington's Public Trust Doctrine, as a “background principle of state property law” restricting certain uses of property, shielded the state from a federal regulatory takings claim. *[Footnote: 307 F.3d at 986-87, citing Lucas v. South Carolina Coastal Council, 112 S.Ct. 2886 (1992). See also In Re Waiahole Ditch, 9 P.3d at 494-95 (surveying cases regarding intersections between the Public Trust Doctrine and regulatory takings claims).]*

The need to protect public trust resources of Grays Harbor provides Ecology and Hoquiam with a valid and powerful defense to any claim of an entitlement to transport oil.

#### 4. Grays Harbor is a critically important public trust resource.

Grays Harbor is a uniquely rich and ecologically diverse waterbody, because of both physical and biological attributes. As such, it is a public trust resource that merits the highest order of protection by the State of Washington and City of Hoquiam.

**Gray Harbor Geography.** Grays Harbor is a type of estuarine bay called a “ria,” a partially inundated unglaciated river valley that includes a wide areal expanse and a narrow mouth. As such it is closely connected with the several rivers that empty into it, including the Chehalis, Humptulips, Wiskhah, Johns, Elk and Hoquiam Rivers. All of these rivers are subject to tidal influence, contributing to the important mix of salt and freshwater that supports a highly diverse and productive ecosystem. *[Footnote: Resource Dimensions at p. 12.]*

Also connected to Grays Harbor is the extraordinary Chehalis River Surge Plain, a 3,000-acre tidally influenced wetland area comprising an unusual mixed salt and freshwater ecosystem. *[Footnote: See DEIS at p. 3.3-15 et seq.]* Designated as a Natural Area Preserve by the Washington Department of Natural Resources *[Footnote: Wash. Dept. of Natural Resources, <http://www.dnr.wa.gov/chehalis-river-surge-plain-natural-area-preserve>]*, this area contains the largest and best quality tidal surge plain wetland in the state, including sloughs that shelter young salmon and other fish. *[Footnote: Fletcher, Sandell, and McAninch, Lower Chehalis River and Surge Plain Fish Use Assessment (WFC, May 2015) at <http://wildfishconservancy.org/projects/lower-chehalis-river-and-surge-plain-fish-use-assessment/WFC.lowerchehalisriverfishuseassessmentreport5.2015.final1.pdf>.]* The surge plain supports both a variety of birds and fish and important vegetation communities.

Several rivers discharge into Grays Harbor draining both the Olympia Mountains to the northwest, and the Cascade Mountains to the west, bringing a substantial amount of sediment into Grays Harbor. As a result, much of the Harbor (excluding its navigation channel) is quite shallow, only 20 feet deep in most of its 900 square mile areal extent. *[Footnote: Army Corps of Engineers, Record of Decision, Grays Harbor Navigation Channel (9-3-14). To maintain a commercial navigation channel of 36' depth, the Army Corps of Engineers must dredge upwards of 1 million cubic yards of sediment each year.]* This shallow profile supports many important plant and wildlife communities, discussed below.

**The Grays Harbor Estuary.** Grays Harbor Estuary is one of a handful on the Pacific coast of North America, and is key component of the Pacific Flyway. *[Footnote: The Pacific Flyway is a major north-south migration corridor for shorebirds and waterfowl extending from Alaska to Patagonia. The*

*Flyway is composed of many key areas – usually noted for water resources – including at least two that have been the subject of public trust protections – Padilla Bay in Washington and Mono Lake in California.] More than 500,000 shorebirds, comprising at least 24 species, stage at Grays Harbor on their 15,000-mile round trip spring and autumn migrations between breeding grounds in the Arctic, and wintering grounds in Central and South America.*

The Estuary includes several federal, state and local wildlife protection areas. The Grays Harbor National Wildlife Refuge (NWR) was established by Congress in 1988. [Footnote: U.S. Fish & Wildlife Service, [http://www.fws.gov/refuge/grays\\_harbor/](http://www.fws.gov/refuge/grays_harbor/).] The NWR is nearing the end of a multi-year planning process to emphasize estuary protection and restoration (particularly using Integrated Pest Management methods to remove noxious plants), and to promote public access and education about the significance of the Grays Harbor Estuary. [Footnote: U.S. Fish & Wildlife Service, *Grays Harbor-Black River Unit Plan*, [http://www.fws.gov/pacific/planning/main/docs/WA/GraysHar\\_BlackRiv/GHBRPlanningUpdate3web.pdf](http://www.fws.gov/pacific/planning/main/docs/WA/GraysHar_BlackRiv/GHBRPlanningUpdate3web.pdf).] In 1996, Grays Harbor Estuary was designated as a Hemispheric Reserve by the Western Hemisphere Shorebird Reserve Network, [Footnote: Western Hemisphere Shorebird Reserve Network, <http://www.whsrn.org/western-hemisphere-shorebird-reserve-network> and <http://www.whsrn.org/site-profile/grays-harbor-estuary>], acknowledging it as a site of international significance.

Grays Harbor is also part of the Washington Department of Fish & Wildlife (WDFW) management area known as the Johns River Wildlife Area. [Footnote: WA Dept. of Fish & Wildlife, [http://wdfw.wa.gov/lands/wildlife\\_areas/johns\\_river/](http://wdfw.wa.gov/lands/wildlife_areas/johns_river/) and map: [http://wdfw.wa.gov/webmaps/gohunt/wildlife\\_area\\_pdf/WLA\\_10128.pdf](http://wdfw.wa.gov/webmaps/gohunt/wildlife_area_pdf/WLA_10128.pdf).] Within and adjacent to Grays Harbor, WDFW manages seven wildlife units that preserve natural areas and prevent development on thousands of acres, in order to protect habitat for hundreds of species of birds, mammals, reptiles and amphibians, as well as provide public access to the shorelines and waters of Grays Harbor. These units protect special habitats at the land-water interface, including wetlands, salt marshes, dunes, and shorelines.

Grays Harbor County's Grays Harbor Estuary Management Plan calls for coordination among the confusing array of agencies and jurisdictions that have authority over the land and waters of Grays Harbor. [Footnote: Grays Harbor County, [http://www.co.grays-harbor.wa.us/info/pub\\_svcs/EstuaryPlan.htm](http://www.co.grays-harbor.wa.us/info/pub_svcs/EstuaryPlan.htm) (visited 11-25-15).] The essence of the Plan is to allow a balance between development and resource protection, with an overarching goal to prevent significant degradation of the natural resources of the estuary.

Nonprofit organizations are also acquiring Grays Harbor habitats for protection. Grays Harbor Audubon has acquired the North Bay Wetland Preserve at the mouth of the Humptulips River and associated estuary. [Footnote: Grays Harbor Audubon Society, *North Bay Wetlands Preserve*, at <http://www.ghas.org/nwaca.php> (visited 11-24-15).] The Trust for Public Land is in the process of acquiring 9 acres in downtown Aberdeen to create a public waterfront park. [Footnote: KBKW Newstalk, "Aberdeen could purchase waterfront park with help of Public Land Trust," (n.d.), at <http://kbkw.com/aberdeen-could-purchase-waterfront-park-with-help-from-public-land-trust/> (visited 11-24-15).]

Tourism and Local Economic Value of Grays Harbor. Grays Harbor is an important recreational resource. Birdwatching at the Grays Harbor Estuary is celebrated and advertised by the Aberdeen-Hoquiam visitor center as a major tourist and visitor attraction. [Footnote: *Grays Harbor Tourism*,

*"Birdwatching" at <http://visitgraysharbor.com/activities/birdwatching/>.] Hoquiam hosts the annual Grays Harbor Shorebird Festival [Footnote: *Grays Harbor Shorebird & Nature Festival website, at <http://www.shorebirdfestival.com/>*], held in late April or early May, which celebrates the stop-over of hundreds of thousands of shorebirds and attracts tens of thousands of visitors from throughout the country.*

A 2015 survey of Washington coastal recreation reports that 36% of trips to the Washington coastline in the preceding 12 months were to the Grays Harbor area, where visitors undertook a variety of activities including beachgoing, sightseeing, and wildlife viewing. [Footnote: *Point 97 and Surfrider Foundation, Washington Coastal Recreation Survey at 17 (May 2015) at [publicfiles.surfrider.org/P97SurfriderWACoastalRecreationReport.pdf](http://publicfiles.surfrider.org/P97SurfriderWACoastalRecreationReport.pdf). See also Map Appendix at 31 (PDF p. 86).*] Visitors spent an average of \$113 per person per trip. [Footnote: *Id.*]

Non-Treaty Commercial Fishing. Fishing is a traditional Grays Harbor industry. Grays Harbor is the number one seafood landing source in Washington State, including the largest fish landing port in Westport, and the largest cold storage facility for seafood in the state. [Footnote: *Port of Grays Harbor website, <http://www.portofgraysharbor.com/about/index.php>*] Multiple studies of the economic impact of its commercial fishing have concluded that fishing is a significant contributor to the Grays Harbor economy. [Footnote: *Resource Dimensions, Economic Impacts of Crude Oil Transport on the Grays Harbor Economy (Aug. 2015).*] Commercial fishing out of Westport Marina (including the fishing fleet, fish processing, and cold storage) generated 2,050 jobs in 2013, and \$200 million in business revenue. [Footnote: *Port of Grays Harbor, <http://www.portofgraysharbor.com/about/Economic-Impact-Report.php>. This does not include the landed value of the fish catch. Id. at p. 30.*] Fishing vessels include purse seiners, trollers, trawlers, and crabbers. Westport Marina is a hub of charter fishing industry in Washington state, and recreational fishing added another 245 jobs and \$24.5 million in business revenue. [Footnote: *Id.*] Combined, these jobs and revenues comprise the largest sector of both for the four Port of Grays Harbor terminals.

Of course, in order to serve as a commercial fishing resource, Grays Harbor must provide habitat for fish. Chinook, coho, chum and steelhead are present at various life stages throughout the extent of Grays Harbor, and are likely present year-round. Grays Harbor provides abundant, high quality habitat for salmon, sturgeon and crab, and is likely utilized by salmon originating from rivers that are tributary to Grays Harbor as well as outside the local ecosystem. [Footnote: *Sandell, et al., Grays Harbor Estuary Salmonid Conservation and Restoration Plan (WFC May 2015) at [http://www.chehalisleadentity.org/wp-content/uploads/WFC-2015-Grays-Harbor-Estuary-conservation-plan.final\\_.pdf](http://www.chehalisleadentity.org/wp-content/uploads/WFC-2015-Grays-Harbor-Estuary-conservation-plan.final_.pdf)*]

Tribal Treaty Fishing & Gathering Resources. Grays Harbor falls within the Quinault Indian Nation's (QIN) federally-protect treaty fishing and gathering area, where Quinault tribal members have fished and gathered since time immemorial, and as such is a critically important tribal treaty resource. [Footnote: *The Quinault Indian Nation is signatory to the Treaty of Olympia, signed by Quinault ancestors on July 1, 1855, and ratified by the U.S. Congress in 1859.*] QIN members use inner Grays Harbor to fish for salmon, crab, and white sturgeon. QIN members also collect weaving materials and gather traditional plants such as sweetgrass and cattail stems, and other resources including plants that serve as medicines. Coastal resources outside Grays Harbor include salmon, razor claims, and crab, along with ocean fisheries including but not limited to halibut, lingcod, sablefish, rockfish, and sardines. [Footnote: *See generally, Letter, QIN to Maia Bellon, Dept of Ecology, Re QIN Fishing Resources in Grays Harbor area (5-20-15); Resource Dimensions, Economic Impacts of*

*Crude Oil Transport on the Quinault Indian Nation and the Local Economy at ES-3 to ES-7 (April 2015).]*

5. The Westway and Imperium oil terminal proposals will harm public trust interests in Grays Harbor.

Construction and operation of the Westway and Imperium oil terminals would cause major, negative impacts on the public trust resources of Grays Harbor. *[Footnote: For full information about the potential adverse impacts of the proposed oil terminals on Grays Harbor resources, including the many impacts not adequately addressed in the Westway and Imperium DEISs, please see the Quinault Indian Nation's comments on the Draft Environmental Impact Statements, submitted on Nov. 24, 2015.]* Rail and vessel transport will limit public and tribal access to fisheries. *[Footnote: DEIS, "Rail & Vessel Transport" (ES, pp. S-15 to S-16, S-19), project significant, unavoidable adverse impacts to tribal access to crab fisheries and general interference with salmon fisheries.]* At its most dramatic, the projects could cause oil spills, fires, explosions. *[Footnote: DEIS, ES (pp. S-19 et seq.), Chapter 4 (Environmental Health & Safety), Chapter 5 (Extended Rail and Vessel Transport) and 2014 State Marine and Rail Oil Transportation Study.]* Oil spills, depending on size, location and conditions, could injure every biological resource within Grays Harbor, including especially the numerous vulnerable habitats that support salmon fisheries, migratory bird populations, and other wildlife. Oils spills would also affect commercial and recreational use of the navigable waters of Grays Harbor, including marine-related businesses such as beach resorts, marinas, fishing guides and tour companies, and the secondary tourism economy that benefits from substantial public recreational use of Grays Harbor. *[Footnote: See generally, Resource Dimensions, supra; QIN Scoping Comments for Westway & Imperium Terminals (5-27-14).]*

## **Response T5-2**

The EIS looks at the potential environmental impacts of the proposed action on the environment, including public resources. The potential impacts associated with routine operations of the proposed action are addressed in Chapter 3, *Affected Environment, Impacts, and Mitigation*. Potential impacts on fish and wildlife are addressed in Section 3.5, *Animals*. Potential impacts on tribal resources are addressed in Section 3.12, *Tribal Resources*. The risks related to oil spills, fires, and explosions are addressed in Chapter 4, *Environmental Health and Safety*, with the potential environmental impacts addressed in Section 4.7, *Impacts on Resources*. Chapter 6, *Cumulative Impacts*, considers the cumulative impacts on these resources and Chapter 7, *Economics, Social Policy, and Cost-Benefit Analysis*, addresses the economic and social impacts of the proposed action alone, including a discussion of the costs and benefits of the proposed action. Refer to the Master Response for the Purpose and Focus of the EIS.

## **Comment T5-3**

6. Climate change impacts on Grays Harbor resources demand denial of the project permits.

Introduction.

The Public Trust Doctrine serves as a basis of authority for Ecology to deny the projects based on climate change impacts to Grays Harbor trust resources. Courts have just begun to grapple with the application of the Public Trust Doctrine to protect trust resources from the impacts of climate change, and there is not a lot of judicial authority on this subject. However, as recently recognized in a court decision issued by the King County (WA) Superior Court, there is no question that

greenhouse gas emissions are causing climate change, and climate change is causing adverse impacts coastal resources such as Grays Harbor.

[C]urrent science makes clear that global warming is impacting the acidification of the oceans to alarming and dangerous levels, thus endangering the bounty of our navigable waters. . . . The navigable waters and the atmosphere are intertwined and to argue a separation of the two, or to argue that GHG emissions do not affect navigable waters is nonsensical. Therefore, the Public Trust Doctrine mandates that the State act through its designated agency to protect what it holds in trust. The Department of Ecology is the agency authorized both to recommend changes in [] standards and to establish limits that are responsible. *[Footnote: Foster, supra, at p. 8.]*

As in Foster, the Department of Ecology is the agency authorized to implement the Shoreline Management Act and the public trust resources that the SMA is designed to protect. Along with its statutory authorities, the Public Trust Doctrine provides Ecology with the basis to address the cumulative, long-term scope of damage caused by crude-by-rail oil terminals.

The DEIS chapter on Cumulative Impacts and Air discusses greenhouse gas (GHG) emissions and climate change impacts associated with the oil terminal projects. *[Footnote: DEIS, Chapter 6, Cumulative Impacts, Air, Section, pp. 6-10 to 6-18. This section also includes discussion of impacts associated with the proposed Grays Harbor Rail oil terminal project. For response to the inadequacy of the DEIS discussion of cumulative impacts, please see the Quinault Indian Nation's comments on the Westway and Imperium Draft Environmental Impact Statements, submitted on Nov. 24, 2015.]* This section notes that GHG emissions are small (0.23% of Washington's 2050 statutory reduction of GHG emissions) and the amount of oil that would be transported through the Port of Grays Harbor constitutes only 1.2% of U.S. daily crude oil supply. The DEIS describes the impacts of the projects' GHG emissions relative to baseline as speculative. *[Footnote: DEIS at p. 6-13.]* The conclusion does not recognize the projects' GHG emissions as a significant and adverse impact, and therefore does not propose any mitigation measures relating to GHG emissions and contributions to climate change.

The trouble with cumulative impacts is that they are cumulative. The percentage of impact associated with the Westway and Imperium Proposals is similar to the percentage impact associated with any oil transport project. When compared with the diffuse and global scale of petroleum exploitation, all projects look small. The DEIS is inadequate in its failure to recognize the Westway and Imperium Proposals as a gateway to future carbon emissions that will contribute irreversibly to atmospheric carbon concentrations, and thence to global climate change. Climate change is already causing specific and substantial adverse impacts to Grays Harbor and its public trust resources.

Impacts of climate change on Grays Harbor resources.

Climate change is having and will continue to have a major impact on Grays Harbor and associated coastal resources. *[Footnote: Sandell, Todd, et al., Climate Change in the Chehalis River and Grays Harbor Estuary (WFC 2013) at <http://wildfishconservancy.org/projects/grays-harbor-juvenile-salmon-fish-community-study/WFC.ClimateChangeintheChehalisRiverandGraysHarborEstuary2012final.pdf> and "Workshop offers look at Grays Harbor of the future" (Daily World, 4-10-14) at <http://thedailyworld.com/news/local/workshop-offers-look-grays-harbor-future>.]* As described below, the impacts of climate change on coastal resources include increases in sea level rise, saltwater intrusion into freshwater resources (surface and ground), extreme weather events and coastal flooding and erosion, and ocean acidification. *[Footnote: Sandell, supra; Huppert, D., et al., Impacts of Climate Change on the Coasts of Washington State, Ch. 8 in the Washington Climate Change*

*Impacts and Adaptation Report (CSES 2009) at <http://cses.washington.edu/db/pdf/wacciach8coasts651.pdf>; WA Dept. of Ecology, Oceans and Coastlines, Ch. 6 (2012) at <https://fortress.wa.gov/ecy/publications/publications/1201004h.pdf>.] In addition, changes in precipitation amounts and timing, and loss of glaciers is affecting and will continue to affect the rivers that flow into and nourish Grays Harbor and its fish and wildlife habitat.*

Sea Level Rise. As recognized in the DEIS, sea level rise on the Washington coast is expected to increase by 10 to 143 centimeters by 2100. [Footnote: *Sea-Level Rise for the Coasts of California, Oregon and Washington: Past, Present and Future, Report in Brief (NAS 2012) at [http://www.ecy.wa.gov/climatechange/docs/ipa\\_slr\\_nrcbrief.pdf](http://www.ecy.wa.gov/climatechange/docs/ipa_slr_nrcbrief.pdf) and Full Report at <http://dels.nas.edu/Report/Level-Rise-Coasts/13389?bname=besr>.] In a new study of the effects of sea level rise on tidal marshes in eleven estuaries in the Pacific Northwest, including Grays Harbor, the U.S. Geological Survey cited Grays Harbor as one of the more resilient tidal estuaries, but even so, concluded that it will convert to high marsh, dramatically converting and limiting diverse estuarine habitat, by 2110. [Footnote: *USGS, Thorne, K. and B. Dugger, Marshes to Mudflats: Climate Change Effects along a Latitudinal Gradient in the Pacific Northwest (2015) at <https://nccwsc.usgs.gov/display-project/4f8c64d2e4b0546c0c397b46/5006e99ee4b0abf7ce733f58>.] The Department of Ecology is directing shoreline planners to prepare for sea level rise in development of shoreline master programs. [Footnote: *Dept. of Ecology, Shoreline Master Plan Handbook, Appendix A, "Addressing Sea Level Rise in Shoreline Master Programs," (7-1-10) at <http://www.ecy.wa.gov/programs/sea/shorelines/smp/handbook/appendixA.pdf>.] DEIS Fig. 6-4 illustrates the impacts of a 3-foot increase in sea level, optimistically pointing out that the Westway and Imperium terminals will not be underwater, but failing to note that large sections of the Cities of Hoquiam and Aberdeen will be inundated.***

Saltwater Intrusion. "Changes in climate and sea level will drive changes to the coastal groundwater system that will impact both human populations and coastal ecosystems. Increases in sea-level will raise the fresh water table in many coastal regions . . . Impacts to humans may include an increase in the potential for basement or septic system failure. Sea-level rise can also contaminate groundwater supplies due to landward and upward movement of sea-water in coastal aquifers" [Footnote: *U.S. Geologic Survey, Sea-level rise hazards and decision support: Coastal Groundwater Systems, at <http://wh.er.usgs.gov/slr/coastalgroundwater.html>; see also Dept. of Ecology, Rising Sea Level, at [http://www.ecy.wa.gov/climatechange/risingsealevel\\_more.htm](http://www.ecy.wa.gov/climatechange/risingsealevel_more.htm).], thus causing saltwater intrusion.*

Extreme Weather, Coastal Flooding, and Erosion. Grays Harbor County is Washington's second most vulnerable to coastal flooding, and ranks first for the number of homes at risk due to enhanced coastal flooding. [Footnote: *Climate Central, Sea level rise and coastal flood exposure: Summary for Grays Harbor County, WA (2014) at [http://ssrf.climatecentral.org.s3-website-us-east-1.amazonaws.com/Buffer2/states/WA/downloads/pdf\\_reports/County/WA\\_Grays\\_Harbor\\_County-report.pdf](http://ssrf.climatecentral.org.s3-website-us-east-1.amazonaws.com/Buffer2/states/WA/downloads/pdf_reports/County/WA_Grays_Harbor_County-report.pdf).] There have been several severe storms of note in the Grays Harbor area in the past few years, including the January 5, 2015 rainstorm that dropped 7 inches of precipitation on Hoquiam in 24 hours, flooding urban areas and causing massive mudslides. [Footnote: *The Daily World, "Flooding, Landslides Hit the Harbor" (1-5-15) at <http://thedailyworld.com/news/local/flooding-landslides-hit-harbors>; The News Tribune, "Rain Event Hits Grays Harbor County" (n.d.) at <http://www.thenewstribune.com/news/local/article25852570.html>.] Nonetheless, scientists do not yet have sufficient trend data to say definitely that extreme weather events on the Pacific Northwest coast are increasing in frequency, and are attributable to climate change. [Footnote: *The Daily World, "Flooding, Landslides Hit the Harbor" (1-5-15) at <http://thedailyworld.com/news/local/flooding-landslides-hit-harbors>; The News Tribune, "Rain Event Hits Grays Harbor County" (n.d.) at***

<http://www.thenewtribune.com/news/local/article25852570.html>.] What is known is that a combination of very high (“king”) tides, storm surges, and heavy precipitation can cause substantial flood and slide damage. Sea level rise will magnify the effects of storm surges and high tides on coastal environments. [Footnote: Dalrymple, Robert A., *Sea-Level Rise for the Coasts of California, Oregon and Washington: Past, Present and Future*, Powerpoint Presentation (NRC 6-20-12) at [http://www.ecy.wa.gov/climatechange/docs/ipa\\_slr\\_nrcpresentation.pdf](http://www.ecy.wa.gov/climatechange/docs/ipa_slr_nrcpresentation.pdf).] Inland marshes and wetlands, such as those found in Grays Harbor can ameliorate coastal flooding impacts, but sea level rise is predicted to eliminate this resilience. Erosion has been a longstanding problem at the South Jetty/Half Moon Bay area near Westport and the entrance to Grays Harbor. [Footnote: WA Dept. of Ecology, *Westport South Jetty shoreline changes*, webpage at <http://www.ecy.wa.gov/programs/sea/coast/erosion/westport.html>.]

Ocean Acidification. Ocean acidification or OA is a long-term progressive change in ocean water chemistry due to the uptake of CO<sub>2</sub> from the atmosphere. It is changing seawater carbonate chemistry, with substantial negative biological impacts on coastal marine organisms. Coastal areas with large freshwater inputs, such as Grays Harbor, are particularly vulnerable to these changes. Shellfish in particular are at risk of exceeding tolerances for ocean pH. [Footnote: NANOOS, et al., *Ocean Acidification in the Pacific Northwest (May 2014)*; *Washington State Blue Ribbon Panel on Ocean Acidification, “From Knowledge to Action,” (Nov. 2012)*; see also extensive materials set forth at Wash. Dept of Ecology website on “Ocean Acidification and Washington State” at <http://www.ecy.wa.gov/water/marine/oceanacidification.html> (visited 11-25-15).]

Precipitation Changes and Glacial Loss. One well-known harbinger of climate change is the changes in precipitation that will occur as a result of a warming atmosphere. Scientists project that the amount of precip falling will not change much for Washington’s coast range, but that it will fall as rain, rather than snow. This will radically change the timing of run-off of rivers and their suitability as habitat for salmon and other aquatic species. [Footnote: Mote, P.A., et al., *National Climate Assessment, Pacific Northwest Region (2014)*.] Similarly, the loss of glacial mass in Olympic National Park is a striking indicator of how global change is causing very local impacts. [Footnote: See *National Park Service, infra*.]

B. Greenhouse gas emissions are a direct cause of climate change and its consequent harm to Grays Harbor (and the rest of Washington State).

Climate change is a direct consequence of atmospheric warming caused by greenhouse gas emissions, most notably carbon dioxide or CO<sub>2</sub>. [Footnote: *The Department of Ecology has recognized the substantial damage that GHG emissions are working on Washington’s natural resources. See WA Dept. of Ecology, Washington Greenhouse Gas Emission Reduction Limits (Dec. 2014), at pp. 11-14, at <https://fortress.wa.gov/ecy/publications/documents/1401006.pdf>. The DEIS provides a brief discussion of the relationship between GHG emissions and climate change. DEIS, Chapter 6, Cumulative Impacts, Air, Greenhouse Gas Emissions, pp. 6-14 to 6-17.*] In 2013, CO<sub>2</sub> accounted for about 82% of all U.S. greenhouse gas emissions from human activities. The main human activity that emits CO<sub>2</sub> is the combustion of fossil fuels (coal, natural gas, and oil) for energy and transportation. The combustion of fossil fuels such as gasoline and diesel to transport people and goods is the second largest source of CO<sub>2</sub> emissions, accounting for about 31% of total U.S. CO<sub>2</sub> emissions and 26% of total U.S. greenhouse gas emissions in 2013. [Footnote: U.S. Environmental Protection Agency, *Overview of Greenhouse Gas emissions*, <http://www3.epa.gov/climatechange/ghgemissions/gases/co2.html> (visited 11-23-15).] CO<sub>2</sub>

*comprises 57% of global greenhouse gas emissions. [Footnote: Id. (<http://www3.epa.gov/climatechange/ghgemissions/global.html>) citing IPCC 2007.]*

Atmospheric warming (caused by CO2 concentrations) is, in turn, the major cause of the melting polar ice cap, as well as the glacial melt experienced locally in Washington State and on the Olympic Peninsula. *[Footnote: Vinas, M. and C. Rasmussen, Warming Seas and Melting Ice Sheets (NASA, 8-26-15) at <http://climate.nasa.gov/news/2328/>. A 2009 inventory of Olympic National Park glaciers found a reduction in the number of glaciers from 266 to 184 during the period 1982 to 2009, a 34% loss in glacial surface area from the period 1970 to 2009, and a decrease in ice volume of at least 15% between 1987 and 2009. See National Park Service, Glaciers & Climate Change, Olympic National Park, <http://www.nps.gov/olymp/learn/nature/glaciers.htm>.] Melting glaciers and ice sheets are and will continue as the major contributors to sea level rise, followed by increases in ocean mass as water temperatures increase. [Footnote: Vinas & Rasmussen, *supra*; Sea-Level Rise for the Coasts of California, Oregon and Washington: Past, Present and Future, Report in Brief (NRC 2012) at [http://www.ecy.wa.gov/climatechange/docs/ipa\\_slr\\_nrcbrief.pdf](http://www.ecy.wa.gov/climatechange/docs/ipa_slr_nrcbrief.pdf).]*

GHG emissions remain largely uncontrolled in the United States, with CO2 atmospheric concentrations still on the rise. *[Footnote: CO2NOW provides a monthly update of global CO2 atmospheric concentrations as measured at Mauna Loa, Hawaii, along with other pertinent information. See CO2NOW at <http://co2now.org/>.] Climate scientists urge that radical reductions in GHG emissions are needed, perhaps even near-zero emissions, in order to stabilize the planet's climate. Washington explicitly recognizes the need to control GHG emissions and has set targets for future reductions. [Footnote: RCW Ch. 70.235. See Foster, *supra*.]*

Each step in moving and consuming crude oil, from initial mining to final combustion, causes release of greenhouse gases. With respect to the Westway and Imperium oil terminal Proposals, the extraction of Bakken crude (through "flaring") and Tarsands bitumen (requiring massive amounts of energy for heating and dilution). *[Footnote: Geology.com, <http://geology.com/articles/bakken-formation.shtml> and U.S. Dept. of Interior, 2012 Oil Shale & Tar Sands Programmatic EIS at <http://ostseis.anl.gov/guide/tarsands/> (both visited 11-23-15)]. Transport to Grays Harbor by diesel-powered train, transport by diesel and bunker fuel-powered vessel to distant ports, refining into end products, and combustion of end products for transportation, power generation and industrial purposes, will contribute greenhouse gases to the global environment. [Footnote: The DEIS analyzes project-related GHG emissions related at Section 6.5, pp. 6-10 to 6-14, and combines analysis of the Westway and Imperium Proposals with the Grays Harbor Rail Terminal Proposal.]*

Thus, the Westway and Imperium oil terminals projects, if built, will be a part of a great cycle of activity that is global in scope, but will visit very local destruction on the resources of Grays Harbor as well as the rest of Washington State. These consequences are not hypothetical. The science is clear that CO2, derived from burning fossil fuels, is the largest fraction of greenhouse gases contributing to climate change. Climate change is changing coastal and estuarine environments. The science is also clear that climate change is causing and will continue to cause harm to Grays Harbor, the Pacific coastline in the area of Grays Harbor, and the Chehalis River.

A. Ecology should exercise its public trust authority to deny the permits for oil terminals based on climate change impacts.

Through its enabling statute, SEPA and the Shoreline Management Act, the State of Washington, through the Department of Ecology, possesses both the authority and the duty to recognize the full scope of climate change impacts on Grays Harbor public trust resources caused by the oil

production-to-combustion cycle and that will be represented by the proposed Westway and Imperium Proposals.

Ecology is duty-bound to deny the projects, because permitting them will cause an impairment of public trust resources. The Public Trust Doctrine provides the flexibility to not just consider, but also to substantively address the full scope of the issues and concerns associated with the Westway and Imperium Proposals, including:

- The totality of GHG emissions in Washington, and globally that are affecting Grays Harbor and its resources.
- The multiplicity of present and reasonably foreseeable proposed projects that would contribute GHG emissions, climate change and ultimate harm Grays Harbor, including ***all*** oil terminals, coal terminals, highway projects that promote automobile combustion, and etc.
- The duty as co-tenant and joint manager with the Quinault Indian Nation to not waste shared public trust resources, i.e., Grays Harbor fisheries.
- The intergenerational impacts to trust resources that will have devastating effects on future generations if not halted.
- The specific impact of climate change on resources that are traditionally protected by the Public Trust Doctrine, including navigation, commerce and especially fisheries and wildlife resources.
- The specific impact of climate change on corollary resources that have not been traditionally called out by the Washington courts, when applying the Public Trust Doctrine, but which public necessity requires protection. These include coastal stability, glacial stability, marine water quality (i.e., acidity, domoic acid), freshwater quality (i.e., temperature), and so forth.

The scope of the State's public trust authority and duties clearly extend to the affected waters and associated resources of Grays Harbor. In addition to its statutory authority, Washington's Public Trust Doctrine protects navigable waterways, as well as the fisheries, wildlife and water quality within those waterways. Moreover, the scope of Washington's public trust application is not fixed and may expand according to public need. [Footnote: Orion Corp., *supra*; Weden, *supra*.]

While the Washington judiciary has just begun to link the Public Trust Doctrine with the cumulative impacts associated with climate change, the doctrine's qualities of protecting public interests (including intergenerational interests) make it a particularly useful tool where statutory authorities may be limited.

## 7. Conclusion.

Grays Harbor, for the many reasons described herein, merits the highest order of protection by the State of Washington and City of Hoquiam. The Harbor's biological, commercial and recreational resources are a part of the common heritage of Washington's citizens, and have value far beyond simple economics. Washington must protect Grays Harbor for today's citizens, and tomorrow's. The Department of Ecology and City of Hoquiam should acknowledge and invoke their duties and authorities as representatives of the public trustee to deny the Westway and Imperium oil terminal Proposals.

### Response T5-3

Draft EIS Chapter 3, Section 3.2, *Air*, and Chapter 6, Section 6.5.1.2, *Cumulative Impacts*, present estimates of greenhouse gas emissions from onsite operations, offsite transport in Washington State, and combustion of maximum annual throughput of crude oil related to the proposed action and cumulative projects, respectively, in the context of emission inventories and reduction goals. The Final EIS reflects greenhouse gas emission estimates from offsite transport from the likely source of crude oil to the furthest likely refinery destination. Based on the Crude Oil Market Analysis (Final EIS Appendix Q), the proposed action is not expected to induce crude oil production at the source and crude oil handled under the proposed action is not expected to be exported. Refer to the Master Response for Crude Oil Extraction, Transport, and Combustion.

Draft EIS Chapter 6, Section 6.5.1.2, *Cumulative Impacts, Climate Change*, acknowledges that greenhouse gas emissions from the cumulative projects would contribute to global greenhouse gas emissions, which contribute to climate change, and describes the projected impacts of climate change in the Pacific Northwest. The Final EIS section reflects the addition of saltwater intrusion to the list of impacts.

## T6, Quinault Indian Nation, President Sharp

### Comment T6-1

On behalf of the Quinault Indian Nation, we thank you for providing this opportunity to provide this testimony. Grays Harbor is the gateway of the Olympic Peninsula. It offers to people of Washington and our visitors to incredible recreational and economic opportunity. It boasts beautiful beaches, one of the most significant bird sanctuaries on the West Coast, a vibrant fishing and crabbing industry, and the best razor clams you can find.

It is where the Quinault people have lived since time in memorial. It sustains our traditional culture of fishing, hunting, and gathering. Allowing millions of gallons of Bakken crude oil to be transferred across these lands and waters is a horrific mistake.

After many years, Grays Harbor's recovery from the changes in the timber industry and consequent loss of local jobs and more than ever we depend on pristine beauty of this region as driver of the economy.

We have learned from the experience of the WasDOT2 project that these big ticket projects don't create local jobs. Experienced workers with seniority are brought in from elsewhere for the very few highly specialized jobs that are needed.

The boom and bust oil industry is not the kind of economy we need here in Washington state or on the harbor. The oil industry promised jobs and tax revenue for Grays Harbor. These are false promises. The few jobs they promise will put hundreds of local jobs, businesses, and lives at risk.

Quinault is the largest employer in the harbor. We understand how critical local jobs and continue to be committed to working with the local government to capitalize on our natural resources.

Earlier this year the Quinault Indian Nation commissioned an in-depth economic analysis of the impacts of these crude by rail projects. This study confirmed in 2013 Quinault fishing and business activities contributed to the local economy with more than \$84 million in business revenue, 32

million in local purchases, 907.7 direct and indirect local jobs. And we'll continue to offer a pristine economy.

Thank you.

### **Response T6-1**

Comment acknowledged.

## **T7, Quinault Indian Nation, Tyson Johnston**

### **Comment T7-1**

My name is Tyson Johnston, I'm the vice president of the Quinault Nation. I'm here speaking on behalf of my tribe.

Grays Harbor is the gateway to the Olympic Peninsula. It offers the people of Washington and our visitors incredible recreational and economic opportunities, the most beautiful beaches, one of the most significant bird flyways and sanctuaries on the West Coast, a vibrant fishing and crabbing industry, and the best razor clams that you can find.

It's where the Quinault people have lived since time in the (inaudible). It sustains our traditional culture of hunting, fishing and gathering. The oil industry promises jobs and tax revenues to Grays Harbor, but the few jobs they promise will put hundreds of local jobs, businesses, and longstanding ways of it at risk.

This crude oil improvement is not on impinging on culture but also the fishing-based culture of the harbor, as well as the tourism that so many of us depend on for jobs.

Millions of gallons of crude oil crossing our communities and waters will kill our hopes for economic recovery, decimating the downtown and destroying real estate values.

The loss to our quality of life must not be sacrificed for the false hope of a few jobs, because most of those jobs will go to people who are transferred in from other areas.

Quinault is the largest employer in the harbor. We understand how critical local jobs are and have been and continue to partner with our local governments to capitalize on our local resources to create a more vibrant economy.

We believe Grays Harbor as the gateway to the Olympic Peninsula has more to offer than becoming an industrial oil zone.

Both of the Draft Environmental Impact Statements for Westway and Imperium have concluded that these projects would result in harmful impacts to tribal resources, increased air pollution from more diesel trains and boats, increased noise and increased vehicle delay at railroad crossings large enough to interrupt emergency vehicle response times.

These impacts cannot be fully mitigated. They've also found that these risks of oil spills during rail transports at the terminal site and during marine vessel transport through Grays Harbor cannot be fully mitigated. And if a spill occurred, the environmental impact would be significant.

Also, these projects will increase rail and marine vessel traffic and would increase the risk of derailment, collision, spill, fire, or explosion.

The nation calls on the City of Hoquiam to deny these permits because these risks are unacceptable. Thank you.

### **Response T7-1**

Refer to the Master Response for Purpose and Focus of the EIS for a discussion of how the Final EIS is used by agency decision-makers in considering permits related to the proposed action.

## **T8, Quinault Indian Nation, Kristen Boyles (EarthJustice)**

### **Comment T8-1**

Attached are the Quinault Indian Nation's comments on the DEIS for the Westway and Imperium Crude-By-Rail Terminals. Also attached are Exhibits 1 through 4 (Expert Reports) and the list of all exhibits submitted (Exhibit 1-69). Hard copies of the Comments, Exhibits 1 through 4 (Expert Reports) and Index to Exhibits, and a CD containing Exhibits 1-69 were delivered to your office this afternoon (November 24, 2015).

November 24, 2015

Via Web Portal and Hand-Delivery  
Westway and Imperium Terminal Services Expansion Projects EISs c/o ICF International  
710 Second Avenue, Suite 550  
Seattle, WA 98104  
<https://public.commentworks.com/cwx/westwayimperiumcommentform/>

Re: Quinault Indian Nation Comments on Draft Environmental Impact Statements for the Westway and Imperium (now Renewable Energy Group) Crude-By-Rail Terminals

Greetings:

On August 31, 2015, the City of Hoquiam and Washington Department of Ecology issued two similar draft Environmental Impact Statements prepared under the State Environmental Policy Act ("SEPA") for the proposed Westway and Imperium (now Renewable Energy Group) crude-by-rail terminals. The Quinault Indian Nation has reviewed these documents and supporting materials and submits the following comments. Exhibits to this comment letter are submitted on a separate CD. These comments expressly incorporate and attach expert reports prepared by Nuka Research and Planning Group (Exh. 1), Fred Millar, Ph.D. (Exh. 2), Resource Dimensions (Exh. 3), and Joseph Wartman, Ph.D. (Exh. 4).

#### **1.0 SUMMARY**

- The DEISs conclude these projects would cause significant and harmful impacts to tribal resources that cannot be mitigated.
- The DEISs determine that multiple aspects of these projects would cause significant and harmful environmental and public health impacts that cannot be fully mitigated. These impacts include increased air pollution from more diesel trains and ships, increased noise, and increased vehicle delay at railroad crossings large enough to disrupt emergency vehicle response times.

- The DEISs finds that these projects create serious and harmful risks of oil spills, collisions, derailments, fires, and explosions that would cause significant and unavoidable environmental damage.

## Response T8-1

Master responses in Chapter 2, *Comment Themes and Master Responses*, of this Final EIS address the issues below and are referred to in subsequent Responses to Comments.

- Geographic Scope of the EIS
- Baseline and No-Action Alternative
- Mitigation Framework
- Environmental Health and Safety Analysis
- Risk Assessment Methods
- Oil Spill Modeling Methods
- Emergency Response and Planning Gaps Evaluation
- Liability and Responsibility for Incidents
- Cumulative Impact Analysis
- Crude Oil Extraction, Transport, and Combustion
- Project Objective and Alternatives
- Vessel Traffic Baseline and Projections
- Earthquake Probabilities
- Seismic Risk and Design Requirements
- Applicability of Measures to Westway Alone
- Purpose and Focus of the EIS
- Economics, Social Policy, and Cost-Benefit Analyses

The Final EIS *Summary* describes the potentially significant impacts that could not be completely eliminated with the implementation of the proposed mitigation measures. These include impacts on noise, tribal resources, vehicle traffic, and environmental health and safety.

Where appropriate, responses to the following summary points (T8-2 through T8-12) refer the reader to a master response or more complete responses to comments in the body of this letter.

Exhibits 1 through 4 (Expert Reports) are included and responded to below. All supporting material submitted during the public comment period is listed by commenter in Chapter 8, *Attachments*.

## Comment T8-2

- The expected frequency of any type of oil spill (2,100 gallons or more) harming the marine environment is a one spill every 2.2 years. These projects would cause 40-fold increase in oil spill risk in Grays Harbor as compared to current conditions. The DEISs' analysis and presentation is needlessly complicated and designed to minimize the perception of risks.

## Response T8-2

As discussed in the Master Response for Environmental Health and Safety Analysis and based on the risk assessment in Draft EIS Appendix M, *Risk Assessment Technical Report*, the analysis of risks presented in Draft EIS Chapter 4, *Environmental Health and Safety*, evaluates the likelihood of different spill sizes associated with terminal (onsite) operations, rail transportation, and vessel transportation separately. The risks across these operations are not combined in the Draft EIS because of differing regulatory and design requirements described in Chapter 4, because the cause of an incident involving the facility or rail or vessel transport would likely be different, and because the proposed facility, rail line, and vessel transport corridor are physically separated.

## Comment T8-3

- SEPA compels the DEISs to contain thorough information and discussion, to be based on sufficient information to support their conclusions; to obtain and include reasonably available unknown information; to disclose gaps in analysis and scientific uncertainty in order to allow a reasoned decision. The DEISs fail to comply with these requirements.
- The DEISs fail to review and analyze the complete impacts of these proposed projects. The DEISs' analysis (1) fails to consider increased rail impacts and risks across the state; (2) fails to consider increased vessel impacts along the Pacific coast; (3) fails to consider a reasonable range of alternatives; (4) fails to review the projects' full lifetime; (5) fails to use the appropriate no-action baseline; and (6) fails to present logical, consistent, and supported information. On these failures alone, the DEISs violate SEPA and would not withstand judicial review.

## Response T8-3

Refer to responses to the following comments below:

- Rail impacts and risk across the state: T8-21, 25, 44, 59
- Increased vessel impacts along the Pacific Coast: T8-22
- Reasonable alternatives: T8-18
- Project lifetime: T8-19 and T8-24
- No-action baseline: T8-19

## Comment T8-4

- The DEISs play math games with the reader to make significant risks and harms appear less likely. The DEISs do this by: (1) incorrectly treating the no-action alternative as similar to the proposed projects; (2) reviewing impacts for only 20 years, as opposed to the lifetime of the projects; (3) not fully reviewing all cumulative impacts; (4) limiting the scope of review; (4) using different calculations for amount of oil per train and marine vessel; (5) underestimating the number of annual vessel trips; and (6) not providing the public with a clear understanding of the increase in risk due to these projects.

## Response T8-4

For general information on the topics identified in this comment, refer to the responses as indicated below. More detailed responses are presented where these issues are raised in subsequent comments.

1. Refer to Response to Comment T8-19.
2. Refer to Response to Comment T8-24.
3. Refer to the Master Response for Cumulative Impact Analysis.
4. Refer to Response to Comment T8-21 and T8-22.
- 4 (second listing). Refer to Comment T8-57.
5. Refer to Response to Comment T8-64.
6. Refer to the Master Response for Risk Assessment Methods for more information about interpreting the results of the risk assessment presented in the Draft EIS.

## Comment T8-5

- The DEISs fail to fully review impacts of increased rail traffic, fail to use most recent and applicable data on oil train accidents, rely on admittedly inadequate federal regulations and unknown future supposed rail improvements, and present unclear and confusing information on predicted accidents on the PS&P line.

## Response T8-5

For information about the scope of the analysis of rail-related impacts, refer to the Master Response for the Geographic Scope of the EIS.

For information about the sources of data and the analysis of the risks of rail transport, refer to the Master Response for Risk Assessment Methods.

For information about the analysis of emergency preparedness planning and response gaps, refer to the Master Response for Emergency Response and Planning Gaps Evaluation.

## Comment T8-6

- Maps of oil spill trajectories are uninformative, and risks represented by sliding scale graphics do not provide useful information.
- The DEISs fail to use sufficient evidence or provide thorough review of types of crude oil to be transported, the source and destination of the crude oil, and impacts on public waters, plants, fish and wildlife.

## Response T8-6

For the reasons discussed in the Master Response for Risk Assessment Methods, the figures depicting risks presented in Draft EIS Chapter 4, *Environmental Health and Safety*, have been removed from the Final EIS.

Refer to the following responses to comments on these topics.

- Types of crude oil and crude oil sources and destinations: T8-14, 45, and 67
- Impacts on water: T8-68 through 72
- Impacts on plants: T8-73 through 78
- Impacts on fish and wildlife: T8-79 through 96

### **Comment T8-7**

- The DEISs do not adequately address air pollution impacts or impacts from increased rail traffic (including delays and noise).

### **Response T8-7**

Refer to the following responses to comments on these topics.

- Air quality impacts: T8-73 and T8-100 through T8-104
- Vehicle delay impacts: T8-32
- Noise impacts: T8-99

### **Comment T8-8**

- The DEISs fail to fully address seismic risks, particularly for moderate earthquakes and tsunamis in general.

### **Response T8-8**

Refer to Responses to Comments T8-105 through T8-111.

### **Comment T8-9**

The DEISs fail to accurately and adequately review and consider economic impacts.

### **Response T8-9**

Refer to Responses to Comments T8-215 through T8-264.

### **Comment T8-10**

- The DEISs' greenhouse gas analysis is incomplete and fails to include a full carbon life-cycle analysis. For the emissions reviewed, the DEISs attempt to downplay their significance.

### **Response T8-10**

Refer to Response to Comment T8-113.

### **Comment T8-11**

- The DEISs inappropriately rely on inadequate regulatory standards and future promises to discount rail safety risks.

### **Response T8-11**

Refer to the Master Response for Emergency Response and Planning Gaps Evaluation.

### **Comment T8-12**

These projects would violate civil rights and other laws because of the disproportionate impacts that are acknowledged to be unavoidable.

### **Response T8-12**

Refer to the responses to comments related to impacts on minority and low-income populations: T8-114 through 119.

### **Comment T8-13**

The DEISs must be revised to address their fundamental deficiencies. Correction of the DEISs' flaws will lead to even firmer conclusions that these projects present significant, adverse environmental and public health harms and risks that cannot be mitigated. SEPA itself grants the authority to say no. Ecology and the City of Hoquiam should use that authority, as well as separate authority from other applicable statutes and regulations, to reject these oil shipping terminals.

### **Response T8-13**

Refer to Final EIS Chapter 1, *Introduction*, for a summary of revisions in the Final EIS.

### **Comment T8-14**

#### 2.0 WESTWAY TERMINAL COMPANY AND IMPERIUM TERMINAL SERVICES

#### 2.1 ON-SITE PROJECT DESCRIPTIONS

Westway and Imperium would transfer oil received by rail into onsite storage tanks. Westway intends to build five storage tanks that would each hold 8.4 million gallons of oil. Westway DEIS at 1-1. *[Footnote: Because the Westway and Imperium DEISs are identical in many respects, these comments apply to both, and citations to the DEISs are applicable to both documents unless noted.]* Westway's facility would have the capacity to hold 42 million gallons of oil at any time. Westway DEIS at 1-1. Imperium would add nine storage tanks that could each hold 3.36 million gallons of oil. Imperium DEIS at 1-1. The expansion would result in a total yearly throughput capacity of 806.4 million gallons for Westway and 1.26 billion gallons for Imperium. Westway DEIS at 2-8; Imperium DEIS at 2-11. The daily crude oil throughput for the Westway and Imperium facilities would be, respectively, 48,918 barrels and 82,192 barrels. Westway DEIS at 6-14; Imperium DEIS at 6-14.

In addition to the Westway and Imperium projects, a third crude-by-rail facility is proposed for Grays Harbor. US Development Group ("USD") and its subsidiary, Grays Harbor Rail Terminal, have applied for the same type of facility as Westway and Imperium, one that would receive crude oil by rail, store it in large tanks, and ship it out by vessel. The USD project would move an average of 45,000 barrels through its facility each day. Westway DEIS at 6-14; Imperium DEIS at 6-14. That oil would arrive by 365 additional train trips into and out of Grays Harbor each year and approximately 120 vessel trips. Westway DEIS at 6-5; Imperium DEIS at 6-5. The USD project would mean an additional unit train every day, on average, and more than two vessel trips each week. Westway

DEIS at 6-6; Imperium DEIS at 6-6. *[Footnote: As discussed further below, it is not clear how the DEISs arrived at these numbers and if they are accurate.]*

## 2.2 SOURCES OF CRUDE OIL

Westway and Imperium propose to begin accepting, storing, and shipping at least two different types of crude oil, each of which present tremendous, though different, environmental and human health threats. Both companies anticipate that the crude oil they would handle would originate in the Bakken formation in the Intermountain Region and central United States. Westway DEIS at 2-9; Imperium DEIS at 2-12. Bakken crude is a low sulfur crude oil that is referred to as “light, sweet.” Westway DEIS at 3.14-9; Imperium DEIS at 3.14-11. Compared to other crude oils, it has a higher vapor pressure, higher degree of volatility, higher degree of ignitability, and a higher degree of flammability. Id. In other words, Bakken crude is highly flammable and prone to explosion. Imperium DEIS App'x M at 4-3 to-4.

In addition to Bakken crude, the projects also discuss accepting diluted bitumen (or “dilbit”) oil from the tar sands of Alberta, Canada. Westway DEIS at 2-9; Imperium DEIS at 2-12. Unlike Bakken crude, dilbit is a heavy, dark, and viscous oil. Westway DEIS at 3.14-9; Imperium DEIS at 3.14-11. To decrease viscosity to allow transportation, dilbit is diluted with lighted hydrocarbons. When spilled, dilbit behaves very differently from other oils because it is heavy but also contains lighter diluents. Westway DEIS at 4.3-3; Imperium DEIS at 4.3-3. Initially, dilbit would float on the water, but its lighter components would eventually evaporate, allowing the remaining dilbit to sink below the surface, making it very difficult to remove. Id. Oil such as dilbit that is imported from Canada is not subject to the U.S. crude oil export ban and may be shipped to ports around the world. Westway DEIS at 5-1; Imperium DEIS at 5-1.

### **Response T8-14**

The analysis of impacts in the Draft EIS considers the crude oils identified under the proposed action: Bakken crude oil and diluted bitumen. Final EIS Chapter 4, Section 4.3, *Risk Considerations*, reflects updated information about the chemical properties of these two types of crude oils. For additional information about the most likely sources of crude oil, refer to the Master Response for Crude Oil Extraction, Transport, and Combustion. For additional information about how different types of oil were considered in the oil spill modeling presented in Draft EIS Chapter 4, *Environmental Health and Safety*, and Appendix N, *Oil Spill Modeling*, refer to the Master Response for Oil Spill Modeling Methods.

### **Comment T8-15**

#### 2.3 RAIL TRANSPORTATION

The crude oil would be moved to the Westway and Imperium terminals by way of unit trains, which are trains consisting of approximately 120 cars loaded with crude oil. *[Footnote: The DEIS fails to deal with the issue of varying tank car capacity. One barrel of oil = 42 U.S. gallons. For “light” crude oil, such as that from the Bakken, the Association of American Railroads has stated that the ideal rail tank car capacity is 30,000 to 32,000 gallons (or 714-761 barrels). In prior correspondence with regulators, Westway has used the figure of 714 barrels of crude per tank car, while Imperium estimates an average of 743 barrels per tank car. The Shell refinery in Anacortes used 720 barrels per tank car in its calculations. Ecology and Hoquiam should demand that the companies use a consistent tank car capacity number, not just one that serves individual calculations.]* Westway DEIS at 2-9; Imperium

DEIS at 2-13. Westway anticipates converting its site into a crude oil depot would result in a maximum of 458 unit train trips each year, for an average of 1.25 trips every day. Westway DEIS at 2-9. Imperium's crude oil business would result in an additional 730 unit train trips each year, for a total of two trips on average each day. Imperium DEIS at 2-13. The train trips would originate in either the central United States, for Bakken crude, or in Alberta, Canada, for tar sands crude. Westway DEIS at 2-9; Imperium DEIS at 2-13. The crude would then travel to Centralia, Washington along the main rail lines, and then along the PS&P rail line to the Port of Grays Harbor. Id.

### **Response T8-15**

As described in Draft EIS Chapter 4, Section 4.5.1, *Environmental Health Risks—Rail Transport*, the Draft EIS analyzed 714 barrels per tank car. The proposed action and the REG (formerly Imperium Terminal Services) Expansion Project are separate actions and therefore would have variable numbers of tank cars per unit train, size of tank cars, and number of trips per day. These variations allow for a more accurate representation of expected rail traffic instead of using an average of the two actions.

### **Comment T8-16**

#### 2.4 MARINE TRANSPORTATION

Westway and Imperium would transfer crude oil from their sites by ocean-going vessel to other locations in the United States and abroad. Within the United States, Westway and Imperium would transfer oil mainly to refineries in Puget Sound and northern California, but they could transfer Canadian tar sands crude abroad. Westway DEIS at 2-9; Imperium DEIS at 2-13. The type of vessel would vary, but the largest vessels that would call at the sites are Panamax class tankers that hold up to 14.7 million gallons each. Westway DEIS at 2-10; Imperium DEIS at 2-13. Both expect to use tank barges, which hold up to 6.3 million gallons per barge. Westway estimates a maximum of 238 vessel trips each year, Westway DEIS at 2-10, and Imperium estimates a maximum of 400 vessel trips each year, Imperium DEIS at 2-13.

### **Response T8-16**

Comment acknowledged.

### **Comment T8-17**

#### 3.0 STATE ENVIRONMENTAL POLICY ACT

The State Environmental Policy Act ("SEPA") is Washington's core environmental policy and review statute. Like its federal counterpart, the National Environmental Policy Act ("NEPA"), SEPA broadly serves two purposes: first, to ensure that government decision-makers are fully apprised of the environmental consequences of their actions and, second, to encourage public participation in the consideration of environmental impacts. *Norway Hill Preservation and Prot. Ass'n v. King Co*, 87 Wn.2d 267,279 (1976). For decades, SEPA has served these purposes effectively, requiring full environmental reviews for projects with significant environmental impacts.

In adopting SEPA, the Washington legislature declared the protection of the environment to be a core state priority. RCW 43.21C.010. SEPA declares that "[t]he legislature recognizes that each person has a fundamental and inalienable right to a healthful environment and that each person has

a responsibility to contribute to the preservation and enhancement of the environment.” RCW 43.21C.020(3). This policy statement, which is stronger than a similar statement in the federal counterpart of NEPA, “indicates in the strongest possible terms the basic importance of environmental concerns to the people of the state.” *Leschi v. Highway Comm'n*, 84 Wn.2d 271, 279-80 (1974).

## Response T8-17

Comment acknowledged.

## Comment T8-18

### 4.0 REASONABLE ALTERNATIVES

SEPA requires that an EIS contain a detailed discussion of alternatives to the proposed action. RCW 43.21C.030(c)(iii). SEPA's regulations provide that an EIS must consider as alternatives those “actions that could feasibly attain or approximate a proposal's objectives, but at a lower environmental cost or decreased level of environmental degradation.” WAC § 197-11-440(5)(b). The discussion of alternatives in an EIS need not be exhaustive, but the EIS must present sufficient information for a reasoned choice among alternatives. *Toandos Peninsula Ass'n v. Jefferson Cy.*, 32 Wash. App. 473,483 (1982).

### 4.1 FAILURE TO REVIEW ANY REASONABLE ALTERNATIVES

The DEISs simply fail to comply with SEPA in their consideration of reasonable alternatives. For both projects, the DEISs analyze only two options: the company's proposal and a no-action alternative. *Westway DEIS at S-2 to -3*; *Imperium DEIS at S-2 to -3*. An EIS for a private project on a specific site must consider a “no action alternative plus other reasonable alternatives for achieving the proposal's objective on the same site.” WAC§ 197-11-440(5)(d); *Weyerhaeuser*, 124 Wn.2d at 39. Additional reasonable alternatives, including other terminal designs, must be analyzed in a supplemental draft environmental impact statement in order to comply with SEPA.

### 4.2 PUBLIC PROJECT OF THE PORT

The DEIS adopts the private purpose of the project applicants with no consideration of the public use of the Port of Grays Harbor property, including any public need for the projects. Whether an EIS must include consideration of offsite alternatives depends on whether the project is public or private, for a public project EIS must also include a discussion of offsite alternatives to the proposal. *Weyerhaeuser*, 124 Wn.2d at 39.

*Westway* and *Imperium* are private companies, but the Port of Grays Harbor, a public entity, did not engage in any SEPA analysis prior to entering into the leases for these proposed projects. By virtue of land ownership, ports and cities have power to determine appropriate uses of public property and to require tenants to mitigate their environmental impacts. As courts have stressed, the “fundamental idea of SEPA” is to “prevent government agencies from approving projects and plans before the environmental impacts of doing so are understood.” *Int'l Longshore & Warehouse Union, Local 19 v. City of Seattle*, 176 Wn. App. 512, 522 (2013) (emphasis added). Here, the DEIS defines alternatives so narrowly as to merely accept the applicant's private agenda, without any consideration of other uses of the Port's property and without considering alternative locations for these facilities.

## Response T8-18

Refer to the Master Response for Project Objective and Alternatives for an explanation of the alternatives considered in the Draft EIS.

Regarding the location of the proposed action at a public port, the Port of Grays Harbor vetted the decision to lease its land to the applicant through a separate process that occurred prior to this SEPA evaluation. The Draft EIS evaluates the probable significant adverse environmental impacts of the proposed action, not whether the public has a need for the proposed action. Moreover, the proposed action is a private project because it was initiated by an entity other than a governmental agency. See WAC 197-11-780.

## Comment T8-19

### 4.3 NO ACTION ALTERNATIVE

The DEIS for Westway incorrectly defines the no-action alternative. For Westway, the DEIS notes:

... unrelated to the proposed application, the applicant anticipates an increase in throughput of methanol over the 20-year analysis period. For the purposes of this analysis and based on the applicant's understanding of market conditions, an additional estimated throughput of up to 12 million gallons of methanol per year would arrive by vessel, would be unloaded and stored on site, and would be loaded into barges or rail cars for offsite transport in a manner similar to existing conditions. Offsite transport is estimated to add approximately one tanker in, 10 tank barges out, and 364 rail cars (accommodated as part of existing freight trains) per year.

Westway DEIS at 2-12. That is not the present no-action alternative, which is to act as a baseline for comparison.

At other places in the DEIS, the definition of the no-action alternative is also incorrect and based on unsupported assumptions about future events. "Although the proposed action would not occur, it is assumed that growth in the region would continue under the no-action alternative, which could lead to development of another industrial use at the project site within the 20-year analysis period (2017 to 2037). Such development could result in impacts similar to those described for the proposed action." Westway DEIS at 3.12-16.

## Response T8-19

As noted in Final EIS Chapter 3, Section 3.0, *Introduction*, the EIS analyzes the impacts that could occur over the lifetime of the proposed facilities. Potential impacts were quantitatively evaluated in 2017—the anticipated first year of operation—and 2037 to account for future growth and development. This approach provides context to decision-makers about how the impacts of operations would evolve over a reasonably foreseeable period. This is particularly relevant for transportation- and risk-related impacts that can evolve over time because of reasonably foreseeable increased growth, planned infrastructure changes, and phased regulatory requirements for improved transportation efficiency and safety. Based on information provided by the applicant, reasonably foreseeable future growth of existing methanol operations over the analysis period unrelated to the proposed action was included under the no-action alternative. For additional information, refer to the Master Response for Baseline and No-Action Alternative.

Draft EIS Chapter 3, *Affected Environment, Impacts, and Mitigation*, acknowledges that it is possible that another project could occur at the project site if the proposed action is not implemented and

that, depending on the nature of that project, some of the impacts could be similar to those under the proposed action. However, because this statement has led to misinterpretation of the baseline used in the Draft EIS analysis, it has been removed in the Final EIS.

## Comment T8-20

The DEIS also states, without citation, that “[u]nder the no-action alternative, large commercial vessel trips are projected to increase between 2017 and 2037 due to increased trade of commodities.” See also Imperium DEIS at p. 3.11-11, 3.12-15, 3.13-4; Westway DEIS at 3.11-11, 3.12-16, 3.13-4.

These statements are completely unsubstantiated and clearly designed to imply that any development or unknown future growth would have similar impacts to the proposed crude-by-rail terminals, undermining the DEIS's credibility.

## Response T8-20

Draft EIS Chapter 3, Section 3.17.3.2, *Impact Analysis*, provides the rates used to arrive at the projected increase in large commercial vessel trips (for the channel capacity analysis). The moderate compound annual growth rates (CAGR) applied to present commodity volumes to reflect future commodity volumes and associated vessel trips were obtained from *The Pacific Northwest Marine Cargo Forecast Update and Rail Capacity Assessment Final Report*<sup>1</sup> prepared for the Pacific Northwest Rail Coalition. This report was commissioned by the Washington Public Ports Association (WPPA) and cosponsored by the Washington State Department of Transportation. These same rates were used and extended to 2037 (the original forecast was to 2030) by the U.S. Army Corps of Engineers.<sup>2</sup> The average commodity volume per vessel type was derived using 2012 commodity volumes and vessel numbers.<sup>3</sup> This ratio was then used as an adjustment to forecast further vessel numbers for each type of commodity. Tanker vessel numbers were forecast using the chemical CAGR rate (this forecast did not include a petroleum growth rate as the forecast did not include the proposed action and vegetable oil or biodiesel growth rate was assumed to be zero) of 6.8% and related ratio. Cargo (manufactured equipment and autos) vessel numbers were forecast using the manufactured equipment growth rate of 3.9% and related ratio, and so forth.<sup>4</sup>

Refer to the Master Response for Vessel Traffic Baseline and Projections for more information about how the baseline for the analysis of vessel traffic impacts was developed.

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<sup>1</sup> BST Associates and MainLine Management. 2011. *Pacific Northwest Marine Cargo Forecast Update and Rail Capacity Assessment*. Final Report. December. Prepared for Pacific Northwest Rail Coalition. Commissioned by the Washington Public Ports Association and cosponsored by the Washington State Department of Transportation.

<sup>2</sup> U.S. Army Corp of Engineers. 2014a. *Draft Supplemental Environmental Impact Statement for the Grays Harbor, Washington Navigation Improvement Project General Investigation Feasibility Study*. Appendix A, *Economic Analysis*. Seattle Corps District. January.

<sup>3</sup> U.S. Army Corps of Engineers 2014b. Waterborne Commerce Statistics Center. Available: <http://www.navigationdatacenter.us/wcsc/wcsc.htm>. Accessed: December 6, 2014.

<sup>4</sup> U.S. Fish and Wildlife Service. 2014. *Grays Harbor Navigation Improvement Project, Grays Harbor, Washington Fish and Wildlife Coordination Act Report*. Appendix A. Table 9, Port of Grays Harbor Commodity Moderate Growth Projections. Lacey, WA. Prepared for the U.S. Army Corps of Engineers, Seattle District, Seattle, WA, and Port of Grays Harbor, Aberdeen and Hoquiam, WA.

## Comment T8-21

### 5.0 SCOPE OF REVIEW

SEPA requires an environmental impact statement (“EIS”) for any action that has a “probable significant, adverse environmental impact.” RCW 43.21C.031(1). Significance means a reasonable likelihood of more than a moderate adverse impact on environmental quality.” WAC 197-11-794.

“A proposal’s effects include direct and indirect impacts caused by the proposal. Impacts include those effects resulting from growth caused by a proposal, as well as the likelihood that the present proposal will serve as precedent for future actions.” WAC 197-11-060(4)(d). The scope of impacts includes direct, indirect, and cumulative impacts. WAC 197-11-792. “The range of impacts to be analyzed in an EIS (direct, indirect, and cumulative impacts, WAC 197-11-792) may be wider than the impacts for which mitigation measures are required of applicants.” WAC 197-11-060(4)(e). The environmental impact statement must address “reasonable alternatives” to the proposed action, including a “no-action” alternative, WAC 197-11-440(5). It is implicit in SEPA that an “agency cannot close its eyes to the ultimate probable environmental consequences of its current action.” *Cheney v. City of Mountlake Terrace*, 87 Wn.2d 338, 344 (1976).

Importantly, the regulations specifically direct that an “agency shall not limit its consideration of a proposal’s impacts only to those aspects within its jurisdiction, including local or state boundaries.” WAC 197-11-060(4)(b). Indeed, SEPA constitutes a ringing affirmation of the connectedness of Washington with the rest of the planet. It speaks of “humankind” and “human beings” rather than just citizens of this state. RCW 43.21C.010. SEPA explicitly calls on responsible agencies to “recognize the world-wide and long-range character of environmental problems” and take steps to cooperate in “anticipating and preventing a decline in the quality of the world environment.” RCW 43.21C.030(f); *Eastlake Comm. Coun. v. Roanoke Assoc.*, 82 Wn.2d 475, 487 (1973) (observing “unusually vigorous statement of legislature purpose ...to consider the total environmental and ecological factors to their fullest in deciding major matters”) (emphasis added). Those regulations also recognize that environmental impacts do not end at the state’s borders, and explicitly require consideration of the impacts of projects outside of the state’s jurisdiction. WAC 197-11-060(c); *Cathcart-Maltby-Clearview Comm. Council v. Snohomish Cty.*, 96 Wn.2d 201,209 (1981) (SEPA “also mandates that extra-jurisdictional effects be addressed and mitigated, when possible.”).

Washington’s courts and hearings bodies are only starting to grapple with these important issues, but the conclusions so far are consistent: indirect impacts of fossil fuel transportation projects, including transportation of the fossil fuels to and from proposed terminals, must be considered in the SEPA process. For example, in *Quinault Indian Nation v. Hoquiam*, 2013 WL 6062377 (Nov. 12, 2013), the Shorelines Hearings Board vacated mitigated determinations of non-significance (“MDNSs”) for these two crude oil terminals for failing to adequately consider the cumulative and indirect impacts of rail and vessel traffic.

### 5.1 SCOPE OF RAIL ANALYSIS

Precedent from other ongoing SEPA processes for fossil fuel transportation projects with a rail component supports a broad scope for these DEISs. Ecology and other co-lead agencies have been clear that the scope of the EISs will include indirect impacts, some of which may appear distant from the projects themselves. For example, in announcing the scope of the EIS for the Gateway Pacific Terminal (coal export) near Bellingham, Ecology confirmed that the EIS would look at-in addition to the obvious onsite impacts like wetlands fill, habitat loss, and pollution-impacts of increased rail and

marine vessel traffic throughout the state and even beyond. [Footnote: Available at <http://www.ecy.wa.gov/geographic/gateway/pacific/gpt-faq.pdf>. Transportation of coal for the project will be studied “to the point where the extraction of natural resources originates,” albeit with less detail than within the state of Washington.] The same is true for the proposed oil shipping terminal in Vancouver. [Footnote: Energy Facility Site Evaluation Council, *Scope of Draft EIS for Tesoro Savage Terminal* (April 2, 2014) available at <http://www.efsec.wa.gov/Tesoro%20Savage/20140403FinalSepaScope.pdf>.]

Here, however, the DEISs analyze the impacts of rail traffic and rail transportation only along the PS&P line from Centralia to Hoquiam. DEIS at S-4-5. This truncated analysis excludes issues on the BNSF mainline from the drill sites across the state of Washington, through many communities that will be impacted by these projects.

### **Response T8-21**

Draft EIS Chapter 5, *Extended Rail and Vessel Transport*, addresses the potential for impacts from rail transport—1.25 unit train trips per day on average—in the extended study area qualitatively for the reasons described in the Master Response for Geographic Scope of the EIS. Final EIS Chapter 5 reflects additional information characterizing potential risks related to rail transport in the extended study area under existing conditions, the no-action alternative, and the proposed action. Final EIS Chapter 6, *Cumulative Impacts*, reflects additional information about the potential risks under cumulative conditions.

### **Comment T8-22**

#### 5.2 MARINE SCOPE

The scope of review for marine impacts is similarly truncated. The Imperium DEIS at p. S-4 to -5 states that only “[r]esources in and around Grays Harbor that could be affected by vessel transport” are generally analyzed. “Similarly, all vessel trips generated by the proposed action would travel through Grays Harbor along the Grays Harbor Navigation Channel between Terminal 1 and the Pacific Ocean. Therefore, these known corridors are the focus of the impact analysis related to rail and vessel transport.” *Id.* This limited scope of review for marine impacts omits impacts to the Pacific coast and along the route taken by barges and tankers transporting oil.

### **Response T8-22**

Draft EIS Chapter 5, *Extended Rail and Vessel Transport*, addresses the potential for impacts from vessel transport—less than one trip per day on average—in the extended study area qualitatively for the reasons described in the Master Response for Geographic Scope of the EIS. Final EIS Chapter 5 reflects additional information characterizing potential risks related to vessel transport in the extended study area under existing conditions, the no-action alternative, and the proposed action. Final EIS Chapter 6, *Cumulative Impacts*, reflects additional information about the potential risks under cumulative conditions.

### **Comment T8-23**

#### 5.3 CUMULATIVE IMPACTS

SEPA requires consideration of cumulative effects. WAC 197-110060(4)(e); WAC 197-11-330(3)(c) (“Several marginal impacts when considered together may result in a significant adverse impact.”); *White v. Kitsap Cnty.*, SHB No. 09-019 at 17 (2009) (cumulative impacts of a proposed action together with the impacts of pending and future actions should be considered when making a threshold determination). In *Quinault Indian Nation v. Hoquiam*, the SHB overturned MDNSs for these two crude-by-rail facilities explicitly because they failed to consider the cumulative effects of increased rail and marine vessel traffic from each other, and a third crude-by-rail project. *Quinault*, SHB No. 13-012c, Order on Summary Judgment (Dec. 9, 2013) at 18 (“agencies are required to consider the effects of a proposal’s probable impacts combined with the cumulative impacts from other proposals”).

First, addressing cumulative impacts in a separate section (Chapter 6 for both DEISs) is both confusing and at times misleading to the reader. Constant reference to prior discussions requires a back-and-forth between sections. Under SEPA, “environmental impact statements shall be readable reports, which allow the reader to understand the most significant and vital information concerning the proposed action, alternatives, and impacts.” WAC 197-11-425.

Second, for the reasons discussed directly above, the cumulative impacts section fails to address many applicable cumulative impacts because the scope of review is too small. This is especially notable with respect to rail transportation, as none of the cumulative impacts of increased oil and coal unit train rail traffic along the BNSF main line is addressed. There are twelve crude-by-rail projects in Washington and Oregon that are either already built or at some stage of the permitting or construction process that will collectively add an additional twenty-four trains a day to already-congested rail lines. This is in addition to two major coal terminals that would add an additional thirty-six trains per day to the mix. The DEISs must fix this glaring error.

### **Response T8-23**

Refer to the Master Response for Geographic Scope of the EIS for an explanation of why Chapter 5, *Extended Rail and Vessel Transport*, addresses potential impacts from rail and vessel transport in the extended study area qualitatively. Refer to the Master Response for Cumulative Impact Analysis for a description of the scope of the cumulative analysis.

### **Comment T8-24**

Moreover, the DEISs chose a life of project length of 20 years, but did not explain this choice. WAC 197-11-060(4)(c) requires that “[i]mpacts shall include those that are likely to arise or exist over the lifetime of a proposal or, depending on the particular proposal, longer.” 50 years seems a more reasonable lifespan for these major infrastructure projects. The DEIS must be supplemented with an explanation for the chosen review period.

### **Response T8-24**

The Draft EIS analyzes impacts anticipated to occur over the lifetime of the proposed facility. Potential impacts were quantitatively evaluated in 2017—the anticipated first year of operation—and 2037 to account for future growth and development. This approach provides context to decision-makers about how the impacts of operations would evolve over a reasonably foreseeable period. This is particularly relevant for transportation-related impacts that can evolve over time because of unrelated increased growth, increased efficiency, and improved management and

infrastructure planning. This has been clarified in the Final EIS. Refer to the Master Response for Baseline and No-Action Alternative.

## Comment T8-25

### 5.4 FAILURE TO ADDRESS CONSEQUENCES

Throughout the review, the DEISs fail to address the consequences of the risks and dangers discussed, both to the natural environment, to the people living and working in the region, to other users of impacted resources, or to economic concerns. For example, the DEISs dedicate a mere page to superficially acknowledging cumulative impacts to natural resources in the event of an oil spill. They do not address or analyze the recovery time of affected aquatic species (plant or animal), nor do they address or analyze the long-term impacts on natural resources and their respective habitats that are likely in the event of a spill. The Quinault Indian Nation provided extensive information on this, none of which was included or acknowledged.

### Response T8-25

The risk analysis in the study area considers different spill scenarios related to the propose action. As noted in Draft EIS Chapter 4, *Environmental Health and Safety*, a spill could occur at any location. Scenarios are based on assumptions about terminal, rail, and vessel operations (refer to the Master Response for the Risk Assessment Methods) and locations where spills could occur more frequently, based on expert opinion, or could result in a worst-case spill.

Because the potential impacts of an incident would vary based on the material spilled, weather, water flows, location and other factors, Section 4.7, *Impacts on Resources*, describes the types of impacts that could be expected in general terms. Section 4.7 also acknowledges resources that could be adversely affected by an oil spill, fire, or explosion in the study area and has been revised to acknowledge the potential for more lasting impacts as the result of a spill. The geographic response plans, as referenced in Final EIS Chapter 4, Section 4.2, *Applicable Regulations*, provide additional information on sensitive resources that could be affected by a spill at specific locations in the study area. The plans also identify appropriate response strategies. Nonetheless, mitigation would not eliminate the possibility of an incident. Depending on the specific circumstances of an incident, the environmental impacts could be significant.

Draft EIS Chapter 5, *Extended Rail and Vessel Transport*, addresses the potential for impacts from rail and vessel transport in the extended study area qualitatively for the reasons described in the Master Response for Geographic Scope of the EIS. Final EIS Chapter 5 reflects additional information characterizing potential risks related to rail transport in the extended study area under existing conditions, the no-action alternative, and the proposed action. Final EIS Chapter 6, *Cumulative Impacts*, reflects additional information about the potential risks under cumulative conditions.

## Comment T8-26

### 6.0 MITIGATION

Many affected environments sections mention possible impacts that are either not addressed in mitigation measures or not mitigated by suggested mitigation measures and are also not included in significant and unavoidable impacts without explanation. For example, both DEISs mention the possibility of ballast water discharge introducing invasive species, yet the mitigation measure for

this significant threat to the aquatic environment is monitoring. Westway and Imperium DEISs at p. 3.4-16. Monitoring is not mitigation - if monitoring activities found an invasive species that was already introduced it could have devastating effects on fisheries.

## Response T8-26

Potential ballast water impacts on the aquatic environment are addressed in Draft EIS Chapter 3, Section 3.4, *Plants*, and Section 3.5, *Animals*. Existing federal and state regulations address ballast water management. The Washington State ballast discharge regulations (RCW 77.120.040 and WAC 220-150) include reporting, monitoring, and sampling requirements of ballast water; all vessels must submit nonindigenous species ballast water monitoring data. Washington Department of Fish and Wildlife may also board and inspect vessels under WAC 220-150-033 without advance notice to provide technical assistance, assess compliance, and enforce the requirements of Washington State ballast water management program laws and regulations. Penalties and enforcement of not complying with the regulations are covered in WAC 220-150-080. To further minimize the risk of ballast water on vegetation communities and animals, proposed mitigation is included in Sections 3.4 and 3.5 for the applicant to develop and implement a monitoring plan in consultation with Washington Department of Fish and Wildlife prior to the start of proposed operations. Refer to the Master Response for Mitigation Framework for an explanation of how mitigation measures were identified in the EIS.

## Comment T8-27

### 7.0 ADEQUACY OF DEIS ENVIRONMENTAL REVIEW

An EIS must evaluate the likely impacts related to the project. WAC 197-11-060(4). Decision makers must provide a “detailed statement” of environmental impacts. RCW 43.21C.030(2)(c). SEPA requires full disclosure and “detailed” consideration of all affected environmental values. At its heart, SPEA is an “environmental full disclosure law.” *Norway Hill Preservation and Protection Association v. King Cnty. Council*, 87 Wn.2d 267 (1976). The Norway Hill court also highlighted the legislature’s intent that “environmental values be given full consideration in government decision making,” and its decision to implement this policy through the procedural provisions of SEPA which “specify the nature and extent of the information that must be provided, and which require its consideration, before a decision is made.” *Id.* at 277-78.

Environmental reviews under SEPA must identify significant impacts on the natural and built environment. WAC 197-11-440(6)(e). Such reviews must use sufficient information and disclose areas where information is speculative or unknown. WAC 197-11-080(1), (2). Where there is scientific uncertainty, Washington courts have required agencies to disclose responsible opposing views and resolve differences. These requirements feed into the ultimate standard of review for EISs, that, adequacy is based on a rule of reason, *Cheney v. Mountlake Terrace*, 87 Wn.2d 338, 344 (1976), and courts require reasonably thorough information disclosure and discussion, good data and analysis to support conclusions, and sufficient information to make a reasoned decision. *Klickitat County Citizens Against Imported Waste v. Klickitat County*, 122 Wn.2d 619,633 (1993). Sufficiency of the data is also assessed under the “rule of reason,” which requires a “reasonably thorough discussion of the significant aspects of the probable environmental consequences’ of the agency’s decision.” *Weyerhaeuser v. Pierce Cnty.*, 124 Wn.2d 26, 38 (1994) (citations omitted).

In making the similar assessment under NEPA, federal courts require agencies to take a “hard look” at environmental impacts. More specifically, for review of the NEPA claims, the Court must “ensure

that an agency has taken the requisite hard look at the environmental consequences of its proposed action, carefully reviewing the record to ascertain whether the agency decision is founded on a reasoned evaluation of the relevant factors." *Te-Moak Tribe v. Interior*, 608 F.3d 592, 599 (9th Cir. 2010) (quoting *Greenpeace Action v. Franklin*, 14 F.3d 1324, 1332 (9th Cir. 1992) (internal quotation marks and citations omitted)). This review must be "searching and careful." *Ocean Advocates v. U.S. Army Corps of Engineers*, 402 F.3d 846, 858 (9th Cir. 2005). It also is guided by a "rule of reason" that asks "whether an EIS contains a reasonably thorough discussion of the significant aspects of the probable environmental consequences." *Churchill County v. Norton*, 276 F.3d 1060, 1071 (9th Cir. 2001), amended by, 282 F.3d 1055 (9th Cir. 2002).

Washington Courts have employed the "hard look" doctrine directly or in other cases have required full disclosure and consideration of environmental values. See Pub. Util. Dist. No.1 of *Clark Cnty. v. Pollution Control Hearings Bd.*, 137 Wash. App. 150, 158, 151 P.3d 1067, 1070 (2007); *Toward Responsible Dev. v. City of Black Diamond*, 179 Wash. App. 1012 review denied, 180 Wash. 2d 1017, 327 P.3d 54 (2014) (unpublished opinion) ("Courts review an EIS as a whole and examine all of the various components of[the] agency's environmental analysis . . . to determine, on the whole, whether the agency has conducted the required 'hard look.'"); see also *Coalition for a Sustainable 520 v. U.S. Department of Transportation*, 881 F. Supp. 2d 1243, 1259 (W.D. Wash. 2012) (holding implicitly that "hard look" under NEPA sufficient for SEPA review). Where "hard look" is not discussed or employed directly, courts have required a "reasonably thorough discussion" of environmental impacts. See *Toward Responsible Dev. v. City of Black Diamond*, 179 Wash. App. (2014); *PT Air Watchers v. State, Dep't of Ecology*, 179 Wash. 2d 919, 927, 319 P.3d 23, 27 (2014) (citing *Norway Hill*, 87 Wn.2d at 275) (requiring "full disclosure and consideration of environmental values").

As discussed in the sections below, the DEISs fail to provide the necessary hard look and reasonably thorough discussion of environmental impacts throughout their many pages. This is an overarching failure.

## Response T8-27

Responses to specific concerns are addressed in the following Responses to Comments.

## Comment T8-28

### 8.0 TREATY IMPACTS

The Quinault Indian Nation is a signatory to the Treaty of Olympia (1856) in which it reserved a right to take fish at its "usual and accustomed fishing grounds and stations" and the privilege of gathering, among other rights, in exchange for ceding lands it historically roamed freely.

Treaty rights are not granted to tribes, but rather are "grants of rights from them-a reservation of those not granted." *United States v. Winans*, 198 U.S. 371, 380-81 (1905). Treaties take precedence over conflicting state laws by reason of the Supremacy Clause of U.S. Constitution. Art. VI, Sect. 2; *Worcester v. Georgia*, 31 U.S. 515, 531 (1832). Treaties then are the supreme law of the land: "The right to resort to the fishing places in controversy was a part of larger rights possessed by the Indians, upon the existence of which there was not a shadow of impediment, and which were not much less necessary to the existence of the Indians than the atmosphere they breathed." *Winans*, 198 U.S. at 381 (1905) (emphasis added). The treaty-reserved right to take fish at usual and accustomed places is a property right protected by the Fifth Amendment. See, e.g., *Menominee Tribe*

*of Indians v. United States*, 391 U.S. 404, 411 (1968); *Muckleshoot v. Hall*, 698 F. Supp. 1504 (W.D. Wash. 1988).

In a landmark court case known as the “Boldt decision,” a federal court confirmed that Indian tribes have a right to half the harvestable fish in state waters and established the tribes as co-managers of the fisheries resource with the *State of Washington*. *United States v. Washington*, 384 F. Supp. 312 (W.D. Wash. 1974). The Boldt decision affirmed that the Quinault usual and accustomed fishing areas include “Grays Harbor and those streams which empty into Grays Harbor.” *Id.* at 374. In *United States v. Washington*, 873 F. Supp. 1442 (1994), a federal district court concluded that treaty rights include shellfish and that tribes are entitled to 50% of the harvestable shellfish on most Washington State beaches.

The Chehalis and the Humptulips Rivers and the Grays Harbor estuary provide the freshwater and marine habitat that supports chinook, chum, and coho salmon and steelhead of critical importance to the Quinault Nation's Treaty-protected terminal river fisheries within Grays Harbor. Grays Harbor nourishes other species of fish important to the Nation's Treaty protected fisheries such as White Sturgeon and Dungeness crab, an economically vital fishery on the Washington coast.

The Quinault have lived near and depended on Grays Harbor for generations. They have been called the Canoe people because of the importance of the ocean, bays, estuaries, and rivers to every aspect of tribal life. See generally Jacqueline M. Strom, *Land of the Quinault* (1990). Quinault fishers catch salmon, sturgeon, steelhead, halibut, cod, crab, oysters, razor clams, and many other species in Grays Harbor.

Fish and shellfish are a source of social, economic and cultural values. Many tribal fishers derive their entire economic livelihood from fishing and shellfishing. Salmon has particular historic significance as a vital cultural and economic resource of the Quinault people.

Salmon represent a means for employment in fishing, guiding and processing jobs. Often fish are used in trade between tribal members for other foods or goods. Salmon and razor clams are communally served at social and community events, such as ceremonies and funerals. Often, salmon and other fish and shellfish are shared with family members, elders and others in the community that do not, or can no longer, fish. *Resource Dimensions*, Exhibit 3, at 56.

Fishing is also a way to educate younger generations in life lessons, both as a means to pass on traditional knowledge and to perpetuate ceremonial values. There are also spiritual values inherent in fishing, such as thanksgiving for the ability to utilize the resources. Stewardship and protection of natural resources for future generations, including fish and shellfish resources, are central to the Quinault people's identity. This necessarily includes preserving ideal habitats for all species. *Id.*

Quinault weavers have gathered materials from the Grays Harbor area for many generations. Sweetgrass, cattail, and other grasses and willow gathered from the Bowerman Basin are used by the Quinault as a material in the traditional weaving of baskets and mats and for ceremonial purposes. Weaving is as integral to contemporary Quinault culture as it was in the past. Bowerman Basin, located in Grays Harbor to the north of the proposed Westway and Imperium projects, is one of the two major areas remaining in Washington with large sweetgrass populations. Sweetgrass is a key component, and participant, in the highly complex estuarine ecosystem processes. Its loss due to a potential oil spill would significantly harm juvenile salmonid and bird habitats, and estuary function, which would have huge negative implications for the Quinault. *Id.*

## Response T8-28

Draft EIS Chapter 3, Section 3.12, *Tribal Resources*, describes tribal resources in the study area, including resources important to the Quinault Indian Nation and the Confederated Tribes of the Chehalis Reservation. It defines tribal resources as the collective rights and access to traditional areas and times for gathering resources associated with a tribe's sovereignty or formal treaty rights. The information contained in this section was derived from several sources identified in Section 3.12.3.1, *Information Sources*, including communication with the Confederated Tribes of the Chehalis Reservation, Quinault Indian Nation, tribal fishing committees, EarthJustice, and the 2015 economic study on the impacts of oil transport on the Quinault Indian Nation prepared by Resource Dimensions.

Chapter 3, Section 3.12.2, *What laws, regulations, and treaty rights apply to tribal resources?*, describes the laws, regulations, court orders, and treaties that apply to tribal resources, including treaty-reserved fishing rights, in the study area. The treaties and federal court cases referenced in the comment are included in this section and were considered as part of the regulatory framework for the Draft EIS analysis.

Section 3.12.4, *What tribal resources are in the study area?*, describes the Quinault Indian Nation and the Confederated Tribes of the Chehalis Reservation, their historical use of the study area, and current use of resources in the study area including plants or fish used for commercial, subsistence, and ceremonial purposes. This section acknowledges the treaty-reserved fishing, gathering, and hunting rights of the Quinault Indian Nation and the importance of access to traditional fishing and gathering areas to the tribe. As described in the section, Quinault Indian Tribe have treaty-reserved rights for salmon, halibut, lingcod, rockfish sablefish, sardines, and shellfish; a federal ruling in 1994 (*United States v. Washington*, 873 F. Supp. 1422) concluded that the Quinault Indian Nation's treaty-reserved rights extend to shellfish, for which they are entitled 50% harvestable catch on most Washington State beaches. In addition to fisheries, the EIS acknowledges Grays Harbor as a traditional gathering area for the Quinault Indian Nation where sweetgrass, cattail, other grasses, and willow are collected for weaving.

Final EIS Chapter 4, Section 4.7.1.7, *Tribal Resources*, reflects additional information on the potential impacts on tribal resources from an oil spill. Further information on resources, including fish, plants and animals, that could be affected by an oil spill are described in detail in Chapter 3.

## Comment T8-29

### 8.1 IMPACTS ON FEDERALLY-GUARANTEED TREATY FISHING AND GATHERING RIGHTS FROM INCREASED RAIL AND VESSEL TRAFFIC AS WELL AS INCREASED OIL SPILL RISK.

The DEISs for Westway and Imperium both conclude that "increased vessel traffic related to the proposed action in Grays Harbor could increase the potential for conflict with fishing areas and access to fishing areas for the Quinault Indian Nation," Westway DEIS at S-42, and that these impacts were unavoidable and significant. *Id.* (Section 3.12). Yet even this finding of significant and unavoidable impact is too conservative, as the DEIS fails to address protection of Chehalis River and Grays Harbor estuarine habitat, instead addressing only impacts to in-river and mouth-of-river-fishing. Westway DEIS at 3.12.4.3.

## Response T8-29

Draft EIS Chapter 3, Section 3.12.5.2, *Proposed Action*, acknowledges that vessel activity related to routine operation of the proposed action could affect the ability of the Quinault Indian Nation to access tribal fisheries in Grays Harbor and to thereby meet their seasonal quotas. The Draft EIS does not make a determination of significance related to tribal resources or treaty rights. Section 3.12.8, *Would the proposed action have unavoidable and significant adverse impacts on tribal resources?*, states that because factors besides vessel operations affect fishing opportunities, such as the number of fishers, fish distribution, timing, and duration of fish windows, the extent to which vessel operations related to the proposed action would affect tribal fishing is difficult to quantify. However, as stated in the section, no mitigation measures would completely eliminate the possibility of impacts on fishing resources resulting from vessel operations related to the proposed action.

Draft EIS Section 3.12.4.5, *Grays Harbor*, describes the fisheries within the Grays Harbor estuary, and Section 3.12.5.2 describes the potential impacts from construction and routine operation of the proposed action on tribal fisheries, including within the Grays Harbor estuary. The section acknowledges the potential for small spills to have an impact on water quality and aquatic habitat in Grays Harbor and along the Chehalis River. Additional discussion on the impacts on Grays Harbor estuary habitat and the Chehalis River is provided in Section 3.3, *Water*, and Section 3.4, *Plants*. As noted in these sections, construction and operation activities would be required to comply with water quality pollution controls and other regulations and therefore would not be expected to result in any unavoidable and significant adverse impacts on Grays Harbor.

Impacts associated with oil spills, preventative measures and mitigation are described in Chapter 4, *Environmental Health and Safety*.

## Comment T8-30

Statements throughout the DEIS support the conclusion that increased traffic caused by the expansion will disrupt tribal fishing. See Westway DEIS at 3.17.5.2: “one of the prime commercial fishing areas is located in the navigation channel east of the Hoquiam River. Access to this area would be restricted during vessel loading and tank vessel transits”; at 3.17.43 “There can be as many as 400 or more commercial, tribal and recreational vessels in the harbor during peak fishing times . . .”; at 3.17.43 “All vessels fishing in the navigation channel may have to move gillnets out of the way or risk damage or loss”; at 3.17.43 “The marina [Westport Marina] is known as Washington State’s fish landing port . . .”.

The DEISs inappropriately minimize these impacts by assuming fishers can adjust their fishing efforts to other areas in Grays Harbor and the Chehalis River. This assumption discounts the explanations of treaty fishing in the Chehalis that were provided to the Department of Ecology by letter from the Quinault Indian Nation on May 20, 2015, explaining the unique fishing techniques employed by Chehalis fishers. It appears this information was ignored.

As explained, Quinault fishers utilize gillnet fishing techniques to harvest the salmon and white sturgeon resources in the Chehalis Basin. Sizes of gillnets within Quinault-managed fisheries can range from a length of 10 to 1,200 feet and carry depths from 2 to 75 feet. The depths of different nets can be specific to the depth and condition of the fishing area for which the net is intended. Different stretches of river channel have different depths and underwater obstructions resting on the river bottom (i.e. rocks, stumps, trees, etc.) that can damage nets. Therefore, some nets are only designed and built for specific areas and cannot be fished in other locations. Fishers cannot simply

move their nets to avoid interference with oil vessels because the nets would not be suited to other locations.

### **Response T8-30**

The Draft EIS does not make a determination of significance or nonsignificance related to tribal resources or treaty rights. Final EIS Chapter 3, Section 3.12.4.4, *Grays Harbor*, has been revised to clarify differences in net design and size. Section 3.12.5.2, *Proposed Action, Operation, Vessel*, has been revised to explain that tribal fishers would need to retrieve gear and either wait for the vessel to transit the area or delay deploying gear until the vessel has transited the area. This section was also revised to clarify that the amount of time to retrieve a net is variable depending on the amount of fish and debris in the net.

### **Comment T8-31**

Similarly, the DEISs fail to address or analyze impacts to fishers who retrieve nets and gear to avoid interference with vessels. As explained in the Quinault Indian Nation's letter to the Department of Ecology dated May 20, 2015, a 600-foot drift-net that does not carry any fish or debris can be retrieved from the water in less than 5 minutes - at the quickest. In contrast, upwards of 300 salmon can be caught in an average length drift-net at any one time - with hydraulic machinery, instances like these can take upwards of two hours to clear fish and completely retrieve the net from the water. Retrieval times can easily double when fishers are pulling nets by hand. The active fishing vessel operator's abilities to respond to unanticipated conditions or unanticipated commercial vessel movements is extremely limited compared to other vessels operating in Grays Harbor, even given the aforementioned careful attention a vessel operator takes while fishing. Although Quinault drift fishers retrieve their deployed nets from the water as expeditiously as possible in order to avoid any accidents or damage to fishing gear, a lost fishing opportunity inevitably occurs.

The DEISs make the erroneous assumption that Quinault fishers all come from the Reservation to fish in Grays Harbor and the Chehalis and will therefore not be delayed by train crossings. As explained in the Quinault Indian Nation's letter to the Department of Ecology of May 20, 2015, the fleet of Quinault vessels that fish the Chehalis, Areas 2A, 2A-1 and 2D either access the area from the Quinault moorage location near the QMart in the Lower Wishkah River just north of the highway and railway bridges entering Aberdeen, or from various boat ramps located along the Grays Harbor fishing areas that can handle the various sizes of vessels utilized. Authorized buying agents will purchase and transfer fish at boat launches including the 28th Street boat launch located in Hoquiam, the Pakonen boat launch located across from the mouth of the Wishkah River, the Cosi Boat Launch located in Cosmopolis or the boat launch at Friends Landing near Montesano. During the peak salmon run entry periods, Quinault fishers can make anywhere from two to six trips in a 24-hour period to land catches.

### **Response T8-31**

Draft EIS Chapter 3, Section 3.12.5.2, *Proposed Action, Operations, Rail*, addresses impacts of rail traffic on access by tribal members to the Quinault fishing sites. Except for the Friends Landing launch, all other launches referenced by the commenter can be accessed by multiple roadways or do not require crossing the rail line. Final EIS Section 3.12, *Tribal Resources*, has been revised to add Friends Landing launch to the list of sites that require use of a PS&P rail line grade crossing. As discussed in Draft EIS Section 3.16, *Vehicle Traffic and Safety*, for the majority of the rail line,

including the rail crossing to Friends Landing launch, the increase in blockages would not result in a substantial decline in the level of service. Although the potential for individual tribal member to encounter a train at any PS&P rail line grade crossing would increase to four times per day on average, compared to three times per day under the no-action alternative, the likelihood and duration of an individual experiencing a delay would be similar to the no-action alternative.

## Comment T8-32

Further, such delays could interrupt and impede any individual or firm conducting business activity proximate to the proposed train route. For example, Treaty commercial fishers needing to access their fishing areas, or bring their catch to a processor, may be prevented from fishing or from being able to sell their catch prior to spoilage. Quinault's natural resources enforcement staff could be adversely affected if the 28th Street boat launch is blocked by rail or rail-related traffic. Resource Dimensions, Exh. 3 at 8. A derailment could potentially delay fishers from reaching their fishing areas, and with no net in the water no revenue is generated. This could cause fishers to miss the most productive fishing times (slack tides, per interviewees). Additionally, in terms of transporting catch for sale, delays at crossings would increase the time the catch is remaining exposed to the elements in crates, potentially affecting whether the catch is purchased by the processor, and the value of the catch. Id. at 102.

The importance of river and marine habitat for fish and wildlife is discussed further in the Fish and Wildlife section of these comments below, as well as in the Direct Testimony of James E. Jorgensen, Exh. 5, and Testimony of Ervin Joseph Schumacker, Exh. 6, both submitted in prior proceedings about these projects before the Shorelines Hearings Board. Additionally, the Resource Dimensions report at Exhibit 3 goes into great depth about the importance of fish and shellfish to Quinault fishers-economically, culturally, and spiritually. Treaty resources, including fish and plants, supported by the Pacific Ocean, the Pacific coast, Grays Harbor, and its rivers and tributaries are inextricable from the Quinault people's traditional and modern ways of life. The social, cultural and economic values provided by Treaty resources have been cherished and handed-down through the generations. Today, the importance of these resources, and their guarantee by Treaty, remains of utmost importance to the Quinault people, as "The Quinault people are acutely aware of these special gifts and thank the Creator for his offerings," (James and Chubby, 2002). Resource Dimensions, Exh. 3 at 55.

## Response T8-32

Final EIS Chapter 4, Section 4.7.1.7, *Tribal Resources*, clarifies potential impacts on tribal resources in the event of an incident related to the proposed action, including exclusion of tribal members from gathering traditional plant material or fishing traditional areas during the incident response, the consumption of contaminated shellfish and fish following an oil spill, and extended fishery closures or restrictions to protect tribal members and the general public (i.e., fish sold to the public) from consumption of contaminated shellfish and fish.

## Comment T8-33

The proposed mitigation measures (Imperium DEIS at 3.12.7.1) are wholly inadequate, as they simply call for coordination and possible adjustment of schedules to minimize conflict with fishing schedules. These proposed mitigation measures ignore the legal supremacy of treaty rights or the practical implications to limiting treaty harvest and impacting treaty rights. Even the DEISs

acknowledge that “[n]o mitigation measures would completely eliminate the possibility of impacts to fishing resources because of vessel operations related to the proposed action.” Imperium DEIS at 3.12.8.

### **Response T8-33**

Comment acknowledged.

### **Comment T8-34**

#### 8.2 IMPACTS ON HISTORIC AND CULTURAL RESOURCES ONSITE AND ALONG RAIL LINE.

As succinctly explained by the Washington Department of Archaeology and Historic Preservation in its DEIS comment letter dated September 3, 2015, its experts “disagree with your consultant’s assertion that these deposits have a low probability to hold significant archaeological materials.” The Quinault Indian Nation submitted several references to support the high likelihood that Grays Harbor is a site containing archeological and/or cultural resources. See, letter to Department of Ecology from Quinault Indian Nation, May 20, 2015, and Exhibits G through P attached thereto.

### **Response T8-34**

The Draft EIS acknowledges that the shores of Grays Harbor were important habitation and resource gathering areas, with habitations and fishing facilities being the most likely to leave a robust archaeological trace. Appendix J, *Cultural Resources Technical Report*, reports that the potential for encountering archaeological sites is based on the depth of proposed action-related ground-disturbing activities that would result in the excavation of sediments relative to the depth of anthropogenic fill.

As indicated in Appendix J, although buried intertidal sediments are present at the project site, only one of the proposed action-related ground-disturbing activities would extend below the depth of anthropogenic fill—the driving of piles—and this activity would not result in the excavation of sediments and has associated access-related limitations. The conclusion is based on subsurface information obtained at the REG (formerly Imperium Terminal Services) site via both geoarchaeological cores and mechanically excavated trenches and at the project site via geoarchaeological cores.

In recognition of the limitations associated with exclusively using geoarchaeological cores at the project site, Chapter 3, Section 3.11.7.1, *Applicant Mitigation*, identifies a measure for monitoring of ground-disturbing activities that extend to depths greater than 15 feet below the current ground surface by a qualified professional archaeologist. This depth was selected because it is the point at which the interface between anthropogenic fill and intertidal sediments becomes ambiguous. However, except for pile driving, which would not result in the excavation of sediments and therefore monitoring would be of little benefit, ground-disturbing activities for the proposed action are not anticipated to extend to this depth. Based on this information, Appendix J states that the proposed action has limited potential for encountering as-yet undocumented archaeological sites.

### **Comment T8-35**

#### 8.3 IMPACTS TO TRIBAL RESOURCES

By signing the Treaty of Olympia, the Quinault Indian Nation reserved not only fishing and gathering rights, but also the right to hunt on open and unclaimed lands. While the proposed DEISs address the tribal resource of fisheries there is no mention of treaty hunting rights or analysis of impacts on tribal treaty hunting rights. Building or increasing the use of rails can hinder the movement of wildlife, particularly deer and elk. The increase of rail traffic from the proposed projects will cause stress and contribute to increased mortality rates in wildlife populations. Decreased wildlife movement will result in lower immigration rates that will lead to more habitat fragmentation and result in lower wildlife populations. The proposed rail line was not analyzed for impacts to wildlife connectivity, a critical element to supporting tribal treaty hunting rights. While the most popular species Quinault members rely on to provide food for tribal families are deer and elk, migratory waterfowl also play an important sustenance and cultural role.

### **Response T8-35**

Final EIS Chapter 3, Section 3.12.4.3, *PS&P Rail Line*, has been revised to acknowledge the importance of wildlife and particularly deer, elk, and waterfowl to tribal treaty hunting. Section 3.12.5.2 *Proposed Action*, has been expanded to include the following conclusions with respect to wildlife impacts from increase traffic along the PS&P rail line. Wildlife connectivity along the rail line is already affected under existing conditions. Moreover, the rail line travels adjacent to developed areas and along and immediately adjacent to US 12 and Monte Elma Road for significant distances in the study area, and in some areas between these two transportation corridors. These developed areas and other transportation corridors contribute to the already compromised wildlife connectivity and fragmentation in the study area.

Given baseline conditions, increased rail traffic (1.25 unit train trip per day) under the proposed action would not have a significant impact on wildlife connectivity and fragmentation.

### **Comment T8-36**

The DEISs fail to mention that treaty fishing and gathering access would be limited during clean-up of damaged infrastructure in the event of a spill, explosion or fire, which could persist for a significant period of time.

The DEISs fail to mention or address the spiritual and cultural importance of the treaty rights and resources to the Quinault, or address the impacts to those values in the event of interference in use or destruction of those resources due to an oil spill.

### **Response T8-36**

Final EIS Chapter 4, Section 4.7.1.7, *Oil Spills, Fires, and Explosions*, reflects revisions to address impacts on the tribal resources specific to their cultural, economic and subsistence significance. The revisions address impacts on treaty-reserved access to these resources and potential impacts of an oil spill, fire, or explosion to Quinault fishing seasons and harvest. The revisions acknowledge that such an event could result in immediate exclusion of fishers from the area and potential long-term closure of fisheries—to remove spilled oil and ensure seafood safety—potentially causing lasting impacts on the survival of shellfish and fish, affecting number available for future harvest. Moreover, the revisions acknowledge the impact of a spill, fire, or explosion on the immediate and potential long-term access to accustomed areas for the gathering of plant material and hunting of waterfowl.

## Comment T8-37

Additionally:

Inconsistencies in the tribal resources section make it difficult to assess the accuracy of impacts. Specifically, the number of new vessels is discussed with inconsistent language. The fourth paragraph of Imperium's DEIS at p. 3.12-19 states, "Vessels related to the proposed action would transit this portion of the navigation channel eight times per week on average; for comparison, large commercial vessels would transit this portion of the channel approximately eight times per week on average under the no-action alternative." There is no stated difference in number of vessels transiting the channel between the proposed action and the no action alternative.

Imperium DEIS p. 3.12-19 (and elsewhere throughout the document) states "Operation of the proposed action at maximum throughput would result in a maximum 400 tank vessel trips per year through Grays Harbor, compared to 436 large commercial vessel trips per year projected under the no-action alternative." The accompanying footnote states "Proposed vessel trips are total for the facility so are not in addition to trips attributable to the applicant under the no-action alternative (approximately 14 per year)." The footnote suggests that the no-action alternative would have 14 vessel trips per year instead of the 436 implied in the paragraph above.

If the main text is accurate, it states that the proposed action would have 400 vessel trips and the no action alternative would have 436 vessel trips; there would be fewer vessel trips under the proposed action. This is disputed by the following sentence, however, which states "This increase in vessel trips related to the proposed action could have an impact on tribal resources ..." (Imperium DEIS at p. 3.12-19).

Imperium DEIS at p. 3.1-22 restates the same information slightly differently: "Operation of the proposed action at maximum throughput would add 400 tank vessel trips through the harbor per year to the 436 large commercial vessel trips under the no-action alternative." This language suggests a total of 836 trips.

## Response T8-37

The comment is specific to the REG (formerly Imperium Terminal Services) Expansion Project Draft EIS and would be addressed in the responses to comments as part of the Final EIS for that project. With regard to the proposed action, operation at maximum throughput would result in an additional 238 tank vessel trips per year through Grays Harbor, compared to 436 large commercial vessel trips per year projected under the no-action alternative. Refer to Draft EIS Chapter 3, Section 3.17, *Vessel Traffic*.

## Comment T8-38

The DEISs incorrectly assume that construction of the proposed action would have no impact on tribal resources (Imperium DEIS at p. 3.12-16, Westway DEIS at p. 3.12-17). The assumption is predicated on successful mitigation measures for noise impacts caused by impact pile drivers. The mitigation measure states "If the accumulated sound exposure level is exceeded at the closest distance, monitoring will be moved to a distance of 210 feet from the pile driving. If on any given day the accumulated sound exposure level threshold is exceeded at that distance, pile driving for that day will be stopped and continued the next day." This statement implies that 210 feet is not the closest distance (because initial monitoring was conducted at the closest distance). So impact pile driving will only cease if accumulated sound exposure levels are exceeded at some farther distance.

Therefore, accumulated sound exposure at the closest distance could continue unmitigated. Imperium DEIS at p. 3.5-20 states “Exposure to high levels of underwater noise can cause changes in behavior [to fish] and result in possible injury (Popper et al. 2006; Popper and Hastings 2009a, 2009b).” Any injury to fish would impact tribal resources. The mitigation measure is also contradicted by the statement that impact pile driving would last 2-3 months (Imperium DEIS at p. 2-15 and Westway DEIS at p. 2-11).

### **Response T8-38**

Draft EIS Chapter 3, Section 3.5.5.2, *Proposed Action, Construction, Noise*, addresses potential impacts on aquatic species from underwater noise and pressure generated during pile driving (both impact hammer and vibratory) at the project site. The closest water body, the Chehalis River, is located approximately 235 feet away from the nearest pile. Underwater noise from terrestrial pile driving (there would be no in-water pile driving) would not exceed the established peak and accumulative noise thresholds for potential to harm fish at this distance. Therefore, there would be no impact on tribal resources related fish impacts from pile driving. Final EIS Section 3.5.5.2 has been revised to clarify that the conclusion of no impact is specific to pile driving. The remainder of the comment related to mitigation is applicable only to the REG (formerly Imperium Terminal Services) project and would be addressed in responses to comments as part of the Final EIS for that proposed action.

### **Comment T8-39**

The DEISs underestimate interactions between tribal fishers and vessels. Imperium DEIS at p. 3.12-16 and Westway DEIS at p. 3.12-18 state “Depending on the specific circumstances of each interaction (e.g., chance of a vessel calling during an open fishing window, distribution of the fish, number of fishers on any given day), it is difficult to predict whether increased occupancy at Terminal 1 would significantly affect the tribe’s ability to meet the treaty allocation under their current practices. If a vessel is at berth during the fall fishery, Quinault fishers have the option to fish longer (complete more drifts) or may choose to fish other preferred locations in Grays Harbor (such as other portions of the navigation channel, farther away from the shoreline or farther upstream). However, opportunities to relocate during intense fishing periods may be limited if the other areas are occupied by fishers. Implementation of the mitigation described in Section 3.12.7.2, *Applicant Mitigation*, would reduce the potential impacts on treaty tribal fishing.”

The Quinault Indian Nation disagrees that this paragraph does not indicate significant impacts to treaty resources.

### **Response T8-39**

Final EIS Chapter 3, Section 3.12.4, *What tribal resources are in the study area?* reflects clarification related to the differences in net design and size and to explain that, because fishing gear design is customized to the fishing location, tribal fishers could not simply relocate to other fishing areas and deploy the same gear. Final EIS Chapter 3, Section 3.12.5.2, *Proposed Action*, reflects clarification related to the potential of transiting and docked vessels to affect the tribe’s ability to access treaty resources. Implementation of the mitigation proposed in Section 3.12.7.2, *Applicant Mitigation*, could reduce the potential impacts on treaty tribal fishing, but would not completely eliminate the potential for impacts on tribal resources.

## Comment T8-40

Logical errors in preceding paragraphs contribute to these conclusions. For example, Imperium DEIS at p. 3.12-17 states that Terminal 1 would be occupied up to 200 days per year. This assumes that all 400 vessel calls (Imperium DEIS at p. 2-13) *[Footnote: see discussion of vessel call inconsistencies on pg. 22]* will be tank barges that have a 24-hour occupancy period. Some of the vessel calls would be by Panamax class vessels, which have a 48-hour occupancy period. It is possible that Terminal 1 would be occupied by more than 200 days per year *[Footnote: Footnote 12 on pg. 2-13 indicates that 100% tank barges were assumed because with less capacity than Panamax tankers, more trips would be required. It is unclear what the balance is between vessel size, occupancy, and number of trips]*, which means that there would be a vessel at the terminal more than 4 days per week.

## Response T8-40

This comment is specific to the REG (formerly Imperium Terminal Services) Expansion Project EIS and would be addressed in responses to comments in the Final EIS for that project. Draft EIS Chapter 3, Section 3.17, *Vessel Traffic*, describes Terminal 1 berth occupancy related to the proposed action. Based on capacities of the vessels considered in the analysis, 100% tank barges results in the highest level of berth occupancy. At maximum throughput, vessels related to the proposed action would occupy the berth a maximum of 119 days. Added to no-action vessels, the berth would be occupied an estimated 177 days, well below the 328 days of estimated berth availability.

## Comment T8-41

Analysis of impacts is based on evenly spaced vessel calls throughout each week and year. There is no evidence that vessel calls would be evenly spaced, and impacts could be substantially higher if Terminal 1 is occupied every day. For the last two years, U.S. crude oil supply was highest in October. *[Footnote: U.S. Energy Information Administration. 2015. U.S. Product Supplied of Crude Oil and Petroleum Products. Accessed September 1, 2015. Available at <http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MTTUPUS1&f=M.>]* This indicates that the highest levels of crude oil supply, and therefore oil transport, may coincide with peak salmon fishing seasons (Imperium and Westway DEIS p. 3.12-10).

## Response T8-41

As noted in the comment, the type of vessel and distribution of project vessel activity cannot be predicted due to the variability of market conditions. The mean values presented in the Draft EIS analysis provide a reasonable estimate of daily vessel activity considering that the vessels would call at a single dock and be restricted to a single channel. The nationwide data for crude oil and petroleum production referenced in the comment cannot be directly compared to the distribution of tank vessel activity related to the proposed action.

## Comment T8-42

Imperium DEIS at p. 3.12-16 to 3 p. 12-17 and Westway DEIS at p. 3.12-18 state that a docked vessel would occupy 20 to 25% of the navigation channel. Again, this assumes the width of a tank barge. A Panamax tanker is 28ft. wider and would occupy more of the channel.

## Response T8-42

The percent range of channel width occupied by vessels at berth at Terminal 1 under the proposed action, presented in Draft EIS Chapter 3, Section 3.12, *Tribal Resources*, is based on maximum widths of a typical 550-class tank barge (78 feet) and a Panamax class tanker (approximately 106 feet).

## Comment T8-43

### 8.4 POTENTIAL SIGNIFICANT ADVERSE IMPACTS TO TRIBAL RESOURCES CANNOT BE MITIGATED.

Even with the above errors and omissions, the DEISs find significant impacts to tribal treaty resources that cannot be mitigated. Westway DEIS at S-42 (“Increased vessel traffic related to the proposed action in Grays Harbor could increase the potential for conflict with fishing areas for the Quinault Indian Nation compared to the no-action alternative.”); *id.* at S-61 (same for cumulative impact analysis). Ecology and Hoquiam should use these findings to deny the requested permits.

## Response T8-43

Comment acknowledged.

## Comment T8-44

### 9.0 RAIL TRANSPORTATION

Crude oil is a hazardous material as defined by the U.S. Department of Transportation [Footnote: 49 C.F.R. § 172.101. Hazardous materials are materials that have been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce. See 49 C.F.R. § 171.8], and crude has certain properties that make it uniquely dangerous. First, it is a liquid, meaning that it can migrate away from the site of an accident or other release and travel into communities, down waterways, or into groundwater. Crude oil is also generally less flammable than other hazardous liquids (like ethanol and gasoline), meaning that it is more likely to migrate some distance before reaching an ignition source and catching fire. [Footnote: See Exh. 8, BP West Coast Products LLC, “Material Safety Data Sheet – Crude Oil,” May 13, 2002. (flash point of 20° – 90° F)].

## Response T8-44

The analysis of impacts in the Draft EIS considers the crude oils identified under the proposed action: Bakken crude oil and diluted bitumen. Final EIS Chapter 4, Section 4.3, *Risk Considerations*, reflects updated information about the chemical properties of these two types of crude oils. For additional information about the most likely sources of crude oil, refer to the Master Response for Crude Oil Extraction, Transport, and Combustion. For additional information about how different types of oil were considered in the oil spill modeling presented in Draft EIS Chapter 4, *Environmental Health and Safety*, and Appendix N, *Oil Spill Modeling*, refer to the Master Response for Oil Spill Modeling Methods.

## Comment T8-45

Second, unlike other liquids transported by rail, unrefined crude oil contains a wide range of contaminants, including sulfur and arsenic; toxic metals like mercury, nickel, and vanadium; and organic compounds like phenols, ketones, and carboxylic acids. [Footnote: See Exh. 9, EPA,

*“Screening-Level Hazard Characterization, Crude Oil Category,” Mar. 2011.] Hydraulic fracturing, or “fracking” contributes an additional suite of contaminants, including hydrochloric acid and in some cases hydrogen sulfide. [Footnote: Exh. 10, Abrams, L., “Fracking chemicals may be making oil more dangerous,” Aug. 13, 2013.] Indeed, the Federal Railroad Administration has observed “an increasing number of incidents involving damage to tank cars in crude oil service in the form of severe corrosion of the internal surface of the tank, manway covers, and valves and fittings,” and suggested that this involves contaminated oil. [Footnote: See Exh. 11, Herrmann, T., FRA, Letter to Jack Gerard, American Petroleum Institute, July 29, 2013 at 4.]*

## Response T8-45

The analysis of impacts in the Draft EIS considers the crude oils identified under the proposed action: Bakken crude oil and diluted bitumen. Final EIS Chapter 4, Section 4.3, *Risk Considerations*, reflects updated information about the chemical properties of these two types of crude oils. For additional information about the most likely sources of crude oil, refer to the Master Response for Crude Oil Extraction, Transport, and Combustion. For additional information about how different types of oil were considered in the oil spill modeling presented in Draft EIS Chapter 4, *Environmental Health and Safety*, and Appendix N, *Oil Spill Modeling*, refer to the Master Response for Oil Spill Modeling Methods.

## Comment T8-46

Domestic crude oil production has been undergoing a major boom in recent years, chiefly because of the increase in fracking, and primarily around the Bakken formation in and around North Dakota. U.S. Energy Information Administration (“EIA”) Administrator Adam Sieminski testified in 2013 that:

Domestic oil production in the United States has increased significantly, and at 7.4 million barrels per day as of April 2013 is now at the highest level since October 1992. Over the five year period through calendar year 2012, domestic oil production increased by 1.5 million barrels per day, or 30%. Most of that growth occurred over the past 3 years. Lower 48 onshore production (total U.S. Lower 48 production minus production from the federal Gulf of Mexico and federal Pacific) rose more than 2 million barrels per day (bbl/d), or 64%, between February 2010 and February 2013, primarily because of a rise in productivity from oil-bearing, low-permeability rocks. [Footnote: Exh. 12, *Hearings Before the Committee on Energy and Natural Resources, U. S. Senate, July 16, 2013 (Statement of EIA Administrator Sieminski at 2).*]

This dramatic increase in production has caused a corresponding boom in crude-by-rail. In May 2013, the Association of American Railroads (“AAR”) profiled how crude production and crude-by-rail are undergoing twin booms:

Historically, most crude oil has been transported via pipelines. However, in places like North Dakota that have seen huge recent increases in crude oil production, the existing crude oil pipeline network lacks the capacity to handle the higher volumes being produced. Pipelines also lack the operational flexibility and geographic reach to serve many potential markets. Railroads, though, have capacity, flexibility, and reach to fill the gap.

Small amounts of crude oil have long been transported by rail, but since 2009 the increase in rail crude oil movements has been enormous. As recently as 2008, U.S. Class I railroads (including the U.S. Class I subsidiaries of Canadian railroads) originated just 9,500 carloads of crude oil. By 2011, carloads originated were up to nearly 66,000, and in 2012 they surged to nearly 234,000. . . In the first quarter of 2013, Class I railroads originated a record 97,135 carloads of crude oil,

20 percent higher than the 81,122 carloads originated in the fourth quarter of 2012 and 166 percent higher than the 36,544 carloads originated in the first quarter of 2012.

Crude oil accounted for 0.8 percent of total Class I carload originations for all of 2012, 1.1 percent in the fourth quarter of 2012, and 1.4 percent in the first quarter of 2013. It was just 0.03 percent in 2008.

Assuming for simplicity, that each rail tank car holds about 30,000 gallons (714 barrels) of crude oil, the 97,135 carloads originated in the first quarter of 2013 equal approximately 762,000 barrels per day moving by rail. As a point of reference, according to EIA data, total U.S. domestic crude oil production was approximately 7.1 million barrels per day, so the rail share is around 11 percent—up from a negligible percentage a few years ago. [Footnote: *Exh. 13, Association of American Railroads, "Moving Crude Petroleum by Rail," May 2013, at 3-5.*]

As also noted by AAR, "[t]he Bakken region has accounted for the vast majority of rail crude oil originations in recent years." [Footnote: *Exh. 14, Association of American Railroads, "U.S. Rail Crude Oil Traffic," June 2015, available at <https://www.aar.org/BackgroundPapers/US%20Rail%20Crude%20Oil%20Traffic.pdf>.*] According to the North Dakota Pipeline Authority, around 700,000 barrels of crude oil per day were moving out of the area by rail in early 2015, down from a peak of around 800,000 barrels per day in late 2014. [Footnote: *Footnote 17: See North Dakota Pipeline Authority [http://northdakotapipelines.com/directors-cut/Monthly Updates for April 2013-August 2015](http://northdakotapipelines.com/directors-cut/Monthly%20Updates%20for%20April%202013-August%202015); *Exh. 15, "How oil is transported from North Dakota's Williston Basin," THE GLOBE AND MAIL, Dec. 2, 2013.*] From 2008 to 2014 there has been an increase of nearly 5,100 percent in U.S. Class railroads carrying crude oil (see Figure 1). [Footnote: *Exh. 14, Association of American Railroads, "U.S. Rail Crude Oil Traffic," June 2015, available at <https://www.aar.org/BackgroundPapers/US%20Rail%20Crude%20Oil%20Traffic.pdf>.*] As shown in the data from AAR [Footnote: *See Exh. 16, Association of American Railroads, "AAR Reports Record Second Quarter Crude-by-Rail Data; Decreased Weekly Rail Traffic," Aug. 29, 2013; Exh. 17, "AAR Reports October and Weekly Rail Traffic Gains, 3Q Crude Oil Up Year Over Year," Nov. 7, 2013*], crude-by-rail volumes increased rapidly from 2009 into the second quarter of 2013, then dipped for several months as a result of crude pricing that encouraged a shift to pipeline transport. Later in 2013, pricing was again favorable for rail and crude production continues to increase, such that crude-by-rail volumes rebounded. [Footnote: *Fielden, Sandy, RBN Energy, "On the Rails Again? – Bakken Crude Rail Shipments Return to April Highs," <http://www.rbnenergy.com/on-the-rails-again-bakken-crude-rail-shipments-return-to-april-highs>, Oct. 30, 2013.*] Crude-by-rail volumes experienced another dip around April of 2014, but once more volumes climbed. [Footnote: *See Association of American Railroads, "AAR Reports 2014 First Quarter Crude Oil Carloads, Increased Traffic for May and for the week," June 5, 2014, <https://www.aar.org/newsandevents/Press-Releases/Pages/2014-06-05-railtraffic.aspx>.*] Since January 2015, crude-by-rail from Bakken has seen a decrease, however experts do not expect this trend to continue and total levels remain high. [Footnote: *See Brian Nearing, "Oil train decline in Albany not permanent, energy consultant says," TIMES UNION (October 16, 2015), available at <http://www.timesunion.com/business/article/Oil-train-decline-in-Albany-not-permanent-energy-6573033.php>; Exh. 18 North Dakota Pipeline Authority, *Monthly Update – August 2015*, available at <https://ndpipelines.files.wordpress.com/2012/04/ndpa-monthly-update-october-13-2015.pdf>.*]*

[Figure 1: Railroads Moving More Crude Oil; reviewed but not reproduced.] [Footnote: *Association of American Railroads, Railroads Moving More Crude Oil, <https://www.aar.org/Pages/Crude-Oil-Rail-Traffic.aspx>.*]

Unit trains are long freight trains composed of at least fifty and sometimes 100 or more cars used to transport single bulk products between two points. Unit trains are unloaded on arrival and returned for another load. Unit trains cut costs (and save time) by eliminating the need for intermediate yarding and switching between origin and destination. These cost savings, combined with the boom in mid-continent production of crude oil have driven a corresponding boom in the construction of rail terminals designed to handle unit trains. According to one industry analysis:

The number of rail terminals in producing regions loading crude oil onto rail tank cars has increased from a handful at the end of 2011 to 88 and growing today. A further 66 crude oil unloading terminals have been built or are under construction. *[Footnote: Fielden, Sandy, RBN Energy, "Crude Loves Rock'n Rail," <http://www.rbnenergy.com/154-terminals-operating-bnsf-the-dominant-railroad>, May 12, 2013; see also U.S. Energy Information Administration, "Crude by rail accounts for more than half of East Coast refinery supply in February" (May 5, 2015), available at <http://www.eia.gov/todayinenergy/detail.cfm?id=21092>; U.S. Energy Information Administration, "Crude-by-rail transportation provides Bakken Shale production access to major markets" (June 10, 2015), available at <http://www.eia.gov/todayinenergy/detail.cfm?id=16631>.]*

### Response T8-46

Comment acknowledged.

### Comment T8-47

Predictably, the rise in crude transportation by rail has resulted in soaring numbers of crude oil releases to the environment in the form of both accidents and "non-accident" releases such as leaks. The growing number of reported "incidents" involving crude oil transportation by rail are listed in Table 1. From 1975 to 2012, federal records show, railroads spilled 800,000 gallons of crude oil. *[Footnote: Clifford Krauss and Jad Mouawad, "Accidents Surge as Oil Industry Takes the Train," THE NEW YORK TIMES (Jan. 25, 2015), available at [http://www.nytimes.com/2014/01/26/business/energy-environment/accidents-surge-as-oil-industry-takes-the-train.html?\\_r=0](http://www.nytimes.com/2014/01/26/business/energy-environment/accidents-surge-as-oil-industry-takes-the-train.html?_r=0).]* An approximate total of 1.5 million gallons of crude oil was released during only 2009-2015, the result from the 426 incidents that have been reported to the Pipeline and Hazardous Materials Safety Administration ("PHMSA"). *[Footnote: Data derived from PHMSA incident reports, <http://www.phmsa.dot.gov/hazmat/library/datastats/incidents>. This data is largely self reported by the railroads and likely underestimates the numbers and magnitude of incidents.]* PHMSA records nearly \$47 million in damages resulting from these incidents. *[Footnote: Id.]* These incidents do not include the incidents that have occurred across the border in Canada, such as the catastrophic Lac-Mégantic derailment.

**Table 1** *[Footnote: Id.]*

<b>Year</b>	<b>Crude-by-Rail Incidents</b>
2009	1
2010	9
2011	34
2012	88
2013	119
2014	144

2015 (January-June)	31
<b>TOTAL</b>	<b>426</b>

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Because Bakken crude is unusually flammable, the consequences of spills are particularly severe. On July 6, 2013, in Lac-Megantic, Canada, a train carrying Bakken crude oil derailed and exploded, killing forty-seven people and destroying fifteen acres in the center of the town. [Footnote: *Transportation Safety Board of Canada, "Railway Investigation R13D0054,"* <http://www.bsttsb.gc.ca/eng/enquetes-investigations/rail/2013/R13D0054/R13D0054.asp#sal>, Sept. 11, 2013.] On October 19, 2013, in Edmonton, Canada, a fireball erupted as a Bakken train derailed, burning several homes to the ground. On November 8, 2013, twenty cars of a Bakken unit train derailed in Alabama, burning and sending a fireball 300 feet into the air, also polluting wetlands and a river. On December 30, 2013, a mushroom-shaped fireball erupted in Casselton, North Dakota, followed by heavy plumes of toxic smoke, when twenty-one cars of a Bakken unit train derailed and burned. The town was evacuated, and evacuation was urged for everyone in a five-mile radius. On January 7, 2014, in Plaster Rock, New Brunswick, Canada, 150 people were evacuated from their homes when seventeen cars derailed. On January 20, 2014 in Philadelphia, Pennsylvania, seven cars of a 101-car train from Chicago derailed on a bridge over the Schuylkill River. Six of the derailed cars were carrying Bakken crude. On February 13, 2014, a 120-car train carrying Canadian crude derailed in western Pennsylvania, spilling oil and smashing into an industrial building. On April 30, 2014, a train carrying crude oil derailed and burst into flames in downtown Lynchburg, Virginia, with some 300 people in the area evacuated, huge flames and black plumes of smoke shooting high into the sky, and reports of several tank cars spilling oil into the nearby James River.

The list of accidents to date in 2015 is startling. Between February 14 and 16, three major crude-by-rail accidents occurred in Canada and the United States, with the last derailment culminating in an enormous fireball that forced the evacuation of a West Virginia town and threatened local drinking water. On March 5, a BNSF oil train with 103 tank cars carrying explosive Bakken crude oil from North Dakota derailed just south of Galena, Illinois. Twenty-one cars derailed and a black-plumed fire continued to burn a day later. On March 7, a Canadian National Railway train carrying Alberta crude oil derailed outside of the tiny town of Gogama in northern Ontario, and five of the thirty-eight cars that came off the tracks fell into the Mattagami River. The accident caused a massive fire and leaked oil into waterways that are used by locals, including a nearby indigenous community, for fishing and drinking. The overall increase in crude-by-rail derailments and spills has resulted in an increase in public awareness and reporting on the issue. [Footnote: See Ralph Vartabedian, "Why are so many oil trains crashing? Track problems may be to blame," *LA TIMES*, October 7, 2015, available at <http://www.latimes.com/nation/la-na-crudetrain-safety-20151007-story.html>; Clifford Krauss and Jad Mouawad, "Accidents Surge as Oil Industry Takes the Train," *THE NEW YORK TIMES*, January 25, 2015, available at [http://www.nytimes.com/2014/01/26/business/energy-environment/accidents-surge-as-oilindustry-takes-the-train.html?\\_r=0](http://www.nytimes.com/2014/01/26/business/energy-environment/accidents-surge-as-oilindustry-takes-the-train.html?_r=0); Ralph Vartabedian, "Crude-oil train wrecks raise questions about safety claims," *LA TIMES*, March 12, 2015, available at <http://www.latimes.com/nation/lana-oil-train-explosions-20150313-story.html>; Shane Ferro, "US oil train accidents won't go away any time soon," *BUSINESS INSIDER*, March 20, 2015, available at <http://www.businessinsider.com/crude-oil-train-derailments-2015-3>.]

## Response T8-47

Comment acknowledged.

## Comment T8-48

Western Washington has not avoided accidents. In June of 2014, an oil train heading to the Tesoro refinery derailed under the Magnolia Bridge in central Seattle. [Footnote: See <http://www.komonews.com/news/local/Oil-train-derails-under-Seattles-Magnolia-Bridge-268442612.html>.] While no oil spilled in that event, given the location of the derailment it would have been a catastrophe if a fire had resulted. Similarly, a train carrying Bakken crude to the BP refinery derailed in Montana, resulting in a significant oil spill but not a fire. [Footnote: See <http://fuelfix.com/blog/2015/07/20/officials-oil-train-didnt-speed-before-montana-derailment/>.] Additional accidents involving trains carrying crude oil to Western Washington are only a matter of time. [Footnote: Leaks from oil trains have already drawn fines; in March 2105, Washington state regulators recommended BNSF be fined up to \$700,000 for failing to properly report more than a dozen hazardous materials spills in recent months despite prior reminders. See <http://www.bellinghamherald.com/news/local/article22282506.html>.]

Additional information regarding the costs of these accidents is provided in Exhibit 19, "Analysis of the Potential Costs of Accidents/Spills Related to Crude by Rail." [Footnote: Exh. 19. This analysis was prepared by The Goodman Group, Ltd, a consulting firm specializing in energy and regulatory economics, on behalf of Oil Change International.] This analysis demonstrates that the costs of crude-by-rail incidents are often enormous, and that a major unit train incident could cost \$1 billion or more for a single event. As explained in Exhibit 19, the Lac-Megantic rail disaster will likely have costs on the order of \$500 million to \$1 billion, excluding any civil or criminal damages. Damages for a similar incident could have been substantially higher had it occurred in a more populated area. Lac-Megantic is also relevant in that it shows the devastating consequences of an accident involving highly flammable light crude (such as the Bakken crude) in a small town, both in terms of loss of human life and widespread explosion and fire damage to surrounding property.

Exhibit 19 also analyzes the spill of tar sands dilbit from Enbridge's Line 6B in Marshall, Michigan. This rupture in 2010 had costs of approximately \$1 billion for Enbridge. The spill volumes at Marshall (840,000 gallons) were within the range of the amount of spill possible (and, in fact, substantially less than the maximum spill) if a crude by rail unit train released much of its cargo. Once again, damages for similar incidents could have also been substantially higher had they occurred in a more populated area. Marshall is also relevant in showing the high potential cost of dilbit spills into water (and rail lines are often highly proximate to water).

## Response T8-48

The approach to the risk analysis is to consider potential spill scenarios related to the proposed action. As noted in Draft EIS Chapter 4, *Environmental Health and Safety*, this is because a spill could occur at any location and at any time. Because the potential impacts of an incident would vary based on the material spilled, weather, water flows, location and other factors, Draft EIS Chapter 7, Section 7.3.4.2, *Potential Costs Related to Environmental Health and Safety Concerns*, describes the range of associated costs that could be expected in general terms.

## Comment T8-49

Unfortunately, the pattern of oil train accidents and explosions is unlikely to end soon. On May 8, 2015, the U.S. Department of Transportation published long-awaited new standards for oil tank cars and oil train safety. [Footnote: PHMSA/DOT, *Hazardous Materials: Enhanced Tank Car Standards and*

*Operational Controls for High-Hazard Flammable Trains, 80 Fed. Reg. 26644 (May 8, 2015).] These rules, too long in coming, are woefully inadequate. While the new rules establish stronger standards for newly built tank cars, they set weaker standards for retrofitting existing tank cars, and DOT is allowing these hazardous tank cars to continue shipping explosive crude for almost a decade, with even the most dangerous tank cars remaining in service until 2018. [Footnote: *Earthjustice, Analysis of 7 Hidden Dangers in the New Federal Oil Tank Car Rule*, available at <http://earthjustice.org/sites/default/files/files/7%20Things%20CBR%20Rule%205%2013.pdf>; see also *Tate, Curtis, Speed rules didn't apply to train in ethanol spill*, <http://www.mcclatchydc.com/news/nation-world/national/economy/article45226446.html> (noting new federal rules don't apply to all trains carrying crude oil).]*

The rules have been challenged in federal circuit court both by some of the Commenting Organizations, as well as industry groups seeking even weaker challenges. See *American Petroleum Industry v. United States*, Nos. 15-1131, 15-1132, 15-1182, 15-1194, 15-1195, 15-1199 (consolidated) (D.C. Cir.). That case will take at least a year to resolve. And relatedly, a recent report highlighted dangers of oil trains crossing over old and unsafe rail bridges. See Exh. 20, *Waterkeeper Alliance, Riverkeeper, and ForestEthics, Deadly Crossing, Neglected Bridges & Exploding Oil Trains* (Nov. 2015).

## Response T8-49

To address potential safety gaps associated with phased requirements of with the referenced ruling, the applicant has voluntarily committed to the following measure to help reduce risks associated with crude oil transportation by rail.

- To reduce potential risk from tank car punctures and spills identified with use of DOT-111 tank cars for transport of Bakken crude oil, the applicant will not accept crude oil by rail unless the following actions occur.
  - The rail cars meet or exceed the new U.S. Department of Transportation specification 117 design or performance criteria.
  - Existing tank cars are retrofitted in accordance with the U.S. Department of Transportation-prescribed retrofit design or performance standard (80 FR 26643).

## Comment T8-50

### 9.1 FLAWS IN ANALYSIS OF INCREASED RAIL TRAFFIC AND IMPACTS.

As presented in the expert report of Dr. Fred Millar, attached as Exh. 2, the DEISs contain a variety of errors and flaws that undermine their conclusions. In sum,

- The DEISs fail to adequately consider potential major crude-by-rail derailment hazard events by (1) omitting analysis of shipper or carrier worst case scenarios, (2) failing to use available models to estimate potential consequences, and (3) failing to summarize recent federal reports of ranges of expected crude-by-rail accident consequences.
- The DEISs make only a brief and pro forma acknowledgement of significant risks from crude-by-rail oil spills and fire/explosion events. The DEISs lack any substantive discussion or focus on the consequences to human health and safety of potentially serious crude-by-rail releases, either on the PS&P line or in the extended BNSF rail haul.

## Response T8-50

As discussed in the Master Response for Environmental Health and Safety Analysis, the analysis of potential environmental health and safety impacts looks at the relative risks for a set of release scenarios that could occur as the result of terminal operations and rail and vessel transport associated with the proposed action. Appendix M, *Risk Assessment Technical Report*, does not predict precise spill sizes or locations where spills might occur. This approach provides decision-makers and planners with a range of potential outcomes related to the proposed action to help them understand potential risks and propose targeted mitigation measures. By extension, the Draft EIS does not predict the specific consequences that would affect individual resource areas or populations along rail and vessel transportation corridors with any single release scenario. Rather, Section 4.7, *Impacts on Resources*, describes the general types of impacts that would be expected if an incident occurs.

All the release scenarios considered in the risk assessment were developed in accordance with applicable regulatory requirements and based on project-specific information. To that end, worst-case release volumes were considered consistent with WAC 173-182-030 and WAC 480-62-300 as discussed in the Master Response for Environmental Health and Safety Analysis.

Additionally, some risks related to the proposed action would remain even with the implementation of the proposed mitigation measures. As noted in Chapter 4, Sections 4.4.4, 4.5.4, and 4.6.4, no mitigation measures would completely eliminate the possibility of a large spill, fire, or explosion, nor would they completely eliminate the adverse consequences of a large spill, fire, or explosion. Refer to the Master Response for Geographic Scope of the EIS for additional information about the analysis of impacts associated with rail transportation along the PS&P railroad and beyond.

Draft EIS Chapter 4, *Environmental Health and Safety*, acknowledges that the analysis presented in Draft EIS Appendix M, and summarized in Section 4.5, *Environmental Health Risks—Rail Transport*, relied on 2014 Federal Railroad Administration data to determine the appropriate accident rates for rail-related incidents. Refer to the Master Response for Risk Assessment Methods for additional information about the specific methods, data sources, and assumptions used in the analysis of risks.

## Comment T8-51

- The DEISs significantly underestimate the likelihood of significant human health and safety impacts from crude-by-rail derailments.

## Response T8-51

The risk assessment evaluates the likelihood of different spill scenarios occurring rather than predicting specific outcomes that may occur as the result of the proposed action. By extension, the Draft EIS does not predict the specific consequences that would affect individual resource areas or populations along rail and vessel transportation corridors with any single release scenario. Rather, Chapter 4, Section 4.7, *Impacts on Resources*, describes the general types of impacts that would be expected if an incident occurs, including the types of impacts that could affect human health. Final EIS Section 4.7 has been revised to more fully describe the potential human health impacts that could occur as the result of an oil spill, fire, or explosion.

## Comment T8-52

- The DEISs fail to consider local route and infrastructure conditions.

## Response T8-52

Draft EIS Chapter 3, Section 3.15.4.5, *Ongoing Maintenance and Inspections*, describes Federal Railroad Administration (FRA) track and bridge maintenance and inspections requirements and train and rail car inspection requirements. PS&P is required to comply with these regulations under existing conditions and would continue to be required to comply if the proposed action is implemented. Final EIS Section 3.15.4.5 reflects PS&P commitments to additional safety measures with respect to the transport of crude oil, information about the requirements of FRA's bridge management program, and the most recent results of FRA's bridge inspection reports. Nonetheless, compliance with existing regulations and implementation of the mitigation described in Chapter 4, Section 4.5.3, *What mitigation measures would reduce impacts related to rail transport?* would not completely eliminate the possibility of an incident. Depending on the specific circumstances, the environmental impacts could be significant. Additionally, as described in the Master Response for Environmental Health and Safety Analysis, the impact analysis presented in the Draft EIS focuses on the risks of a set of spill scenarios rather than predicting where a specific incident of a certain type may be more likely.

## Comment T8-53

- The DEISs rely on data and models likely to be biased and uses non-relevant data.
- The DEISs improperly default to reliance on existing and future rail safety regulations, without acknowledging current baseline conditions or regulatory gaps and deficiencies.

## Response T8-53

As noted in the Master Response for Baseline and No-Action Alternative, the Draft EIS considers the potential for reasonably foreseeable changes that would occur unrelated to the proposed action, including planned infrastructure improvements on the PS&P rail line and regulatory requirements for improved rail tank car design. The specific assumptions relevant to the rail traffic and safety analyses are described in Draft EIS Section 3.15, *Rail Traffic*, and Appendix M, *Risk Assessment Technical Report*. For additional information about how the EIS approached the analysis of emergency preparedness planning and response capabilities, refer the Master Response for Emergency Response and Planning Gaps Evaluation.

## Comment T8-54

- The proposed mitigation measures are inadequate. [Footnote: These comments are explained in detail in the attached report of Dr. Fred Millar (Exh. 2). Additional comments with respect to the hazardous rail transportation of crude oil are found in Exh. 21, Millar Comments on DEIR for Valero Benecia CBR Project; Exh. 22, California Attorney General comments on Valero Benecia DEIR; and Exh. 23, Testimony of Fred Millar, filed in RE Sources for Sustainable Communities v. Equilon Enterprises, PL14-0396 (Skagit County Hearing Examiner).]

## Response T8-54

Responses to Exhibit 2 are provided in the Responses to Comments T8-165 through T8-214. Exhibits 21, 22, and 23 were received; however, because the comments do not specifically state how comments made on the other projects and cases are applicable to this Draft EIS, individual responses to those exhibits are not provided.

## Comment T8-55

Additionally, Table 5 in Appendix M presents numbers as “probabilities” with no explanation. No formula is provided to explain how these numbers were calculated even though rail release events could be described as probability per rail mile or probability per time. The last paragraph in that section (at page 4-6) compares the national average accident rate (2.475 / million miles [Table 6]) to the PS&P rate (22.325 / million miles [Table 6]) and notes that the PS&P rate was approximately ten times the national rate. The DEISs then halve the PS&P rate based on unspecified “improvements.” A correct analysis would be to use the observed 22.325 rate since the effect of “improvement” is speculative, analysis should provide a table of values based on the observed rate and a range of speculated rates, and because of that failure the expected accident rate may actually be twice as high as that calculated and discussed in the DEISs and in Table 7 of Appendix M.

Likewise, the first paragraph of section 4.3 describes Table 7 as “frequency of accidents.” The “frequency of accidents” may equal number of miles times accident rate, but there is no formula, explanation, or data reference in the text of section 4.3 or in the Table 7 heading. Each Table should be labeled with formulas and data reference and a clear explanation of what the numbers mean. Table 8 presents additive probabilities for all 3 sensitive areas but the sum is incorrect (5% + 3% + 10% = 18%; Table 8 sums as 17%); the length of miles is also summed incorrectly (3 + 2 + 6 = 11; Table 8 sums as 10). If these are rounding errors, Table 8 should include at least 1 significant digit so the summation is clear.

In addition, Table 7 in Appendix M and accompanying text do not present the additive probabilities and expected oil spill frequencies (the probability of expected frequency of a small, medium, or large release from any source). The DEIS must include a consideration of the additive probabilities of a release anywhere since the specific type of spill is less important to consider than how frequently a spill of any size can be expected.

## Response T8-55

The probabilities in Draft Appendix M, *Risk Assessment Technical Report*, Table 5: *Representative Probabilities of Different Release Sizes during Rail Transport* are the distribution of conditional release probabilities given an accident on the PS&P line, based on the rail cars expected in 2017 and 2037, as per the footnotes. They are not release frequencies.

Appendix M, Table 8 lists four sensitive habitats along the route and shows the length of route near them. The fourth row is not a sum.

The values in Appendix M, Table 7 and the other tables showing a range of release sizes can simply be added to get the overall chance of a release. However, it is important not to assume that the overall frequency is for a large release, which is why the range of frequencies and associated spill sizes are given.

The noted improvements include both those taken by PS&P after the spate of accidents in 2014 and the planned upgrades to Track Class 2. These planned improvements are described in Draft EIS Chapter 3, Section 3.15, *Rail Traffic*.

For additional information about why risks of different scenarios are not combined, refer to the Master Response for the Risk Assessment Methods.

### Comment T8-56

Rail Table 16 also fails to provide an accurate picture of the probability of an accident. The probability of accident I mile in this table are useful for comparison but additive probabilities are absent (the probability of accident I mile in from any size). In addition, the parameter “releases / mile” is not intuitive because the result is extremely small. Because the relevant concern is probability of release the “release / mile” should be multiplied by the number of miles the trains will be traveling. In Table 16\_revised the probabilities are multiplied by 100 miles to show the increased likelihood of a spill of any size on any 100 mile stretch. The final row shows the probabilities become noticeably larger and present the true risk in a transparent way.

### Response T8-56

The release per mile data in Draft EIS Appendix M, Table 16, were provided so that potential risks associated with a particular segment of interest could be calculated. As noted in the comment, by expanding the length of the segment in question, the risks increase.

### Comment T8-57

It is not clear from the DEISs why Westway estimates substantially fewer train trips per oil received than Imperium. Westway estimates 458 yearly unit train trips to transport a throughput of 806.4 million gallons of oil. Westway DEIS at 1-1, 2-9. That means each of Westway's arriving trains would carry 880,349 gallons of oil [806.4 million gallons / (458 train trips / 2)]. Imperium, on the other hand, estimates 730 yearly unit train trips to transport a throughput of 1.26 billion gallons of oil. Imperium DEIS at 1-1, 2-13. That means each of Imperium's arriving trains would carry 863,014 gallons of oil [1.26 billion gallons / (730 train trips / 2)]. This discrepancy of nearly 20,000 gallons per train trip estimate must be explained.

**Table 16\_revised. Predicted Rail Transport Releases on Per 100 Mile Per Year Basis—Proposed Actions and Cumulative Projects**

Event	# Cars		Predicted Increase in Releases/Mile					
			Westway 2017	2037	Imperium 2017	2037	Cumulative 2017	2037
			Probability per 100 miles					
Minor collision / derailment		1000 gallons (24 barrels spill)	0.01700	0.01600	0.02700	0.02600	0.05800	0.05400
Collision / derailment with release	1	30,000 gallons (714 barrels)	0.04700	0.03900	0.07500	0.06200	0.1600	0.13000
Collision/ derailment with release	3	90,000 gallons (2,143 barrels)	0.00690	0.00460	0.01100	0.00730	0.02300	0.01500
Collision / derailment with release	5	150,000 gallons (3,571 barrels)	0.00035	0.0001	0.00056	0.00024	0.00120	0.00051
Collision / derailment with release	15-30	450,000 to 900,000 gallons (10,710 to 21,420 barrels)	0.00002	0.00001	0.00004	0.00002	0.00008	0.00004
Column probability totals			0.07127	0.05976	0.11350	0.09556	0.24228	0.19955

## Response T8-57

Estimates of the number of rail and vessel trips for each applicant were based on the total estimated annual throughput for each proposed action. Additionally, the proposed action includes only the additional increase in throughput associated with the proposed action while the increase in throughput for the REG (formerly Imperium Terminal Services) project is based on the total increase in capacity in consideration of existing and proposed operations.

## Comment T8-58

9.2 THE DEISs DETERMINE, EVEN WITH THE FLAWS DISCUSSED ABOVE, THAT THE PROJECTS' INCREASED RAIL TRAFFIC WOULD INCREASE THE RISK OF A DERAILMENT, SPILL, FIRE, OR EXPLOSION.

Even with these serious flaws, the DEISs find that the risk of an oil spill from rail cars cannot be fully mitigated, and if a spill occurred, the environmental damage would be significant. Westway DEIS at S-19 to -22. Additionally, the DEISs determine that the projects' increased rail traffic increases the risk of a derailment, spill, fire, or explosion. *Id.* at S-23. These risks cannot be fully mitigated and if a spill occurred, environmental damage would be significant. *Id.* at S-25. See also Westway DEIS at S-39, S-49, S-51, S-63 (on-site operations, increased rail traffic, and cumulative increased rail traffic increased potential for an incident involving a spill, fire, or explosion, a significant, adverse environmental impact that mitigation cannot address).

## Response T8-58

Final EIS Chapter 4, Sections 4.4.4, 4.5.4, and 4.6.4, acknowledge that no mitigation measures would completely eliminate the possibility of a spill, fire, or explosion, nor would they completely eliminate the adverse consequences of a spill, fire, or explosion.

## Comment T8-59

9.3 UNEXAMINED IMPACTS ON OTHER RAIL USERS

The Washington State Department of Transportation Freight Rail Plan 2010-2030, Exh. 40, indicates that a number of critical sections of track, including the Columbia Gorge, were at or near capacity in 2008 and predicted further congestion by 2028. Other key chokepoints are identified in the Plan, the Washington State Transportation Commission's Statewide Rail Capacity and System Needs Study, December 2006 (Exh. 25), and the *Heavy Traffic Ahead* study (Exh. 24). Additional critical bottlenecks include the Columbia Gorge and the Spokane-Sandpoint Corridor (known in railroad parlance as "the Funnel," due to the fact that most major east-west rail corridors converge there). This project would contribute to additional congestion, yet the DEISs fail to address traffic beyond the PS&P line.

The DEISs should fully analyze the impacts on northwest shippers if inbound and outbound freight traffic is diverted or eliminated due to the competition with crude oil trains. Unless mitigated with significant capacity additions, the addition of the increases of oil train traffic is likely to present significant adverse impacts on other users of the rail line, including grain and fruit shippers, intermodal users, ports, industries, aircraft manufacturers and passenger rail-all of whom are critically dependent on timely and affordable access to the rail system.

Oil-by-rail traffic is already displacing and harming other economic sectors. Rail costs are a significant factor affecting the lack of competitive status of Washington Ports as compared to others on the west coast due to the prioritization of higher freight rates paid by oil shippers. In March 2015, the Washington Department of Ecology released the *Marine and Rail Oil Transport Study-Preliminary Findings & Recommendations*. [Footnote: Exh. 26.] The report includes a section describing oil-by-rail traffic blocking or slowing other Freight train traffic. The report states:

The addition of crude by rail trains is causing concerns about slowdowns or temporary blockages of other freight trains carrying grains and other perishable food commodities. This is mainly due to a lack of locomotives, freight cars, and other factors, in addition to congestion on the rails. BNSF and UP have stated that the increase in crude by rail trains will not impact other freight train traffic, however, some stakeholders are concerned. Decisions on the use of locomotives and railroad lines are based on commercial market factors. The issue of train capacity affecting transportation of various commodities is not a new one. At some times of year, anhydrous ammonia shipments (for fertilizer used in spring planting) are given priority, for example.

*Id.* at 41. News outlets from the New York Times to Bloomberg News report on the significant toll of oil-by-rail traffic on other commodities and port business.

The DEISs fail to analyze impacts, mitigation measures, and potential funding relating to the use of passenger rail on these same lines. As Exh. 27 discusses, the Amtrak Cascades Mid-Range Plan (2008), Washington and passenger rail advocates have significant plans for increases of passenger rail capacity, including adding additional high-speed passenger trains on the 1-5 corridor. The DEISs must analyze how existing and expanded passenger rail uses will be impacted if freight traffic increases. [Footnote: *Passenger service that may be affected would include, among others, Sound Transit Sounder Commuter services as well as Amtrak intercity service and Empire Builder service between Seattle and Chicago. The Empire Builder service also utilizes "The Funnel" in Spokane, which is expected to see the greatest increase in freight rail traffic because of the coal shipments.*] The DEISs should also consider existing and prospective public funding for rail capacity to purchase passenger rail service. The public has spent billions of dollars in rail improvements to ensure that passenger rail fits with existing capacity, and it is imperative that the DEISs fully analyze the past and prospective investments to ensure that public funds are not spent for private purposes.

The DEISs must also account for the demand for public investment spurred by this project. Rail infrastructure improvements are anticipated, although it is far from clear how those improvements will be funded. Rail lines and infrastructure will also need to be regularly maintained, and there will be mitigation costs for structures such as overpasses, tunnels, and railroad crossings. The DEISs must also address whether the public will be expected to bear any costs for infrastructure constructed for private benefits. Federal and state governments commonly bear a significant share of the costs of freight rail capacity improvement projects. [Footnote: *See Sightline, January 2013, Who Pays for Freight Rail Upgrades? available at <http://daily.sightline.org/2013/01/18/who-pays-for-freight-railway-upgrades/>.*] The DEISs should include all needed capacity improvements that will be required to address at least those areas where the planned oil train traffic will exceed the capacity of the existing system.

## Response T8-59

The potential for impacts in the extended study area is addressed qualitatively for the reasons discussed in the Master Response for the Geographic Scope. Draft EIS Chapter 5, *Extended Rail and Vessel Transport*, acknowledges that routine operation of the proposed action could result in an

increase in impacts likely to be similar in nature to those described in Chapter 3, *Affected Environment, Impacts, and Mitigation*.

Draft EIS Chapter 5, *Extended Rail and Vessel Transport*, discusses the capacity points raised by the commenter by presenting information from the Washington State Rail Plan<sup>5</sup> on future rail traffic and use of the main lines. As summarized in Final EIS Chapter 5, Section 5.5.1.1, *Planned Capacity Enhancements*, several rail segments are expected to require operational changes and/or capital improvements to manage anticipated freight rail volumes under the 2035 projection regardless of the proposed action. As noted, BNSF plans to accommodate growing demands for oil and freight transit with capital investments in infrastructure and equipment enhancements. In 2014, BNSF identified almost \$500 million of proposed infrastructure improvements on the northern tier of its network—primarily in North Dakota, Montana and Washington—to address capacity needs for handling more crude oil and agricultural products traffic. In 2016, BNSF identified \$220 million for capital improvements in Washington.<sup>6</sup> Any potential use of passenger rail on the same lines would further add to any existing or future capacity concerns, already disclosed in the Draft EIS.

## Comment T8-60

### 9.4 INCREASED RAIL TRAFFIC AT CROSSINGS MEANS DELAYS AND HARM TO EMERGENCY RESPONSE.

The increased rail traffic associated with these proposals threatens to delay and frustrate area drivers, as well as cause real harm to emergency services and responses. As explained by Public Health expert Dr. Frank James (Exh. 7), frequent long trains at rail crossings will mean delayed emergency medical service response times, as well as increased risk of accidents, traumatic injury, and death.

The Washington Department of Transportation, in its May 22, 2014 scoping comments “identified 25 state highway intersections and one limited access interchange . . . where operations may be adversely impacted due to delays at nearby highway-railroad grade crossings.” In Skagit County, where oil trains are already traversing the county en route to three oil refineries, a draft study is in progress to analyze impacts of trains at crossings. See [http://www.goskagit.com/skagit/study-examining-impact-of-more-trains-at-skagit-county-railway/article\\_95be7d57-d4b9-5472-b190-5189c02fdc3c.html](http://www.goskagit.com/skagit/study-examining-impact-of-more-trains-at-skagit-county-railway/article_95be7d57-d4b9-5472-b190-5189c02fdc3c.html) (“Trains already cause traffic delays that add up to about an hour every day at intersections in Mount Vernon and Burlington. . . . Vehicle backups at rail crossings can do more than frustrate drivers. Ambulances, fire trucks and police cars on their way to emergencies also have to wait.”).

The DEISs find significant, adverse impacts due to traffic delays, including harm to emergency service from those traffic delays. Westway DEIS at S-45 (“Increased rail traffic related to the proposed action could result in substantial increases in vehicle delay at the Olympic Gateway Plaza and between Poynor Yard and the project site compared to the no-action alternative.”); *id.*

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<sup>5</sup> Washington State Department of Transportation. 2014. *Washington State Rail Plan: Integrated Freight and Passenger Rail Plan 2013-2035*. Available: <http://www.wsdot.wa.gov/NR/rdoonlyres/F67D73E5-2F2D-40F2-9795-736131D98106/0/StateRailPlanFinal201403.pdf>. Accessed: December 1, 2014.

<sup>6</sup> BNSF Railway Company. 2016. *BNSF Railway plans nearly \$220 million capital investment program in Washington state for 2016*. February 16. Seattle, WA. Available: <http://www.bnsfmedia.com/go/doc/7090/2787081/BNSF-Railway-plans-nearly-220-million-capital-investment-program-in-Washington-state-for-2016>

(“Increased rail traffic related to the proposed action could block vehicular access, including emergency service access, to the Olympic Gateway Plaza and between Poynor Yard and the project site for a substantial period compared to the no-action alternative.”). Ecology and Hoquiam should use these findings to deny the requested permits.

### **Response T8-60**

Comment acknowledged.

### **Comment T8-61**

#### 9.5 EMERGENCY SERVICES AND PREPAREDNESS

When a crude oil spill from a rail car occurs, local response assets are generally the first ones on scene. These assets will include those provided by police departments, fire fighters, and emergency managers. Many times however, these response individuals are unaware of the nature of, and the threat posed by, the materials that are being transported through their communities.

SEPA requires consideration of emergencies and accidents, and does not allow their impacts to be ignored simply because they are uncertain to occur in any specific time frame. WAC 197-11-794 (“An impact may be significant if its chance of occurrence is not great, but the resulting environmental impact would be severe if it occurred.”). SEPA’s significance regulation explicitly calls for consideration of “unique and unknown risks” of projects, and the extent to which they “may affect public health or safety.” WAC 197-11-330; *accord San Luis Obispo Mothers for Peace v. Nuclear Regulatory Comm’n*, 449 F.3d 1016, 1031 (9th Cir. 2006) (agency needs to consider threat of terrorist attack in NEPA process).

Here, the DEIS fails to adequately disclose the state of preparedness both on the PS&P line and the mainline across the state. Additionally, the DEIS fails to analyze detailed oil spill response plans to cover all scenarios on and offsite, including “worst case” spills. Without this analysis, the public and decision-makers are unable to understand the potential risks and costs of this project or make an informed choice about whether the project should proceed.

As an example of the type of report that has focused on Bakken crude oil spills and emergency response, Exhibit 28 was prepared by the Massachusetts Department of Environmental Planning to provide a reference for first responders and emergency planners at the local, state, and federal level, including entities in the private sector. [Footnote: *Exh. 28, Bakken Crude Oil Spills—Response Options and Environmental Impacts, Massachusetts Dep’t of Environmental Planning (June 2015).*] The Massachusetts report stresses that “catastrophic accidents and large-scale releases remain a cause for concern,” and “it is imperative that first responders receive information and training to properly respond.” *Id.* at E-1.

The DEISs find significant, adverse impacts that cannot be mitigated due to “an incident involving the spill of crude oil ... that would exceed the capacity of the local emergency service response services.” Westway DEIS at S-53. Ecology and Hoquiam should not accept this threat to public health and safety.

### **Response T8-61**

Draft EIS Chapter 4, Section 4.2.1, *What framework prevents incidents from happening?* describes the formalized planning framework in place to address risks related to oil spills, fires, or explosions

from the terminal operations, rail transport, or vessel transport. The responsible party may vary during the transport of crude oil. This section describes the requirements for planning and preventive equipment and design. Chapter 4, Section 4.2.2, *What framework prepares for an incident?* describes the formalized planning framework in place to address risks related to oil spills, fires, and explosions.

Final EIS Section 4.2.2 has been revised to indicate that railroad operators would be required to develop spill contingency plans consistent with state requirements and a mitigation measure is proposed for a contingency plan to be submitted to Ecology until state requirements are in place. Final EIS Section 4.2.3, *What framework provides responses to an incident?* has also been updated to better reflect existing response capabilities and resources in the study area. Final EIS Section 4.7, *Impacts on Resources*, has been updated to better reflect how the proposed action could affect emergency service responses.

Final EIS Chapter 4 reflects additional mitigation measures proposed to address gaps in emergency preparedness planning and response capabilities. These measures include the provision of additional fire-fighting equipment, spill response and recovery equipment and other tools, and annual emergency response training opportunities to local jurisdictions.

Chapter 4, *Environmental Health and Safety*, identifies other proposed measures to ensure that broader prevention, preparedness, and response planning involves the appropriate stakeholders and that updates to any plans applicable to reducing risks related to the proposed action contain appropriate applicant information and participation. To the extent possible, as outlined in the Master Response for Mitigation Framework, measures addressing the need for more coordinated and focused planning include the role of the applicants as appropriate.

Nonetheless, mitigation would not completely eliminate the possibility of an incident. Depending on the location, amount spilled, type of crude oil, and environmental conditions, such as the time of year, water flows, and weather conditions, environmental impacts could be significant. Section 4.7 describes the types of impacts that could occur in the event of an oil spill, fire, or explosion. Refer to the Master Response for Emergency Response and Planning Gaps Evaluation for additional information about how the EIS approaches the analysis of emergency planning and response capabilities for additional information.

For more information about the analysis of potential impacts on the BNSF main line, refer to the Master Response for the Geographic Scope of the EIS.

## Comment T8-62

### 10.1 GRAYS HARBOR MARINE IMPACTS

The DEISs' evaluation of the increased risk of conflicts with existing vessel and barge traffic in Grays Harbor, including the increased risk of catastrophic accidents, is one of the most important aspects of the environmental review.

There has been no comprehensive vessel traffic risk analysis done for Grays Harbor, although one has been repeatedly called for [*Footnote: Exh, 26, Marine and Rail Oil Transportation Study (March 2015) at 21, available at <https://fortress.wa.gov/ecy/publications/documents/1508010.pdf>], and the analysis in the DEISs do not come close to being such a comprehensive traffic analysis.*

## Response T8-62

Comment acknowledged.

## Comment T8-63

### 10.2 THE DEIS ANALYSIS OF OIL SPILL RISK AND RESPONSE IS SIGNIFICANTLY FLAWED.

Attached as Exhibit 1 is a technical review of the oil spill risk and response preparedness sections of the DEISs, prepared by Nuka Research and Planning Group. The summary of DEISs' flaws are reproduced below; the flaws, errors, and omissions identified in this report undermine all DEIS findings about significance of impacts and the real risks to people and the environment that these projects present.

- The DEIS documents present both qualitative and quantitative analyses of risk. The qualitative scales characterize oil spill likelihood and impacts on a continuum from “unlikely” to “likely.” When the qualitative scales are compared to quantitative data, they appear to misrepresent the results.
  - For example, the qualitative scales represent the likelihood of a 105,000 gallon marine vessel oil spill from the no action alternative as roughly equal to the likelihood of a 1.2 million gallon spill from the Westway expansion. In fact, the likelihood is 2.5 times higher for the 1.2 million gallon spill at Westway. Similar discrepancies exist for the Imperium risk analyses.
  - In the rail car risk assessments, the qualitative sliding scales show only slight differences between risks from the no action to the proposed actions, even though the current risk of a crude oil rail car spill is zero.
  - The DEISs do not distinguish between the broad range of petroleum products that would be transported. The DEISs identify the following products that could be moved via vessel or rail in the proposed projects: Bakken crude oil, bitumen, ethanol, naphtha, gasoline, vacuum gas oil, jet fuel, No. 2 fuel oil, No. 6 fuels oil, kerosene, renewable jet fuel, renewable diesel, used cooking oil, and animal fat. The potential consequences of spills from this wide range of products would vary significantly, as would the ability to contain and recover the different types of product.
  - The DEISs characterize the risk of major marine vessel oil spills reaching water as highly “likely” but not absolutely certain. It is implausible that a 1.2 million gallon oil spill from a vessel that hits a dock or jetty would not result in oil reaching water, yet the qualitative scale appears to show that there is some chance that the 1.2 million gallons would not impact the water.
  - The DEISs lack sufficient information about the methods used to evaluate potential environmental impacts from the three large marine vessel oil spills described. The qualitative risk evaluation does not distinguish between potential environmental impacts based on spill size, location, or volume spilled. The Risk Assessment Technical Report does not present a consequence analysis, despite the fact that the Modeling Report (Appendix N) shows that for a 15.1 million gallon marine vessel spill, up to 11.2 million gallons is estimated to reach the shoreline within 24 hours. This is an Exxon Valdez-sized spill volume that would impact the Grays Harbor coastline. The potential consequences of such a catastrophic event are not considered.

- The manner in which oil spill frequency estimates and return rates are presented in the DEISs obscures the basic fact that these projects, if approved, would significantly increase the oil spill risk in Grays Harbor. The quantitative analysis presented in the DEISs estimates that the frequency of large spills from the Westway expansion would increase by 8-fold and at Imperium, spill frequency would increase to 30 times the no-action level. Oil spill frequency would be close to 40 times current levels if both projects proceed, and even higher if the U.S. Development project also moves forward.
- The DEISs discuss and present the project risks in a very compartmentalized manner. Individual probabilities are calculated for spills from rail, terminal, or vessel operations for each project. Cumulative risks are described for specific scenarios for each phase of operations, but these probability estimates are never aggregated. Spill probabilities are also never considered from the perspective of the potentially impacted environment. Based on the information presented in the DEISs, the chance of any size oil spill impacting the marine environment from vessel or terminal operations is 0.44/year. The expected frequency of any type of oil spill (2,100 gallons or more) impacting the marine environment is one spill every 2.2 years. The DEISs do not present this information, and does not consider the potential consequences to the marine environment from one oil spill every 26 months.
- The DEISs for Westway and Imperium cite an identical set of mitigation measures for marine vessel operations, which were presumably developed in tandem with the vision that these mitigation measures would be jointly funded and implemented. It is unclear whether there would be a reduction to mitigation measures if one but not both projects proceed. If the proposed mitigation were reduced, there could be a corresponding increase in the probability or consequences of marine oil spills.
- A simple arithmetic approach is used to estimate potential impacts of rail car incidents to sensitive habitats based on the percentage of the rail corridor that is proximate to sensitive areas. This is not a valid consequence analysis method.
- The modeled oil spill scenarios use medium crude oil as a proxy for a range of project oils, including Bakken crude and diluted bitumen; in reality, the chemical and physical properties of these and other potentially transported oils vary widely. Modeled behavior of medium crude oil may not accurately describe how a diluted bitumen or Bakken crude spill would behave.
- The modeled oil scenario trajectory maps are not informative about the scale of potential impacts, and the trajectory models are not used to evaluate potential consequences of a major marine oil spill. A consequence analysis that considered the spill trajectories against local wildlife, human use, and environmental sensitivities would inform the overall project risks.
- The escort fleet proposed to support the expansions will likely be inadequate to support the cumulative increases in large commercial vessel traffic.
- A vessel management system is proposed as a mitigation measure with no corresponding discussion of how it would be operated or funded.
- The significant increase in potential spill frequencies described in the DEIS should warrant a critical examination of the capacity of oil spill response resources available to respond to a Grays Harbor area spill.

Additionally, section 5.3 in Appendix M assumes no interaction between vessels. The probability of vessel allisions or collisions are estimated independent but this is obviously untrue. If multiple vessels are in Grays Harbor at the same time (or clustered on the open ocean) the probability of collision or allision will increase. This obvious reality does not appear to have been considered. That section also does not employ any data indexing the relative safety of Grays Harbor. Pilots typically describe some ports as more or less difficult to navigate than others but information regarding relative port navigability is not included.

### Response T8-63

Responses to each issue are provided in Response to Comments to Exhibit 1, which include responses T8-124 through T8-164.

### Comment T8-64

#### 10.2 THE DEISs GREATLY UNDERCOUNT POTENTIAL VESSEL TRAFFIC.

The estimated vessel trip numbers vastly understate the number of vessels these projects would generate. The Imperium DEIS states that it estimated the number of vessel trips based on barges “because it results in the highest number of trips, based on tank barges having smaller capacity than tankers.” Imperium DEIS at 2-13 n.12; Westway DEIS at 2-10 n.8 (“The higher number of trips assumes all tank barges. Because tank barges have smaller capacity than the tankers, more trips would be required.”). However, it is evident from the vessel trip estimate that the DEIS assumes the largest possible size of tank barges, those holding 6.3 million gallons each. *[Footnote: (1.26 billion gallons total throughput / 6.3 million gallons per trip) \* 2 to include empty inbound trips = 400 vessel trips total.]* Imperium DEIS at 2-13; Westway DEIS at 2-10 (doing the same calculation for Westway results in 256 yearly trips, which is actually higher than the estimates in the DEIS). *[Footnote: As with train trip estimates, there is a similarly unexplained discrepancy between the Westway Imperium vessel transit estimates, where Westway estimates substantially fewer trips per oil received. Westway estimates 238 yearly vessel trips to transport a throughput of 806.4 million gallons of oil. Westway DEIS at 1-1, 2-10. That means each of Westway’s departing vessels would carry an average of 1.69 million gallons of oil, i.e. 806.4 million gallons / (238 vessel trips / 2). Imperium, on the other hand, estimates 400 yearly vessel trips to transport a throughput of 1.26 billion gallons of oil. Imperium DEIS at 1-1, 2-13. That means each of Imperium’s departing vessels would carry an average of 1.58 gallons of oil, i.e. 1.26 billion gallons / (400 train trips / 2). Westway and Imperium must explain why Westway estimates its vessels would carry substantially more than Imperium’s, resulting in fewer vessel trips.]*

If the DEISs used smaller barges for their calculations, such as those listed in the DEISs that only hold 1.05 million gallons, the yearly number of vessel trips would balloon to 2400 total trips for Imperium alone. *[Footnote: (1.26 billion gallons total throughput / 1.05 million gallons per trip) \* 2 to include inbound empty trips = 2400 vessel trips total.]* The same calculation for Westway results in 1536 yearly vessel trips for Westway. The combined total would be 3936 trips, a far higher estimate than the 638 contained in the DEISs and illustrating a substantial underestimate; a mix of tank barge sizes-some 6.3 million gallon capacity barges and some with a 1.05 million gallon capacity-would also yield a result higher than the DEISs’ estimates.

Additionally, the risk assessment appendix purports to analyze a range of possible vessel types and trip numbers, but it is capped at 238 trips for Westway and 400 for Imperium, as in the body of the DEISs. Westway DEIS App’x Mat 5-1; Imperium DEIS App’x Mat 5-1. The DEISs must correct this discrepancy and, at the very least, explain the rationale behind using the largest tank barges for

estimating vessel trips. This is a crucial step because almost all impact assessments—from spill likelihood to fishing impacts—depends on accurate assessments of the number of vessels arriving and departing the facilities.

### **Response T8-64**

Table 3.17-9 in Draft EIS Chapter 3, Section 3.17, *Vessel Traffic*, presents the typical vessels that could be used to transport crude oil from the project site, including tank barges and tankers, and shows how many vessels would be needed to transport the maximum annual throughput of crude oil based on vessel capacity. While any tank vessel could be used to transport crude oil from the project site and would likely be determined by the applicant's customer, those listed in Table 3.17-9 are considered most typical because channel depths would restrict larger vessels and smaller vessels would be less economical.

The Crowley 550-Class tank barge is the most likely tank vessel to call at the project site under current channel conditions (controlling depth of 27 feet MLLW), because it provides the largest capacity with the greatest flexibility for transit windows. It also results in the highest number of transits. The Crowley 650-Class tank barge would be likely for projected channel depths. Therefore, the EIS considered a range of vessel trips based on these two vessel types.

TAs presented in Section 3.17.5.2, *Proposed Action*, the Crowley 550-Class tank barge has a capacity of 6.3 million gallons (150,000 barrels) and would result in 238 trips at maximum throughput (751.8 million gallons or 17.9 million barrels). The Crowley 650-Class tank barge has a capacity of 7.8 million gallons (185,000 barrels) and would result in 192 trips at maximum throughput.

Final EIS Chapter 2, Section 2.1.3.2, *Proposed Operations*, reflects revisions to the description of the tank barge capacity range and proposed number of trips.

### **Comment T8-65**

Moreover, the DEISs fail to address the impacts of associated vessels for these facilities, such as fuel bunkering in Grays Harbor and additional trips for escort tugs, both of which add to the traffic and transportation of petroleum products resulting from the oil terminals. Some of these vessels with shallower drafts may be able to operate beyond channel restrictions which could interfere with gill nets and crabbing in some areas.

### **Response T8-65**

Final EIS Chapter 2, *Proposed Action and Alternatives*, clarifies that proposed operations would not include vessel bunkering (fueling) at the project site. The Harbor Safety Plan for Grays Harbor (Grays Harbor Safety Committee 2014)<sup>7</sup> currently states that no bunkering is done in Grays Harbor, including at docks or anchorages. Final EIS Chapter 4, Section 4.6, *Environmental Health Risk—Vessel*, and Chapter 5, *Extended Rail and Vessel Transport*, reflect additional information about federal and state regulations related to bunkering operations.

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<sup>7</sup> Grays Harbor Safety Committee. 2014. *Harbor Safety Plan*. Available; [http://www.portofgraysharbor.com/harbor-safety/downloads/archive/Harbor-Safety-Plan\\_Grays-Harbor.pdf](http://www.portofgraysharbor.com/harbor-safety/downloads/archive/Harbor-Safety-Plan_Grays-Harbor.pdf).

The draft of tugs does not limit the tugs to the navigation channel. Therefore, the additional number of trips required by tugs as part of the proposed action was not considered in the channel capacity analysis.

## Comment T8-66

10.3 EVEN WITH THESE SERIOUS FLAWS, THE DEISs FIND SIGNIFICANT, ADVERSE ENVIRONMENTAL IMPACTS THAT CANNOT BE MITIGATED.

Even with the above significant errors and omissions, the DEISs find significant adverse impacts from increased marine oil transportation that cannot be mitigated. Westway DEIS at S- 39 (“The risks of larger spills of crude oil from vessel loading could adversely affect sensitive plant and animal species.”); *id.* at S-56 (“Increased vessel traffic related to the proposed action would increase the likelihood of an incident involving the spill of crude oil within Grays Harbor compared to the no-action alternative.”); *id.* at S-58 (“Increased vessel traffic related to the proposed action would result in increased potential for environmental damage from an incident involving the spill of crude oil compared to the no-action alternative”); *id.* at S-63 (“Under cumulative conditions, there could be an increase in the likelihood of incidents involving a spill, fire, or explosion of crude oil compared to the no-action alternative”). Ecology and Hoquiam should use these findings to deny the requested permits.

## Response T8-66

Comment acknowledged.

## Comment T8-67

11.0 TYPES OF CRUDE OIL

The DEISs fail to fully disclose the various risks and consequences associated with different types of crude oil. This could include either light, sweet crude from the Bakken formation, or the heavy, toxic tar sands bitumen produced in Alberta.

Assessments of crude oil properties indicate the serious pernicious toxic properties of crude oil when released into air, water, and soil and its potential effects on fish, the aquatic environment, and wildlife. Crude oil spills are more difficult to clean-up than refined oil products. Crude oil is heavier and thicker; it lasts longer in the environment, coating vegetation, debris, and wildlife. Crude oil can also get trapped in sediments, rocks, and other debris, which allows the oil to be remobilized into the environment days, weeks, and even decades after a spill incident such as occurred in the cold waters of Prince William Sound, Alaska. An EIS must review the environmental impacts of different types of crude oil that may be shipped by Westway and Imperium and what cleanup problems they could create. Exh. 30, Jeffrey W. Short, Fate and Effect of Oil Spills from the Trans Mountain Expansion Project in Burrard Inlet and the Fraser River Estuary Prepared for Tsleil-Waututh Nation et al. at 10 (May 2015) (“Fate and Effect of Oil Spills”) is an in-depth review of the current science on the effects of oil spills in marine and estuary environments. The DEISs should be amended to address this information.

Much of the public’s attention has been focused on the unique risks posed by the highly flammable Bakken crudes, which have been the cause of the series of dramatic accidents across the nation in crude-by-rail derailments. However, a spill involving tar sands bitumen, while less likely to result in

fires and explosions, presents its own unique spectrum of risks. Diluted bitumen (including railbit, synbit and dilsynbit) derived from Alberta tar sands crude is even more difficult to clean up once it is spilled in an aquatic environment, for after the lighter ends evaporate the heavier components can sink. Those risks have been documented by the U.S. Environmental Protection Agency after a pipeline spill in 2010 in Marshall, Michigan of Alberta tar sands crude:

We have learned from the 2010 Enbridge spill of oil sands crude in Michigan that spills of diluted bitumen (dilbit) may require different response actions or equipment from response actions for conventional oil spills. These spills can also have different impacts than spills of conventional oil. We recommend that these differences be more fully addressed in the Final EIS, especially as they relate to the fate and transport of the oil and the remediation that will be required. . . . We recommend that the Final EIS more clearly acknowledge that in the event of a spill to water, it is possible that large portions of dilbit will sink and that submerged oil significantly changes spill response and impacts. *[Footnote: Exh. 29, EPA Letter of April 22, 2013 on Keystone XL DSEIS at 3-4.]*

These are the kinds of risks that need to be fully considered so that mitigation options can be considered. For example, if response capabilities are not adequate to deal with a bitumen spill, the County could consider prohibiting that source of crude for this project. Despite recent modifications to the contingency plans implemented by Ecology, responders are only required to improve their ability to detect sunken oils for there are no current technologies to recover sunken oil from depth. *[Footnote: Exhs. 45 and 46 are two comprehensive oil spill response studies for San Juan County, Washington, and British Columbia, Canada that illustrate the type of analysis missing in the DEISs.]*

The DEISs fail to address the types of crude oil shipped and their unique properties for health risks, spill clean-up, and climate impacts. The DEISs also fail to disclose the destination of the oil, be it to refineries in Washington and California or for international export.

### **Response T8-67**

The analysis of impacts in the Draft EIS considers the crude oils identified under the proposed action: Bakken crude oil and diluted bitumen. Final EIS Chapter 4, Section 4.3, *Risk Considerations*, reflects updated information about the chemical properties of these two types of crude oils. For additional information about the most likely sources of crude oil, refer to the Master Response for Crude Oil Extraction, Transport, and Combustion. For additional information about how different types of oil were considered in the oil spill modeling presented in Draft EIS Chapter 4, *Environmental Health and Safety*, and Appendix N, *Oil Spill Modeling*, refer to the Master Response for Oil Spill Modeling Methods.

### **Comment T8-68**

#### 12.0 IMPACTS ON WATER QUALITY

The DEISs provide no quantitative analysis of the potential impacts to water quality, and resulting impacts to aquatic species.

### **Response T8-68**

Draft EIS Chapter 3, Section, 3.3, *Water*, addresses water quality and surface waters; Section 3.3.5.2, describes potential impacts on these resources that would result from construction and routine operation of the proposed action. Quantitative information for specific water quality requirements would be addressed through the National Pollutant Discharge Elimination System (NPDES)

construction stormwater general permit and an NPDES industrial stormwater permit process. These permits address potential impacts on water quality for construction and operations. The Clean Water Act NPDES regulatory mechanisms and permits set limits on what can be discharged, prescribe monitoring and reporting, and set provisions to ensure that the discharge from a site does not adversely affect water quality. Potential impacts on aquatic species from construction and operation of the proposed action are discussed in Section 3.5, *Animals*. Potential impacts on aquatic species and aquatic habitat that would result from a large oil spill are described in several subsections of Chapter 4, *Environmental Health and Safety*, including Section 4.7.1.1, *Water*, 4.7.1.2, *Plants*, and 4.7.1.3, *Animals*.

## Comment T8-69

### 12.1 SURFACE WATERS

Grays Harbor currently has several water quality issues for which it is listed as an impaired water under the Clean Water Act Section 303. Both the Chehalis and Grays Harbor have “inadequate controls” on point and nonpoint sources of pollutants. It has been shown in countless studies that aquatic organisms become increasingly vulnerable as they are subjected to multiple stressors in their environment. “Organisms living under conditions close to their environmental tolerance limits appeared to be more vulnerable to additional chemical stress” (Heugens, 2001). Aquatic ecosystems can change abruptly in response to accumulation and interaction of multiple stressors. Biodiversity has been shown to decrease in the face of multiple stressors as well (Vinebrooke, et. al., 2004). The DEISs do not seem to take into account that the aquatic organisms living in Grays Harbor and the Chehalis River may already be living at or around their tolerance limit, and additional stressors could push them over the edge making their habitat unlivable.

The DEISs fail to consider impacts to tribal resources from increased propeller wash. DEISs state,

“Overall, any water quality impacts caused by propeller wash and vessel wake would likely be short term. Both Terminal 1 and the Cow Point Turning Basin are located in a portion of Grays Harbor that has a high existing baseline for turbidity (U.S. Federal Highway Administration and Washington Department of Transportation 2010:3.1-3-3). Consequently, vessel operations under the proposed action are not expected to increase turbidity levels substantially above existing conditions.” Westway and Imperium DEISs at p. 3.4-17.

Existing turbidity does not mean that increases in turbidity from vessel traffic will not cause environmental damages. If anything, existing high turbidity could exacerbate future increases and cause damage to marine animals and plants. Damage to marine plants and animals would affect tribal fishing and gathering activities and impair the Quinault Indian Nation's federally-protected treaty rights.

The Westway DEIS does not address the issue that historical accumulation of dioxin has been found in the sediment surrounding the project site, and admittedly will be released/deposited into the water during construction. There is no analysis of the cumulative impacts from past and future releases from these project sites and the general area on aquatic ecosystems.

Until TMDLs are developed for identified pollutants, and TMDLS are implemented effectively, promises about heightened awareness and diligence of pollutants entering the water from this project are neither reliable nor adequate mitigation.

## Response T8-69

The Draft EIS discusses species (aquatic or terrestrial) that are sensitive and vulnerable to stressors in the environment; these are species identified as special-status species in Chapter 3, Section 3.5, *Animals*, and include federal and state-listed candidate, threatened, endangered, proposed, species of concern, and sensitive species. The list of these species in the study area that could be affected by the proposed action is found in Appendix F, *Special-Status Species*. As stated in Section 3.5, special-status species are species that require special efforts to ensure their perpetuation because of their low numbers, sensitivity to habitat alteration, and tendency to form vulnerable aggregations.

Vessels related to the proposed action would be restricted to travel in the navigation channel. As stated in Section 3.3, *Water*, the area of the channel near Terminal 1 and the Cow Point Turning Basin already have high baseline turbidity levels; any resuspension of sediments from vessel movements or propeller wash in this area of existing high turbidity levels is likely to have little or no additional effect on the benthic communities living in these turbid environments.<sup>8</sup> Similarly, because temporary resuspension of sediments in the navigation channel occurs on a regular basis, it is unlikely that vessel traffic associated with the proposed action would cause any perceptible impacts on the benthic communities present, which are already adapted to living with the disturbance in the navigation channel. Therefore, related impacts on tribal resources from increased propeller wash are not likely.

Presence of dioxin is addressed in Section 3.3, which states that inner Grays Harbor is listed as a Category 4a water for dioxin, which means that there currently is a total maximum daily load (TMDL) in place to address dioxin water quality concerns and to keep the water body from attaining Category 5 status (or a 303(d) impaired water). Section 3.3 also identifies dioxin contamination of sediments in the study area immediately downstream of the outfalls of the pulp mills. The Washington State Department of Ecology states that no dioxins are allowed to be discharged into Grays Harbor and that the reduction of dioxin in the harbor and sediments are expected to slowly attenuate over time. In addition, the U.S. Army Corps of Engineers took sediment samples as part of their navigation channel dredging analysis and found that dioxin concentrations are below the current guidelines for Grays Harbor (Section 3.3). Further, the proposed action would require no in-water construction, so there is no potential for dioxin to be released from the sediment. TMDLs are only required for impaired 303(d) waters (Category 5) for the specific pollutant that is impairing the water. Inner Grays Harbor around the project site is not 303(d) impaired (Category 5) by any pollutant (Section 3.3). As stated above, the project site would require an NPDES construction stormwater general permit and an NPDES industrial stormwater permit for operations to address potential impacts on water quality. In addition, the permit would require the facility to develop a stormwater management and pollution prevention plan. The Clean Water Act NPDES regulatory mechanisms and permits set limits on what can be discharged, prescribe monitoring and reporting requirements, and set provisions to ensure that the discharge from a site does not adversely affect water quality.

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<sup>8</sup> Washington State Department of Ecology. 2016. Water Quality Improvement Projects: Grays Harbor Area. Available: <http://www.ecy.wa.gov/programs/wq/tmdl/ChehalisBasin/GraysHbrTMDL.html>. Accessed: March 18, 2017.

## Comment T8-70

### 12.2 WETLANDS

On a national scale, the highest and most biologically significant concentrations of contaminants in NOAA's National Status and Trends Program occur predominantly in urbanized estuaries (Kennish 1994). This is true in Grays Harbor. Estuaries are particularly sensitive ecosystems. The DEISs do not indicate whether BMPs will address the potential damage done to these fragile ecosystems that provide so many valuable functions to aquatic organisms.

### Response T8-70

Assuming this comment refers to stormwater permit best management practices (BMPs), Draft EIS Chapter 3, Section 3.3, *Water*, discusses the potential impacts associated with smaller leaks and spills likely to occur during routine operations. As noted in the Draft EIS, BMPs required by applicable permits would minimize the potential for significant impacts during routine operations. The potential for impacts associated with the risks of spills, fires, and explosions are addressed in Final EIS Chapter 4, *Environmental Health and Safety*.

## Comment T8-71

### 12.3 GROUNDWATER

The document identifies numerous groundwater resources within the Chehalis basin and acknowledges the potential for contamination should a spill occur. It does not analyze the potential effects on these groundwater resources should a spill occur.

### Response T8-71

Draft EIS Chapter 4, Section 4.7.1.1, *Water, Groundwater*, addresses the potential impacts on groundwater from an oil spill. The potential for impacts associated with the risks of spills, fires, and explosions are addressed in Draft EIS Chapter 4, *Environmental Health and Safety*.

## Comment T8-72

### 12.4 WATERFLOW

The DEISs do not address that the Chehalis Basin suffers from serious flood hazards (significant floods occurred in 2007 and 2009) that would jeopardize the rail transport of oil on the PS&P line. There is no analysis of the risk of such events on either the rail lines or the upland facilities and terminal docks proposed to be used for the storage and offloading of crude oil.

### Response T8-72

Draft EIS Chapter 3, Section 3.1, *Earth*, and Section 3.3, *Water*, note that the proposed action would not result in any alterations to the topography that would adversely affect or alter floodplain function or capacity. In order for the proposed action to affect flood flows, the proposed action would need to alter the floodplain (e.g., fill placement or excavation in floodplain), which could alter flood flow. However, because no part of the proposed action would alter a floodplain, the proposed action would have no impact on flood flows. The project site is not in a mapped floodplain according to the Federal Emergency Management Agency's (FEMA) 2013 preliminary floodplain mapping

(Section 3.3.4.4, *Floodplains*). The PS&P rail line currently passes through or over FEMA mapped floodplains (Section 3.3.4.4, *Floodplains*); however, it is existing infrastructure.

Flooding is an environmental factor that can contribute to potential impacts from an oil spill incident (Chapter 4, Section 4.3.2, *What environmental factors contribute to potential impacts from an incident?*) Section 4.5.2.1, *Oil Spills*, addresses the movement of spilled oil in the Chehalis River during flood conditions; this information was incorporated into risk assessment in the analysis of the spill scenarios that could occur along the PS&P rail line. Refer to the Master Response for Risk Assessment Methods for additional information about the methods, data sources, and assumptions used in the analysis of risks.

## Comment T8-73

### 13.0 IMPACTS ON PLANTS

The DEISs mention plant impacts from increased exposure to pollutants, but only discuss spills and leaks. Increased exposure to diesel particulates may also harm plant species [Footnote: Bignal, K., et al. 2008. *Effects of air pollution from road transport on growth and physiology of six transplanted bryophyte species. Environmental Pollution. 156(2): 332-40. Jayaratne, E.R., et al. 2010. Ions in motor vehicle exhaust and their dispersion near busy roads. Atmospheric Environment. 44(30): 36440-3650. bryophyte species. Environmental Pollution. 156(2): 332-40. Jayaratne, E.R., et al. 2010. Ions in motor vehicle exhaust and their dispersion near busy roads. Atmospheric Environment. 44(30): 36440-3650], and there are four special status plants along the rail lines.*

## Response T8-73

Final EIS Chapter 3, Section 3.4, *Plants*, has been revised to reflect potential for impacts on plants related to emissions. The highest concentration of nitrogen dioxide and nitrogen oxides related to emissions from operation of the proposed action would result from rail-unloading operations at the project site. According to Honour et al. (2009),<sup>9</sup> impacts on vegetation are were documented at nitrogen oxide concentrations ranging from 77 to 98 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) and nitrogen dioxide concentrations ranging from 57 to 67  $\mu\text{g}/\text{m}^3$ ; other studies had similar conclusions (Davies et al. 2007,<sup>10</sup> Bignal et al. 2007<sup>11</sup>). Under worst-case conditions (maximum 1-hour concentration), nitrogen dioxide concentrations are estimated to be 114  $\mu\text{g}/\text{m}^3$  from the proposed facility at approximately 30 feet from the rail-loading area; however under annual average conditions the nitrogen dioxide concentrations would be in the range of 33 to 43  $\mu\text{g}/\text{m}^3$  at approximately 30 feet. Therefore, under worst-case conditions, the onsite emission could result in some impacts on vegetative growth and physiology, but these would be short-term and limited to areas near the project site, which include the industrial shoreline, roadways, and developed uses.

Rail transport along the PS&P rail line would emit nitrogen dioxide and nitrogen oxides; however, typical concentrations would be considerably lower (approximately 10 to 15  $\mu\text{g}/\text{m}^3$ ) than described

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<sup>9</sup> Honour S., Bell J., Ashenden T., Cape J., Power SA. 2009. Responses of herbaceous plants to urban air pollution: effects on growth, phenology and leaf surface characteristics. *Environmental Pollution*; Vol. 157. N 4. P. 1279–86.

<sup>10</sup> Davies L., Bates J. W., Bell J. N. B., James P. W., Purvis O. W. 2007. Diversity and sensitivity of epiphytes to oxides of nitrogen in London. *Environmental Pollution*. Vol. 146. N 2. P. 299–310.

<sup>11</sup> Bignal K., Ashmore M., Headley A., Stewart K., Weigert K. 2007. Ecological impacts of air pollution from road transport on local vegetation. *Applied Geochemistry*. Vol. 22. N. 6. P. 1265–71.

for onsite operations (Section 3.2, *Air*) and are not anticipated to result in impacts on plant growth and physiology.

## Comment T8-74

The DEISs discuss possible impacts from vessel wakes: *“It is anticipated that the potential for impacts could be roughly proportional to the anticipated increase in vessel traffic.”* This indicates potential for erosion in critical habitats such as snowy plover and streaked homed lark habitat in the Oyhut Wildlife Recreation Area and on Damon Point. The possible impacts are not discussed in mitigation measures or as significant and unavoidable impacts. Further, the DEISs mention that impacts should be low because turbidity is already high, without support to back up this dismissal of impacts.

## Response T8-74

As stated in Draft EIS Chapter 3, Section 3.17, *Vessel Traffic*, transit by deep-draft vessels through the navigation channel is typically planned when tidal elevations are close to high tides and outgoing loaded vessels may wait until the tide is even higher for safety purposes. As described in Section 3.4, *Plants*, this would result in little or no exposure of mud flat and shallower sloped beach areas. Moreover, the majority of the Grays Harbor shoreline is thousands of feet or more from the channel (e.g., the farthest point of the North Bay shoreline is 8 miles from the navigation channel). For these reasons, vessel wakes related to the proposed action were found to have small, incremental impacts on migrating fish, benthic habitats, and shoreline habitat and vessel wave energy levels generated by different types of ships at representative speeds were not modeled.

A 2003 wave modeling study conducted by Pacific International Engineering<sup>12</sup> (for the Port of Grays Harbor and coastal communities of southwest Washington) to address Washington Department of Natural Resources concerns about potential wave impacts on state-owned aquatic lands caused by the navigation channel in Grays Harbor concluded that, “energy from wind-generated waves generated in Grays Harbor and vessel-generated waves are shown to be insignificant in relation to the contribution from oceanic waves.” The study focused on the Washington Department of Natural Resources Natural Preserve Whitcomb Flat, which is a sandflat that is mostly submerged during high tide and exposed during low tides; it is directly adjacent to the navigation channel and is the nearest unprotected erodible feature to the navigation channel. The study concluded that waves from vessels (a variety of large commercial vessels traveling at 15 knots were modeled) made an insignificant contribution to all waves and that natural waves (storm waves and swell from ocean) were the driving force that affected the movement and erosion of the sandflat. Therefore, any impact caused by vessel wake would be insignificant in comparison to the existing baseline conditions (natural wave incidence).

## Comment T8-75

The DEISs do not address or analyze the risk or potential impacts of invasive species from rail traffic resulting from the proposed projects. Railways are a corridor for invasive species and increased railway activity could increase the distribution and rate of spread of invasive species. This could have an impact on the unique habitats, tribal resource plants, and special-status plants.

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<sup>12</sup> Pacific International Engineering. 2003. Dynamics of Whitcomb Flats. Grays Harbor. July 10. Prepared for Port of Grays Harbor in Coordination with the Coastal Communities of Southwest Washington.

## Response T8-75

Although it is possible that trains coming from other areas could have been exposed to invasive weed species, the chances of increased spread of weeds is low. Dispersal mechanisms for weeds from rail cars would most likely be from wind or rain carrying weed seeds onto adjacent areas. Given these conditions, it is not likely that weeds would be carried in great quantities or far from the rail line. Additionally, railroads are required to manage vegetation within the right of way, which would help to further reduce the potential for spread. For these reasons, this impact was not considered reasonably likely enough to be addressed in the Draft EIS.

## Comment T8-76

The DEISs mention the risk of introducing aquatic invasive species via ballast water and the monitoring measures that will be undertaken; however, there is no analysis of the risk or likely impacts. Ballast water is one of the principal vectors of aquatic invasive species (Carlton, 1999) with invasive species being the second leading cause of extinction and loss of biodiversity in aquatic habitats. (US EPA, 2012). "Should an introduced species become a successful invader in a new environment, it can cause a range of ecological impacts. These include competing with native species and altering environmental conditions (e.g., increased water clarity due to mass filter-feeding), altering food web and the overall ecosystem and displacing native species, reducing native biodiversity and even causing local extinctions." (Ibrahim and el-Naggar 2012). The DEISs should analyze the economic and ecologic impacts of the likely introduction and spread of terrestrial and aquatic invasive species.

## Response T8-76

Potential ballast water impacts on the aquatic environment are addressed in Draft EIS Chapter 3, Section 3.4, *Plants*, and Section 3.5, *Animals*. Existing federal and state regulations address ballast water management. The Washington State ballast discharge regulations (RCW 77.120.040 and WAC 220-150) include reporting, monitoring, and sampling requirements of ballast water; all vessels must submit nonindigenous species ballast water monitoring data. Washington Department of Fish and Wildlife may also board and inspect vessels under WAC 220-150-033 without advance notice to provide technical assistance, assess compliance, and enforce the requirements of Washington State ballast water management program laws and regulations. Penalties and enforcement of not complying with the regulations are covered in WAC 220-150-080. To further minimize the risk of ballast water on vegetation communities and animals, proposed mitigation is included in Sections 3.4 and 3.5 for the applicant to develop and implement a monitoring plan in consultation with Washington Department of Fish and Wildlife prior to the start of proposed operations.

## Comment T8-77

### 13.1 WEEDS

There is no indication of where weeds will be deposited when they are removed from the project sites due to construction, or whether BMPs will be followed in order to reduce the risk of spreading invasive species. The Quinault Indian Nation recommends imposing this requirement.

## Response T8-77

The applicant would prevent the potential establishment and spread of noxious weeds per Washington State noxious weed regulations (RCW 17.10). This weed law establishes and spells out property owners' responsibilities for preventing and controlling the spread of noxious weeds. If a property owner fails to control noxious weeds, the local weed board can impose civil fines for failure to control weeds. Any weeds removed from the project site would be disposed in accordance with these regulations. No additional measures are proposed.

## Comment T8-78

### 13.2 MITIGATION MEASURES INADEQUATE

Only impacts from invasive species introduction via ballast water are addressed in the mitigation proposed. The DEIS does not, but should, address mitigation for the other additional impacts on plants from the proposed project activities. The mitigation measure to monitor for invasive species via ballast water should also include a protocol to respond to a detection of an invasive species.

Because the spread of invasive species by rail is not addressed in these DEISs, the proposed mitigation fails to take into consideration the adverse impact invasive species has on unique habitat, special-status plants, and tribal treaty resource plants. These adverse impacts are unavoidable and lack mitigation.

## Response T8-78

The development of appropriate protocols for responding to invasive species would depend on the various factors; therefore, the mitigation measure proposes to develop a plan to monitor for and report any species to the appropriate authority so that appropriate action may be taken. The monitoring plan would be developed in consultation with Washington Department of Fish and Wildlife.

As noted in Draft EIS, Chapter 3, Section 3.4, *Plants*, the proposed action would not result in a significant impact on plants related to rail transport. Therefore, no mitigation is proposed.

## Comment T8-79

### 14.0 OIL SPILL AND OPERATIONAL IMPACTS ON FISH AND WILDLIFE

These proposed projects will harm biological, marine, and aquatic resources on both public and private lands and waters. The harmful impacts run from the drilling of the oil in the middle of the North American continent, transport through the rail corridor to the Westway and Imperium projects, to the loading and shipping of the oil through the Grays Harbor estuary, past Bowerman Basin National Wildlife Refuge and other protected areas, to the final, and currently unknown, destination, and ultimate burning. These impacted resources include marine and terrestrial mammals, game and non-game resident and migratory bird species, raptors, songbirds, amphibians, reptiles, fish, shellfish, aquatic invertebrates, wetlands, and vegetative communities. Even in the best case scenario, one without a major oil spill, these projects will harm fish and wildlife through traffic, noise, and invasive species impacts. An oil spill would devastate the surrounding area and animal life. The DEISs acknowledge many of these harms but, shockingly, fail to concede their unavoidable and significant nature.

## Response T8-79

The Final EIS *Summary* describes the potentially significant impacts that could not be completely eliminated with the implementation of the proposed mitigation measures. These include potentially significant impacts on noise, tribal resources, vehicle traffic, and environmental health and safety. As noted in Chapter 4, Section 4.7, *Impacts on Resources*, depending on the nature of an incident, the consequences could result in significant and unavoidable impacts on the natural resources referenced in the comment.

## Comment T8-80

### 14.1 THE PROJECTS WILL HARM FISH AND WILDLIFE IN GRAYS HARBOR.

Risks to aquatic health in the vibrant Grays Harbor estuary-including potential harm to important Grays Harbor and Chehalis salmon populations-stem from oil spills from bulk carriers, impacts during construction (seafloor disturbance, increased turbidity, noise, lighting), impacts during operation (endemic oil spills, shading from pier and wharf, toxics from terminal's outfall pipes, night lighting, noise), chosen shipping routes and shipping traffic along those routes, and climate change itself.

There are numerous species in the area that would be affected by these proposed projects given their locations. The location on the shoreline of Grays Harbor is home to riverine and estuary fish like salmon along with bull trout, green sturgeon, coastal cutthroat trout, and Pacific eulachon. Grays Harbor itself is designated critical habitat for endangered sturgeon and threatened eulachon, and it is designated as critical habitat for the coastal-Puget Sound bull trout. Grays Harbor is also a nursery ground for sixgill and sevengill sharks. Grays Harbor is also a major nursery for Dungeness crab, oyster culture, soft-shell clams, horse clams, Manila clams, and cockles. The outer area of Grays Harbor is home to forage fish like surf smelt, Pacific herring, and sand lance. Wash. Dep't Natural Res. Scoping Letter at 3.

The Grays Harbor National Wildlife Refuge is also at risk from these proposals. From late April through early May, hundreds of thousands of shorebirds concentrate on the muddy tideflats of Grays Harbor estuary-one of only four major staging areas for shorebirds in North America and one of the largest concentrations of shorebirds on the west coast, south of Alaska. Likewise, the Oyhut/Damon Point area is one of only three nesting areas in Washington for federally threatened Snowy Plover. Washington Department of Fish and Wildlife Comments at 3 ("WDFW Comments Letter"). Grays Harbor is also home to bald eagles, great blue herons, and peregrine falcons. This area is a shorebird site of world significance, with up to one million birds in the area each spring.

Grays Harbor is inhabited and used by many species of marine mammals. Migrating and resident Gray Whales feed in the Grays Harbor. Thousands of harbor seals and California sea lions live and pup in Grays Harbor. Sea otters also live in Grays Harbor and are at risk from these projects.

There are many and various risks from these projects to fish and wildlife in Grays Harbor, from routine operation at the sites, to vessel traffic, including the possibility of spills. Grays Harbor is especially sensitive to spills. Between salt marshes and tidal flats that are vital to salmon, birds, and marine mammals, a spill would be catastrophic. Indeed, the majority of the shoreline habitat in Grays Harbor is the *shoreline type most severely impacted by an oil spill*. *National Oceanic and Atmospheric Admin. Office of National Marine Sanctuaries Scoping Letter at 2 ("NOAA Letter")*. Crude oil is extremely toxic to fish and wildlife. Past oil spills have caused documented harm to aquatic fish

and shellfish. Oil spills release polycyclic aromatic hydrocarbons (“PAHs”) into surrounding waters. (Oliveira M.B., 2009). PAHs include phenanthrene, anthracene, fluoranthene, pyrene, but, in general, low molecular weight PAHs can be directly toxic to aquatic organisms and harmful to humans, even due to chronic exposure to small amounts of crude oil. See Exh. 6, Schumacker Testimony at 13-15, 18, 19; Exh. 5, Jorgensen Testimony at 29, 32, 34, 35; Aas, 2000; Heintz, et al., 2000. Mastrangelo G. 1996. The metabolites of higher molecular weight PAHs are known carcinogens in humans. Previous studies and reviews of oil spills have documented PAH’s rapid build-up in tissues of finfish and shellfish to levels dangerous for human consumption following spills of varying size. Seepage and small leaks over time may cause resident fish and shellfish to suffer chronic exposure to PAHs and allow these chemical compounds to accumulate in animal tissues. Id. Additionally, the use of oil dispersants will increase the exposure of fish to hydrocarbons in crude oil (Ramachandran, et al., 2004), though this was also not addressed in the DEISs.

A study of oil spill risks related to the Kinder Morgan pipeline expansion proposal in Canada concluded that a severe oil spill could kill more than 100,000 sea- and shorebirds. [Footnote: Exh. 30, Jeffrey W. Short, *Fate and Effect of Oil Spills from the Trans Mountain Expansion Project in Burrard Inlet and the Fraser River Estuary Prepared for Tsleil-Waututh Nation et al. at 10 (May 2015) (“Fate and Effect of Oil Spills”).*] Different types of oil, of course, have different effects on the environment. Diluted bitumen may partially evaporate, float, and sink, depending on conditions, *id.*, whereas Bakken crude typically floats, Westway DEIS at 3.14-8. Either would have devastating effects. For example, the catastrophic spill scenario killing 100,000 birds would cause tremendous direct oiling harm to species and leave the ecosystem entirely unbalanced, having unpredictable but long-lasting consequences. *Fate and Effect of Oil Spills* at 12.

## Response T8-80

Final EIS Chapter 4, Section 4.7, *Impacts on Resources*, describes the potential impacts on plants and animals from the release of crude oil and acknowledges that depending on the location, extent, and circumstances of a spill, the species identified in Chapter 3, Sections 3.4, *Plants*, and 3.5, *Animals*, could be adversely affected. These sections of the Final EIS have been updated to clarify the potential impacts on areas and species, including those listed in the comment. These revisions also acknowledge the potential for impacts related to polyaromatic hydrocarbons on fish and shellfish.

Draft EIS Chapter 4, Section 4.2.2.2, *Northwest Area Contingency Plan*, describes the planning framework in place for Washington State and discusses the factors considered when planning and implementing a response effort. The Regional Response Team is responsible for the Northwest Area Contingency Plan development that includes the consideration of dispersants or *in situ* burning.

## Comment T8-81

A recent study shows that salmon and herring embryos exposed to even trace levels of crude oil grow into juveniles with abnormal hearts and reduced cardiorespiratory function. [Footnote: Exh. 38, John P. Incardona, *Very low embryonic crude oil exposures cause lasting cardiac defects in salmon and herring at 1, Scientific Reports (2015).*] Even very low embryonic exposure to very low amounts of crude oil, causes permanent structural and functional changes to the fish heart. Exh. 38, Incardona at 7. Cardiorespiratory function is a key determinant of survival and population recruitment, *id.*, meaning that even small amounts of crude oil can pose dramatic risks to these at-risk species.

But even routine operation, without spills, would cause substantial harm to Grays Harbor and its fish and wildlife. For example, increased large vessel traffic will impact Pacific eulachon by harming

larval fish that have recently been confirmed to be present in the waters of the lower Chehalis River. Larval eulachon will inevitably be killed by large propellers associated with tankers and tugs that are part of this proposed project. Similarly, Gray whales are particularly susceptible to ship strikes, Washing Dep't of Fish and Wildlife Scoping Comments at 7, and the burrowing shrimp they feed on are susceptible to toxicity, also passed on to Gray whales, id.

Likewise, Dungeness crabs are hatched as minute, free swimming larvae that must shed their shells (molt) in order to grow. Grays Harbor has key refuges for juvenile crab in eelgrass, oyster shells, woody debris, and piling areas. But during their early years, Dungeness crabs remain extremely vulnerable to environmental stressors. Crab is the most valuable resource harvested on the Washington coast and Grays Harbor is an integral part of that production by acting as a juvenile crab refuge before they go to the open ocean. Exh. 6, Schumacker Testimony at 7, 15, 17, 19; Armstrong, et al, 2003. Without the Grays Harbor juvenile nursery, crab production on the outer coast would suffer significant impacts and recovery could take many years.

### **Response T8-81**

Draft EIS Chapter 4, Section 4.7, *Impacts on Resources*, addresses subacute and acute impacts of oil on fish. The section has been revised to acknowledge the potential for more lasting impacts on species as the result of a spill. Section 4.7 addresses oil toxicity to aquatic animals that inhabit various elements of the aquatic environment (e.g., water surface, water column, and substrate, intertidal, and shoreline habitats); impacts include the disruption of the estuarine food web and larger organisms feeding on small organisms that are contaminated, including invertebrates.

Draft EIS Chapter 3, Section 3.5, *Animals*, addresses the potential for vessel strikes on marine mammals. Final EIS Section 3.5 more fully addresses whale use of Grays Harbor, including frequent use by the gray whale.

Increased vessel traffic related to the proposed action in the study area could affect larval eulachon in the lower Chehalis River and Grays Harbor; however, based on the small area of impact in proportion to the amount of habitat available and the very low level of resulting mortality compared to the no-action alternative, the proposed action is not likely to have impacts on any eulachon population in the greater Grays Harbor estuary system. The cavitation and propwash zone around large vessel propellers could create conditions that could directly kill or result in injury and/or disorientation sufficient to lead to indirect mortality of any larval fish that pass through this zone. However, the area of impact associated with any given vessel is small in proportion to the amount of habitat available. The area of impact is defined by the cavitation and propwash zone around vessel propellers. This zone is restricted to a small portion of the 350-foot-wide navigation channel and only occurs when vessels are present. Eulachon larvae are dispersed by tides and currents throughout the entire Grays Harbor estuary. The proportion of eulachon larvae likely to be exposed to propeller impact zones from increased vessel traffic is miniscule. This conclusion is illustrated by an analysis conducted by the Oregon liquefied natural gas project on the potential impacts of vessel cooling water intake system impacts on Columbia River eulachon.<sup>13</sup> This analysis estimated that an increase in traffic of 120 liquefied natural gas ships per year would entrain approximately 0.01% of Columbia River volume during the period of larval migration, thereby resulting in an increase in larval eulachon mortality of approximately 0.01%. This is likely to be an overestimate because this

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<sup>13</sup> CH2M Hill. 2009. Technical Memorandum: Analysis of ESA-Listed Salmon Entrainment at Ballast and Colling Water Intakes. Prepared by R. Ellis, Ellis Ecological. April 29.

analysis relied on larval density rates observed downstream of known spawning areas that are not likely to be representative of the entire lower Columbia River.

The Oregon liquefied natural gas study used this very conservative (high) estimate of larval mortality to demonstrate that this level of effect is likely to be insignificant by comparison to documented natural mortality rates for larval fish. McGurk<sup>14</sup> compiled observed larval mortality rates for a variety of marine species from across the globe. The observed larval mortality rates for species with life history and larval habitat use comparable to the eulachon range from 10 to 41% per day. In practice, only a fraction of a percent of larvae survive to reach juvenile age in a typical year, the remainder die primarily from starvation and predation. The Oregon liquefied natural gas study concluded that even if vessel operations resulted in mortality of an unrealistically high 0.01% of larval eulachon in the lower Columbia River, that effect would be insignificant compared to the natural mortality rate. This provides a useful point of comparison for the proposed action. The propeller impact zone associated with a vessel operating in the Grays Harbor Navigation Channel represents a miniscule fraction of the total available habitat in the lower Chehalis River and Grays Harbor at any given moment. Therefore, the proportion of larval eulachon exposed to propeller impact zones on any given day would represent a fraction of a percent of the total number of larvae present. Even if all exposed larvae are killed, the effect would be insignificant compared to natural variability in the daily larval mortality rate. Extending this logic, propeller impact zones from increased vessel traffic would have an effectively unmeasurable impact on the proportion of larval eulachon that survive to juvenile age.

## Comment T8-82

The DEISs acknowledge the tremendous risk of harm from invasive species as thousands of cubic meters of ballast water are discharged each visit. Westway DEIS at 3.4-16. The DEISs, however, have only required that the project proponents prepare an invasive species monitoring plan, *id.* at 3.5-31, without indicating what that plan must consist of or how it will reduce harms from invasive species.

## Response T8-82

Refer to responses to comments T8-26 and T8-76.

## Comment T8-83

The only other mitigation measure to protect Grays Harbor and its animal life is equally ineffective. Westway and Imperium have agreed to cease vessel-loading operations for a two-week period each year during the Grays Harbor Shorebird Festival. *Id.* at 3.5-21. Shorebirds do not confine their use of Grays Harbor to the Shorebird Festival—they live in and around the area at all times and are always present at high numbers. Rather than a mitigation measure to protect shorebirds, this requirement appears more like one to avoid displeasing birders during the festival. More is needed to be counted as mitigation.

## Response T8-83

Although ceasing vessel-loading operations for 2 weeks during the Grays Harbor Shorebird Festival would reduce risks related to oil spills that could affect migratory birds as well as other species in

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<sup>14</sup> McGurk, M. D. 1986. Natural mortality of marine pelagic fish eggs and larvae: role of spatial patchiness. *Marine Ecology—Progress Series*. 34: 227-242.

the area, the Final EIS reflects revisions to clarify that the applicant's primary intent in committing to this voluntary measure is to recognize the importance of the annual Grays Harbor Shorebird Festival to the community and those attending the festival and to eliminate the chance of a spill from vessel-loading operations during this time. The measure has been moved to Final EIS Chapter 3, Section 3.10, *Recreation*, to reflect this clarification.

## Comment T8-84

Final EIS Chapter 4, Section 4.4.3, *What mitigation measures would reduce impacts related to terminal operations at the project site?* includes additional measures that would help to reduce the potential impacts associated with oil spills and, therefore, minimize the potential risks for affecting wildlife.

Additionally, stormwater is another critical concern, given the toxicity of the material being shipped. The surrounding water bodies are already listed as impaired under the state's § 303(d) list, and under Ninth Circuit precedent, any additional discharge to such impaired waters is prohibited. The provisions in the construction and industrial stormwater general permit are not adequate to the task of controlling toxic runoff from facilities into sensitive and impaired water bodies. This is particularly ominous given the DEISs acknowledgement of a substantial likelihood of spills occurring at the facility.

It goes without saying that a major spill would devastate marine and bird life in Grays Harbor. But that risk, and the risks from routine operations, goes far beyond the species to the people who have fished and gathered in this area since time immemorial. See *supra* Section 7. The Quinault and others use Grays Harbor to harvest Dungeness crab, Pacific halibut, Pacific whiting, salmon, lingcod, sablefish, nearshore flatfish and rockfish, forage fish, oysters, and razor clams. The Quinault Indian Nation holds treaty rights to 50% of the harvestable fish and shellfish within their treaty area, including Grays Harbor. For the Quinault, that harvest is critical, totaling on average value of \$12,688,000. Exh. 6, Testimony of Ervin Joseph Schumacker at 3. The Quinault language has names for many of these species including "komolnil" (surf smelt) and "paagwals" (eulachon). *Id.* Harm to these species and treaty resources can be caused both through natural mortality or toxin accumulations that make the fish unsafe for human consumption. *Id.* Again, the treaty impacts have not been adequately addressed and cannot be adequately mitigated.

## Response T8-84

Stormwater impacts are addressed in Draft EIS Chapter 3, Section 3.3, *Water*. The project site's surrounding water bodies are not listed as impaired under 303(d). The water quality information in the Draft EIS is based on the latest Washington State Department of Ecology and U.S. Environmental Protection Agency (EPA) water quality information reported under Clean Water Act Section 303(d). Based on the current U.S. EPA-approved 2012 303(d) assessment of impaired waters in Washington State, no area of inner Grays Harbor around the project site is listed as being impaired (Category 5 water). Washington State Department of Ecology sent the proposed 2014 list of impaired waters in Washington State to EPA in 2015, and approval is still pending. However, a review of the 2014 proposed 303(d) impaired water body listings shows no impaired waters (Category 5) for any part of inner Grays Harbor. Regardless, the project site would still need to comply with the National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharge to avoid discharge of contaminants into surface waters that would result in exceedance of water quality standards. The permit and stormwater system is designed to manage stormwater runoff and

associated contaminants for routine site operations; it is not designed for a catastrophic oil spill. Potential impacts of a large-scale oil spill are addressed in Draft EIS Chapter 4, *Environmental Health and Safety*, which acknowledges the risk and significance of an oil spill on the environment.

Final EIS Chapter 4, Section 4.7.1.7, *Tribal Resources*, reflects the addition of information clarifying that impacts on specific resources in the study area would have consequent impacts on the quality of and access to these resources for tribal economic, subsistence, and ceremonial purposes.

## Comment T8-85

### 14.2 SPECIFIC IMPACTS NOT ADDRESSED

Washington Department of Fish and Wildlife recommended in previous scoping comments that the DEISs should include a series of status determination studies for key fish and wildlife populations in Grays Harbor and nearshore Pacific Ocean waters to establish a baseline prior to the expansion of the facilities. The DEISs failed to meet WDFW's recommendations and there is a need for additional information. The proponent should consult with Washington Department of Fish and Wildlife, USFWS, and the Quinault Indian Nation (a co-manager of fish species along with the state) to formulate a comprehensive analysis to determine the impacts on animals. Accurate mitigation measures cannot be identified without a complete agreed upon analysis.

### Response T8-85

Draft EIS Chapter 3, Section 3.5, *Animals*, and Appendix F, *Special-Status Species*, provide information about the species that are known to or have the potential to occur within the study area. Final EIS Chapter 4, Section 4.7, *Impacts on Resources*, reflects additional information about the potential impacts on sensitive species in the event of an oil spill, fire, or explosion. As noted in the Draft EIS, the potential impacts on wildlife from construction and routine operations would be addressed through compliance with required best management practices and proposed mitigation measures. Potential impacts associated with an oil spill, fire, or explosion would be unlikely but could be significant in the event of a large incident. Mitigation measures proposed in Chapter 4 would help to reduce potential impacts on wildlife in the event of an incident. The level of baseline information has been deemed sufficient for the purposes of supporting the conclusions presented in the Final EIS.

## Comment T8-86

- Birds

The Migratory Bird Treaty Act (MBTA) is the primary legislation in the United States that was established to protect migratory birds. It prohibits the taking, killing, or possession of migratory birds or parts, nests, eggs of such birds unless permitted by regulation. Take under the MBTA is defined to take, capture, or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment. The species of birds that are protected under the MBTA all appear in Title 50, Section 10.13 of the Code of Federal Regulations (50 C.F.R. 10.13) and include all avian families in North America.

The proposed action areas occur in Grays Harbor, which supports a wide variety of birds and their habitats. The DEISs proposed actions will occur in ecologically diverse habitats utilized by seabirds

such as alcids, shearwaters and gulls, shorebirds such as herons and sandpipers, and waterfowl such as ducks and geese. Vessel movements on the ocean surface have the potential to affect birds by disturbing or striking individuals and flocks. The increased vessel traffic will lead to both direct and indirect effects of migratory birds. There are several factors including presence and density of bird numbers, types of vessels, speeds, protective measures and time of year that will affect the probability of a ship and seabird collisions occurring in Grays Harbor. None of these impacts were assessed in the DEISs. The vessel strike sections only cover marine mammal strikes but do not mention avian strikes, which could result in a taking under the MBTA.

Take of a migratory bird will likely increase with the increase of vessel traffic in the harbor. Direct collisions with birds could occur in the water or flight with a vessel's rigging, wires, poles or masts. In addition, vessel transits will likely increase the probability of nighttime collisions, especially with common inclement weather such as fog or clouds common in Grays Harbor. There is no mitigation proposed to address these impacts to migratory birds.

The increase of vessel traffic will also lead to an increased presence of artificial light. Research (Black 2005) indicates that lighting on vessels may attract some birds and cause them to become disoriented. As the proposed action will occur in the Pacific Flyway for migratory birds this is a major concern not addressed. The DEISs have not properly analyzed what effects the increased artificial lights will have on migratory birds nor do they propose any mitigation to address these impacts.

The proposed DEISs acknowledge an increase of vessel traffic in Grays Harbor. The increase of vessel traffic will lead to an increase of expended materials that are being transported, including, but not limited to, crude oil. Birds of all sizes such as sea birds, shore birds and waterfowl are known to ingest a wide variety of marine debris that is commonly mistaken for prey. Because vessel traffic will pass by Damon Point, Bowerman Basin National Wildlife Refuge and the Grays Harbor Estuary, all of which are habitats of significance on the Pacific Flyway, the DEISs should have analyzed the likelihood and extent of expended materials impacts on migratory birds. In addition there is no proposed mitigation to address expended materials that might lead to direct take of migratory birds.

## **Response T8-86**

The potential effect of vessel traffic on birds (movement patterns, strikes, ship lighting, and expended material) suggested by the comment is noted. The context in which to consider this potential impact is the use of the existing Grays Harbor navigation channel. As stated in Draft EIS Chapter 3, Section 3.17, *Vessel Traffic*, the large commercial vessels already using Grays Harbor include tankers, tank barges, cargo ships, cargo barges, RoRo vessels, and commercial shipping vessels, in addition to smaller fishing and recreation vessels. As stated in Section 3.17, hundreds of large commercial vessels currently transit Grays Harbor every year. As stated in Draft EIS Section 3.9, *Aesthetics, Light, and Glare*, vessel lights are designed to identify the vessel and its location but do not act as floodlights to illuminate the surrounding area. Given baseline conditions and the nature of vessel lighting, increased routine vessel traffic (less than one trip per day) under the proposed action would not have a significant adverse impact on birds.

Draft EIS Chapter 4, *Environmental Health and Safety*, presents the analysis of risk of oil spills, fires, and explosions related to the proposed action. The analysis considers the effectiveness of existing regulations and identifies additional mitigation measures in Sections 4.4.3, 4.5.3, and 4.6.3 that would reduce the likelihood of a spill reaching the environment and the potential impacts of an incident at the terminal, along the PS&P rail line, or in Grays Harbor, respectively. As noted,

mitigation would not completely eliminate the possibility of an incident. Depending on the location, amount spilled, type of crude oil, and environmental conditions, such as the time of year, water flows, and weather conditions, environmental impacts could be significant. Section 4.7, *Impacts on Resources*, describes the types of impacts that could result from an oil spill, fire, or explosion, including impacts on birds.

## Comment T8-87

One federally endangered species not mentioned in the DEISs is the California Brown Pelican (*Pelecanus occidentalis californicus*). Briggs et al. (1983) stated that large numbers can be found roosting during the winter season on sandy islands, protected from predators and winds, in Oregon and Washington. The total metapopulation of California Brown Pelicans has been estimated at 70,000 breeding pairs. (Stinson 2014). California Brown Pelicans disperse north seasonally along the Pacific coast from nesting areas in search of food, with small numbers dispersing as far as southern British Columbia. These birds are found in Washington's coastal waters, mainly from April through November with a peak in late July to early September; their numbers decline in October and November with the onset of stormy weather. Id. Areas of congregation during this season include Grays Harbor. Wahl and Tweit 2000 published a paper that conducted offshore surveys 1972-1998 from the mouth of Grays Harbor and recorded 32,533 California Brown Pelicans. They also found that 97% of the observations were recorded in channel or littoral waters that were less than 65 ft. deep.

The Washington Department of Fish and Wildlife confirmed the Brown Pelican (*Pelecanus occidentalis*) is currently listed as Endangered by the State of Washington. The DEISs fail to acknowledge this. Brown Pelicans present seasonally in Washington and belong to the California subspecies. (Stinson 2014). They nest on islands in the Gulf of California and along the coast of Baja California in Mexico north to Channel Islands National Park in southern California. In Washington, Brown Pelicans gather in communal roosts on sandy islands, exposed shoals, and a few artificial structures in the Columbia River, Grays Harbor, and Willapa Bay estuaries, and rocky islands off the coast of the Olympic Peninsula." Id. Stinson noted, "Oil spills and oil pollution remain a potential threat to Brown Pelicans." There is no analysis conducted in the DEISs to assess the potential impacts to the California Brown Pelican or Brown Pelican.

## Response T8-87

The brown pelican is covered in the Draft EIS (Appendix F *Special-Status Species*); brown pelicans present seasonally in Washington belong to the California subspecies (*P. o. californicus*). Impacts described in Draft EIS Chapter 3, Section 3.5, *Animals*, and Chapter 4, Section 4.7, *Impacts on Resources*, (for oil spills) apply to the brown pelican, as well as all other birds. The brown pelican is not a federally endangered species as suggested by the commenter; it was delisted in 2009 due to recovery and it is currently a species of concern. Washington Department of Fish and Wildlife has recommended that the brown pelican be removed from Washington's list of endangered species based on their latest status review from October 2015 (because they are not immediately threatened). "We recommend that the Brown Pelican be removed from Washington's list of endangered species."<sup>15</sup> On November 6, 2015, Washington Department of Fish and Wildlife formally

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<sup>15</sup> Washington Department of Fish and Wildlife. 2015. *Periodic Status Review for the Brown Pelican*. Prepared by Derek W. Stinson. October.

proposed to delist the brown pelican by proposing to amend WAC 232-12-014.<sup>16</sup> The department filed a notice of rule change on May 6, 2016.<sup>17</sup>

## Comment T8-88

- Marine Mammals

The DEISs fail to include or address sea otters (*Enhydra lutris*) that are protected under the Marine Mammal Protection Act and Endangered Species Act (“ESA”) (listed as threatened in 1997). The primary reason sea otters were listed under the ESA was due to the risk of oil spills in its geographically constricted Range (USFWS 1997). Sea otters occupy most coastal habitats including bays, estuaries and rocky shores that include Grays Harbor. Sea otters were historically and culturally harvested by the Quinault Indian Nation for pelts.

The DEISs have no assessment of the potential impact of oil spills or vessel collisions that might impact sea otter populations. The Exxon Valdez that ran ashore in Prince William Sound Alaska proved to have a drastic impact on sea otter mortality estimated mortalities from 500-5,000. (Garrott, et al., 1993.) The DEISs fail to properly address or analyze the potential impacts to sea otter populations in Grays Harbor.

The DEISs state the greatest likelihood of striking marine mammals is in the shipping lanes but do not acknowledge the presence of Gray Whales, Harbor porpoise, Stellar Sea Lions, CA Sea Lions, Harbor Seals, all of which frequent Grays Harbor. It is incorrect that larger whales do not frequent Grays Harbor; Gray Whales are common, according to the Department of Ecology. See [http://www.ecy.wa.gov/programs/sea!coast/animals/gray\\_whale.html](http://www.ecy.wa.gov/programs/sea!coast/animals/gray_whale.html).

## Response T8-88

The sea otter is listed as one of the special-status species in Appendix F, *Special-Status Species*, which supports Section 3.5, *Animals*. Based on Washington Department of Fish and Wildlife’s sea otter recovery plan, sea otters are rare near Grays Harbor. While they were historically found in waters off Grays Harbor, their current distribution is concentrated almost exclusively on rocky habitat along the Olympic Peninsula Coast and western Strait of Juan de Fuca; these areas are well outside of the study area. However, in the unlikely event a sea otter were to be found in Grays Harbor, the Draft EIS impact analyses cover impacts on the species because the discussion for marine mammal impact mechanisms (noise, vessel collisions, and oils spills) covers all species collectively. Potential large-scale oil spill impacts on animals in the study area (aquatic and terrestrial) are specifically addressed in Chapter 4, Section 4.7, *Impacts on Resources*.

The Draft EIS acknowledge that harbor porpoises, Steller sea lions, California sea lions, and harbor seals are found in the study area, which includes Grays Harbor (Chapter 3, Section 3.5, *Animals*, and Appendix F *Special-Status Species*). Final EIS Chapter 3, Section 3.5, *Animals*, reflects new information to address whale use of Grays Harbor, including frequent use by the gray whale.

The vessel impact mechanisms described in Draft EIS Section 3.5 remain the same, but marine mammals that are more common in Grays Harbor and nearshore coastal waters would be at a higher

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<sup>16</sup> Washington Department of Fish and Wildlife. 2015. Determination of Nonsignificance. Delisting Brown Pelicans as a State Endangered Species. DNS 15-059. November 6.

<sup>17</sup> Washington Department of Fish and Wildlife. 2016. Rule-Making Order . Brown Pelican Delisting. May 6. Available: [http://wdfw.wa.gov/about/regulations/2016/wsr\\_16-11-023.pdf](http://wdfw.wa.gov/about/regulations/2016/wsr_16-11-023.pdf).

risk from vessel strikes. Final EIS Chapter 3, Section 3.5.5.2 *Proposed Action, Operations*, reflects information to address the higher risk for these species. Even though the Draft EIS states that the greatest likelihood of a vessel striking a marine mammal is in the shipping lanes, this impact in the actual study area is not precluded from the analysis because the impact analysis covers the entire study area, which includes Grays Harbor. The description of the affected environment and the impact analysis is for the entire study area, as described in Section 3.5.3.2, *Impact Analysis*. Therefore, the vessel strikes impact section covers all marine mammals in the entire study area, regardless of how rare or common those species may be in the study area.

## Comment T8-89

- Fish

The DEISs do not accurately describe the animals found in the study area:

- The timing of Chinook migration was mischaracterized. Fall-run adults return to the freshwater rivers and streams to spawn and pass through Grays Harbor from mid-August to mid-October, not in September as stated. Spawning of fall Chinook occurs from mid-October into late November. Spring-run adults are likely to pass through Grays Harbor in April (entering the fisheries from April through August) on their return trip to spawn in upper tributaries (from late August to mid-October).
- Steelhead Trout actually enter the fishery from November to mid-April and spawn from mid-March until the beginning of June, not between January and March as indicated in the DEISs.

## Response T8-89

Final EIS Chapter 3, Section 3.5.4.3 *Grays Harbor, Aquatic Habitats, Fish*, reflects additional information to address the distinction between the presence of Chinook salmon and steelhead in Grays Harbor and the timing of river entry. This new information does not change the analysis or conclusions of the Draft EIS.

## Comment T8-90

The DEISs fail to assess the potential affects from photo-enhanced toxicity. Photo-enhanced toxicity occurs when some of the compounds in bitumen dissolve into water and are absorbed by translucent embryos. This mechanism has been shown to negatively affect species such as Pacific herring embryos by burning them. (Short, 2015).

The DEISs fail to acknowledge the potential negative impacts from the project to macroinvertebrates on which salmonids feed upon in fresh and brackish waters. Ort et al., found Mayfly survival reduced upon a 21-day exposure to oil-contaminated sediments. Furthermore they found the persistence effects of freshwater oil spills should be thoroughly investigated when determining the length of time required to assess the extent of environmental injury following a spill.

## Response T8-90

Final EIS Chapter 4, Section 4.7, *Impacts on Resources*, reflects additional information to address photo-enhanced toxicity as another potential impact from an oil spill. There are a considerable

number of studies and information on the potential impacts of oil on aquatic resources and physiological functions of aquatic species; these studies cannot all be discussed and listed. However, it should be noted that Draft EIS Section 4.7, *Impacts on Resources*, summarized the range of adverse impacts that could occur.

### **Comment T8-91**

The DEISs fail to identify or analyze impacts and mortality resulting from propellers and prop-wash from tankers and tugboats on small fish, larval crab and other treaty resources. Propeller turbulence from tankers and tugboats will inevitably kill small fish and crab larvae within and outside the Harbor. There is no feasible method for excluding small fish and crab larvae from the prop-wash and therefore some will be killed as a direct result of increasing large vessel traffic. Fish killed would likely include out-migrating salmonids and various forage fish including the ESA-listed Pacific eulachon. Exh. 6, Schumacker Testimony, 24.

### **Response T8-91**

Refer to Response to Comment T8-81. The McGurk study<sup>18</sup> compiled mortality data on a variety of fish eggs, larvae, juveniles, and invertebrates; the same rationale that applied to eulachon applies to other species. The proportion of these species in these life forms exposed to propeller impact zones on any given day would represent a fraction of a percent of the total number present.

### **Comment T8-92**

The DEISs address underwater vessel noise by stating that impacts from vessel noise on animals can be severe, then go on to say that impacts will "... increase somewhat under the proposed action, as a result of increased vessel trips." There is no evidence in the discussion to justify the use of "somewhat." In fact, the preceding information indicates probable significant impacts, yet vessel noise is not mitigated or mentioned in the significant and unavoidable impacts.

### **Response T8-92**

The Draft EIS states that the impacts from vessel noise on animals could be mild to severe, but the paragraph that the commenter's text is taken from in the Draft EIS goes on to state that, "[t]he effects of increased noise associated with vessel trips would depend on many factors, including vessel type, size of vessel, species of animal, vessel location, and location of animal relative to vessel and the intervening environment" and that the wide range of potential impacts and variable factors "[make] it challenging to broadly characterize impacts of shipping noise on marine mammal species (Ellison et al. 2012 in Joint Working Group on Vessel Strikes and Acoustic Impacts 2012:9)." The word "somewhat" in the sentence referenced by the commenter is not being used to describe the severity of the impact but is being used to indicate that the potential impacts would increase to some extent "as a result of increased vessel trips." The majority of aquatic species that would be exposed to underwater vessel noise have hearing frequencies outside of the frequency generated by tankers. As stated in Chapter 3, Section 3.5, *Animals*, tankers exhibit underwater noise frequencies in the lower end of the shipping noise spectrum (40 Hertz), which is below the lower hearing threshold of most marine animals except for some baleen whales (Figure 3.5-1). As stated in Section

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<sup>18</sup> McGurk, M. D. 1986. Natural mortality of marine pelagic fish eggs and larvae: role of spatial patchiness. *Marine Ecology—Progress Series*. 34: 227-242.

3.5, tank barges would produce even less near-surface sound. For these reasons, the potential impacts are not considered significant.

## Comment T8-93

### 14.3 INCREASED SEDIMENTATION

The DEISs identify the potential water quality impacts from increased sedimentation caused by increased vessel traffic, on site construction activities, dredging activities, oil spills, and fire hazards from the proposed actions. Yet the DEISs fail to analyze the effects of increased sedimentation on animals, in particular fish life. Increased sedimentation causes high turbidity and suspended sediment levels, which is associated with negative effects on the spawning, growth, and reproduction of salmonids (Bash et. al., 2001).

The DEISs acknowledge the fact that bioaccumulative toxins are present in sediments near the project site and could be released during dredging activities. The DEISs fail to include the fact that six individual chemical criteria were exceeded at the Grays Harbor Paper Mill in an investigation conducted by the Department of Ecology in 1999 (Norton, 1999). The DEISs fail to analyze how the release of these contaminants could affect animals and treaty-protected resources. For example 4-methylphenol was detected by Ecology but not reported in the DEISs. A report by the USFWS found that when dredging occurs, winds and tides re-suspend sediment throughout the harbor which remain in the food chain and negatively affect salmonids. The applicant must meet WAC 173-204 Sediment Management Standards, these standards are set in place to protect federally listed species. The DEISs should include a full Sediment Evaluation with procedures and tests compliant with WAC 173-204.

## Response T8-93

The Draft EIS addresses potential impacts of suspended sediment on water quality, plants, and aquatic animals in Section 3.3 *Water*, Section 3.4 *Plants*, and Section 3.5 *Animals*. The Draft EIS states, “these contaminants could have toxic acute or subacute impacts on aquatic organisms and could affect photosynthesis, oxygen exchange, and the respiration, growth, and reproduction of aquatic species.” However, the proposed action would require a National Pollutant Discharge Elimination System (NPDES) construction stormwater general permit and an NPDES industrial stormwater permit to address potential impacts on water quality from construction and operation, respectively. The Clean Water Act NPDES regulatory mechanisms and permits set limits on what can be discharged, prescribe monitoring and reporting, and set provisions to ensure that the discharge from a site does not adversely affect water quality. Impacts on the aquatic environment would be significantly reduced through compliance with these permitting requirements. The applicant would also comply with the sediment management standards and requirements found in WAC 173-204 during construction and operation of the proposed action.

The potential for vessel-induced sedimentation impacts on aquatic organisms is not anticipated to be significant because vessels would be confined to the existing deepwater navigation channel. As stated in Draft EIS Chapter 3, Section 3.3 *Water*, the areas of the terminal and the Cow Point Turning Basin already have existing high baseline turbidity levels. Any resuspension of sediments from vessel movements or propeller wash in this area of existing high turbidity levels is likely to have little or no additional effects on the benthic communities or other aquatic species. Similarly, because temporary resuspension of sediments in the navigation channel occur on a regular basis, it is unlikely that vessel traffic associated with the proposed action would cause any perceptible effects

on the benthic communities and aquatic organisms, which are already adapted to the disturbance in the navigation channel. As such, these potential impacts are not expected to be significant (as defined by SEPA regulations WAC 197-11-794) given the context and existing baseline conditions.

The proposed action does not include dredging of any kind and no-in water work is proposed for any element of the proposed action. The U.S. Army Corps of Engineers conducted extensive sediment sampling for more than 50 compounds (including 4-methylphenol) in 2013 for their proposed navigation channel dredging activities in Grays Harbor<sup>19</sup> and did not find any exceedances of the dredge material management program screening guidelines, with the exception of one chemical in one location in Cow Point Reach—benzyl alcohol; but in subsequent rounds, this chemical was either below the screening level or undetected. The U.S. Army Corps of Engineers states that benzyl alcohol is not a bioaccumulative chemical of concern and does not have a bioaccumulation trigger. Dredging and placement of dredged materials are evaluated by the dredge material management program agencies: the U.S. Army Corps of Engineers, Washington State Department of Ecology, Washington State Department of Natural Resources, and U.S. Environmental Protection Agency.

## Comment T8-94

14.4 THE PROJECTS WILL HARM FISH AND WILDLIFE ON THE MARINE ROUTE BEYOND GRAYS HARBOR.

Like Grays Harbor itself, the areas on the marine route are the vibrant homes to many species that would be put at risk from these projects. The nearshore Pacific ocean is critical habitat for species listed under the ESA, including leatherback sea turtle, green sturgeon, and Eulachon. It is essential fish habitat for West Coast salmon, ground fish, forage fish, and coastal pelagic sharks. It is also important for thresher sharks and juvenile and adult rockfish.

Vessels going north out of Grays Harbor would pass Olympic National Park and offshore colonies of nesting seabirds, rocky haul-outs for seals and sea lions, and the Washington Maritime National Wildlife Refuge Complex. It is also home to bull trout, steelhead, and Chinook, chum, coho, sockeye, and pink salmon. That area is also frequented by orcas, and it is designated as critical habitat for the southern distinct population segment of green sturgeon. It is the site of the Olympic Coast National Marine Sanctuary, including hundreds of islands where the largest seabird breeding colonies in the region live under federal protection by the Washington Islands National Wildlife Refuges. NOAA Letter at 1. The coastal area north of Grays Harbor is also part of the Quinault Indian Nation's treaty area and contains the primary harvest for Dungeness crab, razor clams, troll-caught salmon, lingcod, various rockfish species, and many species of intertidal organisms such as anemones and limpets also consumed by Quinault. Schumacker at 8.

As the DEISs acknowledge, many ESA-listed whale species live off the Washington coast near Grays Harbor, including blue, fin, and sei whales, sperm whales, orcas, and humpbacks. Other whale species like the pygmy sperm whale and the common minke also live in the area. Many species of turtles also live near the ocean coast, including leatherbacks, loggerheads, and olive ridleys.

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<sup>19</sup> U.S. Army Corps of Engineers. 2014. *Grays Harbor, Washington Navigation Improvement Project General Investigation Feasibility Study FINAL Limited Reevaluation Report*. Appendix C: FINAL Supplemental Environmental Impact Statement. June. Seattle District.

A spill in Grays Harbor could flush out and devastate these areas and wildlife. Effects from the *Nestucca* oil spill affected areas all the way from the Oregon coast to Vancouver Island. WDFW Comments at 2. A repeat would be disastrous as high mortality rates are seen as results of major oil spills, such as the *Exxon Valdez* spill. WDFW Comments at 4. Any oil spill in this area could devastate a number of fisheries and cultural resources. For example, Quinault consider the Pacific razor clam a part of their cultural identity, and they have harvested them for millennia in this area. Large middens of razor clam shells have been uncovered in archaeological excavations on the shores north of Grays Harbor. These clams reside in sandy beaches in the intertidal and subtidal nearshore areas of the coast. Schumacker Testimony at 8. Indeed, recent studies have shown that razor clams may be particularly vulnerable to oil spills. Id. at 8-9.

### **Response T8-94**

Draft EIS Chapter 5, *Extended Rail and Vessel Transport*, addresses the potential for impacts from rail and vessel transport in the extended study area qualitatively for the reasons described in the Master Response for Geographic Scope of the EIS. Final EIS Chapter 5 reflects additional information characterizing potential risks related to rail and vessel transport in the extended study area under existing conditions, the no-action alternative, and the proposed action. Final EIS Chapter 6, *Cumulative Impacts*, reflects additional information about the potential risks under cumulative conditions.

### **Comment T8-95**

14.5 THE PROJECTS WILL HARM FISH AND WILDLIFE ON THE RAIL ROUTE TO THE PROJECTS.

The rail routes from the extraction points in Alberta and North Dakota to the projects are home to numerous species that would be harmed by the increased rail traffic and threat of spills. The Chehalis, Humptulips, Wishkah, Johns, Elk, and Hoquiam rivers provide vital habitat for all life stages of salmonids and other fish; the effects to fish habitat from a crude spill could be irreversible. Local, state, federal, and tribal entities contribute millions of dollars a year to protect and restore declining estuarine and freshwater habitat, yet the cumulative effects over time of these projects could directly compromise these efforts. The rail route crosses streams with habitat for federally threatened bull trout, including the Wishkah River, Satsop River, and Wynoochee River—all of these are designated as critical habitat for the species. Westway DEIS at 3.5-7. The rail route also crosses habitat for state species of concern westslope cutthroat trout. The DEISs acknowledge that there are many other special-status species that live along the PS&P rail line, including northern spotted owls, marbled murrelets, and pocket gophers. Westway DEIS at 3.5-6. The rail route would also likely affect National Parks and the animals living in them, including grizzlies. National Park Service Scoping Comments at 2-3.

### **Response T8-95**

Draft EIS Chapter 5, *Extended Rail and Vessel Transport*, addresses potential impacts from rail transport—1.25 unit train trips per day on average—in the extended study area qualitatively for the reasons described in the Master Response for the Geographic Scope of the EIS. Chapter 5 acknowledges that the routine transport of crude oil in the extended study area related to the proposed action could increase impacts similar in nature to those described in Chapter 3, *Affected Environment, Impacts, and Mitigation*.

Final EIS Chapter 5 reflects additional information characterizing potential risks related to rail transport in the extended study area under existing conditions, the no-action alternative, and the proposed action. Final EIS Chapter 6, *Cumulative Impacts*, reflects additional information about the potential risks under cumulative conditions. Although the proposed action could result in an increase in the likelihood of an incident involving the release of crude oil, individually and cumulatively, the potential consequences would be similar in nature and magnitude to those that could occur under existing conditions and the no-action alternative and could not be completely eliminated. Depending on the specific circumstances of the incident, there is the potential for significant impacts. The potential impacts described in Section 4.7, *Impacts on Resources*, would apply to the extended study area.

Chapters 4, 5, and 6 of the Final EIS reflect updated information about ongoing efforts to address existing safety concerns within the extended study area. These efforts would also help to reduce any risks related to the proposed action.

### **Comment T8-96**

Oil spilling into waters along the train routes would have a significant impact on resident and anadromous fish runs, potentially devastating them. Additionally, grizzlies and other wildlife are at risk from collisions, and this can lead to secondary mortality when adult animals are become unable to care for their young.

Growing infrastructure also results in the fragmentation of wildlife habitat, which can result in the decline of wildlife populations and ecosystem diversity (Hansen & DeFries 2007). Building or increasing the use of rails can hinder the movement of wildlife and thus ecological process. The increase of rail traffic from the proposed projects will cause stress and contribute to increased mortality rates in wildlife populations. Decreased wildlife movement will result in lower immigration rates that will lead to more habitat fragmentation and support lower wildlife populations which can lead to lower reproduction, lower genetic diversity and even possible local extinction. The proposed rail line was not analyzed for wildlife connectivity. Yet Grays Harbor and the Olympic Peninsula contain recently reintroduced and proposed candidate species Fisher (*Martes pennati*) and contains high quality wolf (*Canis lupus*) habitat (Olympic National Park). Wolves were classified as Endangered in 1973 federally and Endangered in 1980 by the State of Washington under ESA. The current wolf recovery plan in the State of Washington calls for the recovery of wolves in a diverse geographic range including the Western third of the State. The DEISs do not analyze the potential impacts on wildlife connectivity from the proposed rail operation increases and have no proposed mitigation measures to address such impacts.

### **Response T8-96**

The potential for impacts in the extended study area is addressed qualitatively for the reasons discussed in the Master Response for the Geographic Scope. Wildlife collisions with trains in the study area are addressed in Draft EIS Chapter 3, Section 3.5, *Animals*. The section in the Final EIS reflects additional information to address related potential impacts on dependent young. Refer to Response to Comment T8-35.

## Comment T8-97

Based on the foregoing errors, inadequacies, and omissions, the Quinault Indian Nation disagrees with the assertion that "there would be no unavoidable and significant adverse impacts" on fish and wildlife.

### Response T8-97

Comment acknowledged.

## Comment T8-98

### 15.0 PUBLIC HEALTH

Ecology and Hoquiam have not prepared a Health Impact Assessment ("HIA") for this project. As the Washington Department of Health explained in reference to a similar crude-by-rail project on the Columbia River:

A Health Impact Assessment is a tool that communities and decision-makers can use to objectively evaluate the potential health effects of a project before it is built. A Health Impact Assessment includes a process for bringing together public input and project-relevant data to make recommendations that minimize adverse health effects. *[Footnote: Exh. 39, Comments from the Washington Department of Health to EFSEC regarding Scope of the EIS for Tesoro-Savage (Dec. 17, 2013).]*

A Health Impact Assessment can evaluate the significant public health impacts outlined in the Washington Department of Health's SEPA scoping comment letter to EFSEC for the Tesoro-Savage project, which include the impacts of: diesel exhaust; passenger vehicle emissions; greenhouse gas emissions; noise; rail traffic and access to emergency care; spills and drinking water systems and supplies; train derailments; rail traffic and pedestrian safety; rail traffic and recreation; and rail traffic and community wellness impacts. *[Footnote: Id.]*

The DEISs do not present a full public health impact analysis. While the DEISs present some public health information, see, e.g., Imperium DEIS at 3.2.5 (potential impacts on air quality) and at 3.7 (noise and vibrations), impacts are discussed in separate sections which makes it difficult to comprehend the complete public health impacts involved with these projects, as well as the way these impacts interact to affect public health. As another example, while the impacts of delays at rail crossings is discussed, those delays are not linked to public health concerns for emergency responders (although the DEIS does identify significant, adverse impacts to emergency response services, Westway DEIS at S-45). The DEISs must be revised to consider the information presented in a literature review report prepared by the Oregon and Washington chapters of Physicians for Social Responsibility and disclose these impacts to the public. *[Footnote: Exh. 40, Washington Physicians for Social Responsibility and Oregon Physicians for Social Responsibility, Position Statement on Crude Oil Transport and Storage to Governors of Washington and Oregon (May 2015).]* The report highlights the significant body of research demonstrating the significant, negative impacts of oil-by-rail pollution on public health.

### Response T8-98

SEPA does not require that a formal health impact assessment be conducted as part of an EIS. The Draft and Final EIS do consider the following impacts related to human health.

- Chapter 3, Section 3.2, *Air*, describes potential impacts on air quality and the potential for increased cancer risk from emissions of diesel particulate matter related to construction and routine operation of the proposed action.
- Chapter 3, Section 3.7, *Noise*, describes potential impacts on sensitive receptors near the project site and transportation corridors from increased noise and vibration related to construction and routine operation of the proposed action.
- Chapter 3, Section 3.16, *Vehicle Traffic and Safety*, describes potential impacts on public safety and emergency vehicle access from increased vehicle delay related to rail traffic from routine operation of the proposed action.
- Chapter 4, Section 4.7.1.7, *Human Health*, describes potential impacts of an oil spill on human health. Final EIS Section 4.7.1.7 has been revised to more fully describe potential impacts.
- Chapter 4, Section 4.7.2.3, *Human Health*, describes potential impacts of a fire or explosion on human health. Final EIS Section 4.7.2.3 has been revised to more fully describe potential impacts.

## Comment T8-99

### 15.1 NOISE

Noise in particular can be an overlooked public health issue. "Excessive noise seriously harms human health and interferes with people's daily activities at school, at work, at home and during leisure time. Noise can disturb sleep, produce cardiovascular and psycho-physiological effects, reduce performance, and provoke annoyance responses and changes in social behavior." Studies have shown that as environmental noise increases, children's performance on tests of reading ability and memory decreases. Research also shows that noise from road traffic and airplanes can negatively affect cardiovascular health in adults, and may influence blood pressure in children. Studies have also found links between environmental noise exposure and feelings of well-being." [Footnote: *Id. See also Exh. 7, Direct Testimony of Frank James.*]

The DEISs find significant adverse impacts to public health from noise that cannot be mitigated. Westway DEIS at S-40 ("Increased rail traffic related to the proposed action could increase noise levels for residents and other sensitive groups along the PS&P rail line.") *id.* at S- 60 (same for cumulative impact analysis, calling the increase "substantial").

## Response T8-99

Draft EIS Chapter 3, Section 3.7, *Noise and Vibration*, presents an analysis of noise impacts including noise from trains related to the proposed action. The analysis uses the Federal Railroad Administration (FRA) adopted noise assessment methods developed by the Federal Transit Administration (FTA). Per these methods, noise-sensitive land uses are identified within approximately 500 feet of the PS&P rail line for wayside noise and within 1,000 feet of grade crossings for train horn noise. No schools in the study area are within these distances.

As noted in Section 3.7.6.2, *Proposed Action*, the loudest hour (measured in Leq) at grade crossings and wayside locations under the proposed action would result from a single train passby, which occurs under existing conditions. This means the maximum hourly noise levels would not change. Because freight rail traffic does not run on a schedule, the analysis assumes rail events related to the proposed action are evenly distributed over a 24-hour day. No moderate or severe impacts on

sensitive receptors were identified for train wayside noise. The analysis identified moderate and severe noise impacts at residential receptors adjacent to grade crossings, due to the increase in horn noise events related to the proposed action over a 24-hour day. No moderate or severe impacts are predicted at schools.

The FRA/FTA criteria are based on a 24-hour average sound level that is weighted for events that occur at night. While the addition of approximately one train pass per day on average under the proposed action would increase the average daily noise level from horn soundings at rail crossings, and in some cases result in the impacts described above, the actual horn noise associated with any given train passage would not increase under the proposed action.

Section 3.7 identifies a proposed mitigation measure for the applicant to support local communities in applying for quiet zones at crossing where severe impacts from increased train horn soundings were identified. Where implemented, quiet zones would eliminate impacts. The Draft EIS acknowledges that where quiet zones were not implemented at these crossings, the potential for severe impacts would remain.

## Comment T8-100

### 15.2 AIR QUALITY

While DEIS section 3.2.5.2 describes air quality impacts that could occur in the study area as a result of construction and routine operation of the proposed action, it omits impacts indirectly caused by the projects, such as the increase in traffic on roads, rails, and by water. The following information is needed to provide a complete picture of the proposals' air quality impacts: (1) emissions from vehicles idling at rail crossings; (2) emissions from backup power generation; and (3) all indirect changes in locomotive activity (e.g. idling of non-project-related locomotives) due to increased rail congestion caused by this project.

### Response T8-100

In Draft EIS Chapter 3, Section 3.16, *Vehicle Traffic*, the vehicle traffic analysis demonstrates that increases in vehicle delay for the majority of the PS&P rail line would be minimal compared to existing conditions and the no-action alternative. Therefore, a detailed analysis of increased emissions from vehicle idling was not deemed necessary. Similarly, backup power generators would run infrequently and only in the case of emergency and would not have likely result in substantial emissions. As noted in Section 3.2, *Air*, switch engines associated with the proposed action were included in the emissions calculations. Although there would be increased activity in and around Poynor Yard during the arrival and departure of a train going to or from the project site, PS&P would manage arrivals and departures in this area in coordination with its other customers. Additionally, other trains in the vicinity use the Port's loop track, which has sufficient capacity to accommodate existing rail traffic.

## Comment T8-101

On the issue of sensitive receptors (defined as members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses), the DEISs list a disturbing number of schools, hospitals, day care centers, convalescent facilities, senior centers, and parks or recreational facilities located near the project site, along the PS&P rail line between Centralia and the project site, and along the shoreline of Grays Harbor.

The DEISs lack data regarding how individuals who live in and around these areas may be specifically affected by anything other than a risk of cancer. For example, asthma is listed as a possible health effect associated with this project. According to the Washington State Department of Health, more than 600,000 people in Washington have asthma and the U.S. Centers for Disease Control and Prevention have identified Washington's asthma prevalence as among the highest in the nation, and steadily increasing. Asthma results in days lost at school and work, high medical costs, loss of income, and other detrimental outcomes. More information is needed regarding the health effects associated with increased ambient concentrations of pollutants to be caused by the projects including but not limited to asthma, respiratory, and cardiac illnesses. This analysis should include evaluation of impacts on communities already burdened by air-related health impacts and/or other identified environmental justice communities.

### **Response T8-101**

Draft EIS Chapter 3, Section 3.2, *Air*, acknowledges that diesel particulate matter is linked to numerous health effects including asthma attacks and worsening of asthma symptoms. The cancer risk analysis of diesel particulate matter was specific to lung cancer and other forms of inhalation cancer. The other issues identified in the Draft EIS, including those listed by the commenter, are acute responses. To date, the U.S. Environmental Protection Agency (EPA) and the Office of Environmental Health Hazard Assessment (OEHHA) have not found sufficient evidence to fully understand the mechanism of exposure and clear dose-response relationships for these acute responses, and have precluded development of recommendations about levels of exposure that would be protective.

The current chronic reference exposure level for diesel particulate matter<sup>20</sup> used in the analysis, 5  $\mu\text{g}/\text{m}^3$ , was developed by EPA and adopted by OEHHA as the level below which no adverse non-cancer health effects are likely to occur from lifetime exposure to diesel particulate matter. This estimate considers persons who may be more sensitive to the effects of diesel particulate matter. Thus, short-term exposure to levels below 5  $\mu\text{g}/\text{m}^3$  would not pose any adverse health effects. The annual average diesel particulate matter concentration would be much lower than this level; therefore, diesel particulate matter emissions related to the proposed action would have no long-term, non-cancer health effects.

### **Comment T8-102**

A valid SEPA analysis must consider air pollution impacts that specifically accompany transporting oil. Transportation of crude oil long distances creates harmful air emissions from diesel locomotives. These effects will have a significant impact on the ability of air quality control regions through which the trains pass to meet the National Ambient Air Quality Standards-standards which are set to protect public health. As trains journey from North Dakota or Canada to Grays Harbor, they will pass through numerous non-attainment and maintenance areas. The DEISs omit this information because they artificially restricted their scope of review, as discussed above.

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<sup>20</sup> U.S. Environmental Protection Agency. 2014. *Diesel Engine Exhaust*. Available: [https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance\\_nmbr=642](https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=642)

## Response T8-102

Final EIS Chapter 5, *Extended Rail and Vessel Transport*, addresses air quality impacts in the extended study area qualitatively. Refer to the Master Response for the Geographic Scope of the EIS for an explanation of the scope of the analysis in the extended study area.

## Comment T8-103

The DEISs also downplay the impacts of criteria air pollutants (Imperium DEIS at p. 3.2- 11 to -12) because they are not modeled to violate the national ambient air quality standards (NAAQS). Public health problems can persist, even without air quality standard violations. The DEISs should particularly review fugitive emissions of VOCs (volatile organic compounds) escaping from tank cars and from the unloading and loading processes. Especially for Bakken crude, VOC emissions at other crude-by-rail facilities have been higher than predicted or modeled.

## Response T8-103

Draft EIS Appendix D, *Air Data*, Table 5, reports onsite emissions of criteria and air toxic pollutants, including fugitive emissions during filling and draining and from storage tank valves and flanges. It also reports onsite emissions of these pollutants from annual storage tank cleaning, operation of the marine vapor control system during vessel loading, and onsite rail operations and vessel hoteling.

The Final EIS reflects updated stationary source emission estimates based on the applicant's revised Notice of Construction application to the Olympic Region Clean Air Agency (ORCAA), which reflects requested ORCAA revisions to apply a more conservative crude oil Reid Vapor Pressure based on review of recently published crude oil data.

As noted in Section 3.2, *Air*, prior to operation, the applicant will be required to obtain a permit from ORCAA, which limits the amount of emissions allowed by the applicant to safe levels.

## Comment T8-104

The Quinault Indian Nation recommends requiring the installation of monitoring equipment near the proposed facilities to monitor air quality. If levels are found to exceed the standards, actions to reduce the emissions must be required. The Quinault Indian Nation recommends that air quality monitoring data be available in real time in a way that would be reasonable and convenient for a fisher or gatherer, and the public, to access.

## Response T8-104

Draft EIS Chapter 3, Section 3.2, *Air*, identifies the impacts to air quality and health risk assessment. The National Ambient Air Quality Standards (NAAQS) have been developed by the U.S. Environmental Protection Agency for widely emitted air pollutants to protect the health of the most susceptible populations. Section 3.2 shows that no violation of the NAAQS would occur during operation of the proposed action. Therefore, no mitigation has been recommended.

Section 3.2 also addresses the potential impacts of emissions of air toxics and identifies that that no air toxic would be above Washington State Department of Ecology's Acceptable Source Impact Level. Because of the concern with diesel emissions, which is primarily from locomotive emissions, and the potential for increased cancer risk, a diesel particulate matter cancer risk assessment was completed for the EIS.

Final EIS Section 3.2 reflects revised assumptions regarding rail operations (types and number of locomotives) based on information received from PS&P. The updated analysis predicts lower emissions than those presented in the Draft EIS; the level of increased risk is not considered significant. Therefore, no mitigation is proposed.

## Comment T8-105

### 16.0 SEISMIC HAZARDS

This is another area where the DEIS, even with flaws in its analysis discussed below, finds the risk of an oil spill cannot be fully mitigated and if a spill occurred, the environmental damage would be significant. Westway DEIS at S-37.

The Cascadia Subduction Zone, where the eastward-moving Juan de Fuca tectonic plate plunges beneath the westward-moving North American plate close to the Oregon coast [*Footnote: Oregon Department of Land Conservation and Development, Oregon Coastal Zone Management Program Tsunami Guide, <http://www.oregon.gov/LCD/OCMP/docs/Publications/TsunamiGuide20140108.pdf> (April 2014).*], creates a severe hazard for earthquakes of magnitude 9.0 or even higher. [*Footnote: Goldfinger, Christopher et al., Turbidite Event History—Methods and Implications for Holocene Paleoseismicity of the Cascadia Subduction Zone, U.S. Geological Survey Professional Paper 1661-F, <http://pubs.usgs.gov/pp/pp1661f/>, (2014).*] Experts estimate the recurrence time for earthquakes in the southern region of the Cascadia Subduction Zone, comprising Northern California and the Oregon coast, at 240 years over a period of 10,000 years. [*Footnote: Id. at 3.*] Because the last event occurred in 1700, experts estimate the likelihood of a severe seismic event within a reasonable 50 year lifetime of the facility at up to 42%. [*Footnote: Id. By the year 2060, within the lifetime of the proposed facilities, the southern portion of the Cascade Subduction Zone will have exceeded 85% of recurrence intervals if no major earthquake has yet occurred.*]

Additionally, since the subduction zone is located offshore, a tsunami of devastating proportions would follow. Experts predict a tsunami similar to the tsunami that inundated Japan's coast immediately following the 2011 Tohoku magnitude 9.0 megathrust earthquake. [*Footnote: Oregon Department of Land Conservation and Development, Oregon Coastal Zone Management Program Tsunami Guide at 5-6.*] The tsunami wave height at Fukushima crested at 49 feet [*Footnote: Charles B. Miller, Notes on Potential Effects of a Subduction Earthquake and Tsunami Sequence on a Jordan Cove LNG Terminal at 9. [http://350corvallis.org/wpcontent/uploads/2013/01/LNG-in-Tsunami-Zone\\_all.pdf](http://350corvallis.org/wpcontent/uploads/2013/01/LNG-in-Tsunami-Zone_all.pdf)*], consistent with early modeling studies showing that offshore mega-earthquakes in the Pacific U.S. region can trigger tsunamis with wave heights of 30 to 70 feet. [*Footnote: Dr. Hal Mofjeld, NOAA Center for Tsunami Research, Pacific Marine Environmental Laboratory, [http://nctr.pmel.noaa.gov/faq\\_display.php?kw=1998%20Interview%20with%20Dr.%20Hal%20Mofjeld#9](http://nctr.pmel.noaa.gov/faq_display.php?kw=1998%20Interview%20with%20Dr.%20Hal%20Mofjeld#9)*].] In Tohoku, the wave surged inland to a distance equivalent to 128 feet above sea level, traveled up to 6 miles inland, and killed over 15,000 people. [*Footnote: Becky Oskin, Japan Earthquake and Tsunami of 2011: Facts and Information, <http://www.livescience.com/39110-japan-2011-earthquake-tsunami-facts.html>*].] This is the context in which Westway and Imperium propose to construct their terminals.

## Response T8-105

Draft EIS Chapter 3, Section 3.1.5.2, *Proposed Action, Operations, Earthquakes and Related Hazards*, describes potential impacts related to earthquakes and earthquake-related effects (e.g., liquefaction, tsunamis) and the existing requirements that would reduce these potential impacts. Section 3.1.7.1,

*Applicant Mitigation*, identifies measures that would further reduce these potential impacts. Refer to the Master Response for Seismic Risk and Design Requirements. Refer to the Master Response for Earthquake Probabilities for an explanation of how the probabilities of strong earthquakes reported in the Draft EIS relate to those identified in recent studies.

## **Comment T8-106**

Adding to this risk, Westway and Imperium's proposals sit on soils (and fill) that are highly susceptible to liquefaction. Liquefaction is a soil behavior phenomenon in which saturated soil softens and loses strength during strong earthquake ground shaking and ultimately flows like a liquid. The Washington State Department of Natural Resources has designated the Port of Grays Harbor and the surrounding area as a zone of high liquefaction hazard. [Footnote: *Earthquake-induced landslide and liquefaction susceptibility and initiation potential maps for tsunami inundation zones in Aberdeen, Hoquiam, and Cosmopolis, Grays Harbor County, Washington, for a M9+ Cascadia subduction zone event, (2013) by S. L. Slaughter et al. Wash. State Dept. of Nat. Res. Invest. 36.*]

## **Response T8-106**

Refer to the Master Response for Seismic Risk and Design Requirements for information about how issues concerning liquefaction were addressed in the Draft EIS.

## **Comment T8-107**

As explained in the accompanying expert report of Dr. Joseph Wartman (Exh. 4), the DEIS “largely focuses on earthquake potential and associated secondary seismic effects including strong ground shaking, soil liquefaction, coseismal tectonic subsidence, and tsunamis” and finds that “over a 50-year period (i.e., the typical design life of an engineered facility), there is a 2% chance that an earthquake will cause ground shaking . . . expected to result in moderate to heavy structural damage to the facility.”

Dr. Wartman points out, however, that the DEISs fail to discuss “the more likely case of moderate shaking . . . which can likewise cause significant structural damage to port facilities (there is about a 10% chance of PGA exceeding 0.3g during a 50-year design life of the facility.) [Footnote: USGS Seismic Hazard Curve Application, <http://geohazards.usgs.gov/hazardtool/application.php>.] For example, during the 1995 Great Hanshin, Japan earthquake, local ground shaking of PGA = 0.31g caused major damage to the port of Kobe, a modern industrial harbor facility. Included among the many effects at the port of this earthquake were damage to quay walls, breakwaters, pile-supported structures, and industrial equipment such as large cranes.” [Footnote: Werner, S. and Dickenson, S. (1996) *Hyogo-Ken Nanbu Earthquake of January 17, 1995: A Post-Earthquake Reconnaissance of Port Facilities*, ASCE Press.]

## **Response T8-107**

The Draft EIS considers the impacts related to a large earthquake, and smaller events are considered by inclusion in the larger and more intense seismic events. Refer to the Master Response for Earthquake Probabilities.

## **Comment T8-108**

Dr. Wartman's report addresses earthquake-associated tsunami risks, finding that the DEISs themselves show that the earthen berm proposed as mitigation could be overtopped by tsunami

waves. For landslide hazards, the DEIS considers precipitation-caused landslides, but not landslides accompanying a seismic event. Wartman Report at 3 (“The DEISs do not recognize that even moderate magnitude earthquakes (i.e., Magnitude 5 and above) are capable of simultaneously triggering many coseismic landslides across wide region.”) [*Footnote: Keefer (1984) Landslides caused by earthquakes, Bull. of the Geol. Soc. of America.*] Mitigation measures for these risks are either inadequate or inadequately disclosed. “Nevertheless, no mitigation measures are capable of fully mitigating the geologic hazards and associated risks posed to the facilities.” Wartman Report at 4.

Dr. Wartman concludes:

While I also agree that potentially high levels of ground shaking (PGA of 0.7g or greater) may result in heavy damage to the facility, I believe that the more likely case of even lower intensity earthquake motions (PGA = 0.3g or greater) may cause significant damage. In addition to strong ground shaking, secondary earthquake hazards such as soil liquefaction, subsidence, and tsunamis pose significant threats to the facility that may result in release of hazardous materials, among other adverse consequences. Wartman Report at 4.

### **Response T8-108**

The proposed facility would have spill containment that surrounds the area of the storage tanks. This spill containment is not considered a berm for tsunami waves. The natural topography of the site is slightly higher near the shoreline. However, this higher ground is not a constructed berm. An earthen berm is mentioned as a potential improvement to reduce the risk of tsunami at the project site in Draft EIS Appendix C, *Tsunami Impact Modeling and Analysis*. However, the adjacent parcels and community do not intend to raise the entire length of shoreline to create a contiguous line of high elevation to reduce the potential of overtopping by tsunami. As standalone mitigation at the project site, this is not a practicable measure.

### **Comment T8-109**

The recent effects of the January 2015 storm are a good example of landslide and slope instability issues that affect Grays Harbor. Storm events are expected to increase in frequency and intensity due to climate change. (Mantua, 2015; Sandell & McAninch, 2013). These hazards should be fully analyzed and mitigation measures provided in order for the DEISs to be complete.

The DEISs use WSDOT data but fail to use DNR's Statewide Landslide database. For a complete environmental analysis, the proponents must implement the Department of Natural resources recommendations (see Comment 000000339-3, Appendix A) and consult with DNR scientists to ensure the correct methodology is implemented for all aspects of the project (operations, construction, rail, and vessel).

### **Response T8-109**

Draft EIS Chapter 3, Section 3.1, *Earth*, evaluates the potential for impacts related to landslides, based on review of the Washington Department of Natural Resources shallow landslide database (Washington Department of Natural Resources 2014b as cited in the Draft EIS) at the project site and the WSDOT Unstable Slope Management Program (Washington State Department of Transportation 2010 as cited in the Draft EIS) along the PS&P rail line. As noted in Section 3.1, the proposed action would not result in any ground disturbance or changes in topography that would increase the potential for landslides. Increased rail traffic to and from the project site has the

potential to increase the risk of exposure to a landslide. As noted in Section 3.1, risks related to rail incidents are addressed in Chapter 4, Section 4.5, *Environmental Health Risks—Rail Transport*. For more information about how the potential for natural hazards were considered in the risk assessment, refer to the Master Response for Risk Assessment Methods.

### **Comment T8-110**

The rail analysis also contains incorrect data. For example the DEISs attempt to calculate the likelihood that an unstable slope event could hit or derail a train. The DEISs claim “*Specifically, operation of the proposed action at maximum throughput would result in approximately one unit train trip per day, on average, along the PS&P rail line, compared to an average of three train trips per day under the no-action alternative.*” Westway DEIS at p. 3.1-21. This is an inaccurate statement. The DEISs do not include the additional train trip per day for a total of four daily train trips that should be analyzed under this action alternative. Therefore, the earthquake and related hazards need to be reassessed and the quantitative methodology needs to be included in the DEISs.

### **Response T8-110**

As noted in Draft EIS Chapter 2, *Proposed Action and Alternatives*, the proposed action is likely to result in approximately 1.25 trips each day to or from the project site. These trips would be in addition to existing baseline traffic, which was determined to be three train trips per day. The analysis in Section 3.1, *Air*, qualitatively asserts that the increase in the potential for rail conflicts involving a landslide would be minimal and proportional to the increase in the number of trains. As further noted in Section 3.1, the increased risk of an incident on the PS&P rail line involving the release of crude oil considered the possibility of landslides.

### **Comment T8-111**

The Westway DEIS claims “prior to receiving the final building permits, the applicant would need to ensure the geotechnical evaluation considered the most current applicable information and standards.” Westway DEIS at p. 3.1-19. The full potential effects of geologic hazards cannot be fully analyzed without the geo-technical report and structural design included in the DEIS.

### **Response T8-111**

Earthquake risk assessment and design are iterative and ongoing processes during which varying levels of investigation and analysis are performed to identify and address the potential impacts associated with a project commensurate with its stage in development. Implementation of measures identified during investigations specific to the proposed action and any others identified during subsequent investigations would be required to adequately reduce the risks of the proposed action. Refer to the Master Response for Seismic Risk and Design Requirements.

### **Comment T8-112**

#### 17.0 ECONOMIC IMPACTS

Issues that generate economic questions include the impacts of dramatic increases in oil train traffic on real estate values and damage to property from diesel emissions, vibration, and noise. There are also serious concerns relating to the impact of such a massive increase in oil rail traffic on other non-oil shippers of freight by rail, including shippers of agricultural products. These same issues may

dramatically affect passenger rail interests. These significant rail traffic increases are likely to create major impacts on communities affected by vehicle traffic problems related to delays at non-grade separated railway crossings, which will affect non-rail freight mobility, access to ports, retailers, tourist centers, and employers. In short, however, due to the truncated scope of review and inadequacies discussed below, the DEISs fail to adequately analyze economic impacts.

Resource Dimensions conducted an independent review of the DEISs "to assess the quality and credibility of the DEIS decision documents." Resource Dimensions, Exhibit 3, at 4. See review at Exhibit 3 for details, but in sum, the major flaws of the DEISs' economic review are:

1. DEISs fail to include a cumulative impact analysis as a component of the economic impact analysis.
2. Limited scope of economic impact analysis creates a misleading picture of total economic impacts.
3. Limited usefulness of the cost-benefit analysis conducted.
4. Failure to employ appropriate methods to determine monetary or quantitative estimates for certain impacts.
5. No attempt to quantify economic impacts or negative externalities of an oil spill.
6. DEISs fail to adequately address impacts of proposed projects on the Quinault's use of treaty resources.
7. Numerous inconsistencies, omissions, and errors.
8. Several erroneous conclusions are drawn about impacts on tribal resources and low income and minority populations.
9. Limited usefulness of discussion of climate change.

## **Response T8-112**

Refer to responses to detailed comments on Exhibit 1, Resource Dimensions, beginning at Comment T8-219.

## **Comment T8-113**

### **18.0 GREENHOUSE GAS EMISSIONS**

The GHG analysis contained in the DEISs is flawed in at least three respects. First, the DEISs failed to consider the rail emissions that will occur between North Dakota and the Washington border. Second, the DEISs fail to give a complete picture and accurate analysis of the lifecycle GHG impacts from extracting and burning the oil related to these projects. And lastly, the DEISs offer no effective mitigation, ignore possible mitigation, and do not acknowledge the resulting unavoidable and significant adverse environmental impacts.

### **18.1 SEPA STANDARDS FOR GHG EMISSIONS REVIEW**

SEPA and its implementing regulations explicitly require consideration of direct and indirect climate impacts. See RCW 43.21C.030(f) (directing agencies to "recognize the world-wide and long-range character of environmental problem"); WAC 197-11-444 (listing "climate" among elements of the environment that must be considered in SEPA review). SEPA regulations also explicitly direct that

environmental impacts outside the jurisdiction of the deciding agency should be considered. WAC 197-11-060(c). Crucially, agencies are required to assess both the direct and indirect impacts of the proposal.

In 2008, a governor-appointed working group provided a list of recommendations on how to ensure that climate change is considered in meeting SEPA's directives. [Footnote: Available at [http://www.ecy.wa.gov/climatechange/docs/sepa/20110603\\_SEPA\\_GHGinternalguidance.pdf](http://www.ecy.wa.gov/climatechange/docs/sepa/20110603_SEPA_GHGinternalguidance.pdf).] Notably, those recommendations identified the following categories of greenhouse gas ("GHG") emissions to be considered pursuant to SEPA: a) off-site mining of materials purchased for the project; b) transportation of raw materials to the project, and transport of the final product offsite; c) use of products sold by proponent to consumers or industry, including "emissions generated from combustion of fuels manufactured or distributed by the facility." *Id.* at App. D.

Ecology has issued SEPA Guidance for its own consideration of GHG emissions. [Footnote: Available at <http://www.ecy.wa.gov/climatechange/sepa.htm>.] Accordingly, the Guidance makes clear that SEPA requires climate to be considered in its environmental analysis. Ecology's Guidance proposes that SEPA documents consider whether the proposal will significantly contribute to GHG concentrations, and states that "[i]f the emissions are proximately caused by the project, they should be disclosed regardless of their location." *Id.* at 4. The Guidance proposes that projects qualitatively disclose GHG emissions of at least 10,000 metric tons/year and quantitatively disclose GHG emissions for projects expected to produce an average of 25,000 tons/year of carbon dioxide equivalent.

Ecology has also provided a "table of tools" that can be used to calculate emissions from projects. [Footnote: Available at <http://www.ecy.wa.gov/climatechange/sepa.htm>.] That Table, in turn, lists various sources of emissions from projects, methods to calculate those emissions, and options to mitigate them. Direct "Scope 1" emissions include trains and boats. *Id.* at 1. Scope 3 emissions include "emissions from the future combustion of fossil fuels," which are defined to include "emissions that will result from the combustion of fossil fuels transported, distributed or imported as a result of the project (e.g., natural gas pipeline)." *Id.* at 2.

## 18.2 DIRECT GHG EMISSIONS

The DEISs' discussion of climate change is of limited usefulness. The Department of Ecology's Guidance on climate change analysis in SEPA documents includes the following statement: "*For projects with ongoing operations that include transporting products from outside the state, such as a port, a more thorough and perhaps more defensible analysis would include the transportation emissions from the source location outside of Washington to the final destination if either is known and the extent to which either is known.*" [Footnote: DOE. 2011. *Guidance for Ecology Including Greenhouse Gas Emissions in SEPA Reviews*. Accessed September 1, 2015. Available at [http://www.ecy.wa.gov/climatechange/docs/sepa/20110603\\_SEPA\\_GHGinternalguidance.pdf](http://www.ecy.wa.gov/climatechange/docs/sepa/20110603_SEPA_GHGinternalguidance.pdf).] The DEISs include a limited discussion of the proposed projects' impact on climate change that certainly does not meet the above criteria for a defensible analysis. Under Ecology's own Guidance, the climate change discussion is not defensible because it does not include analysis of total greenhouse gas emissions from crude oil sources to receiving ports and refineries.

The DEISs only analyzed rail GHG emissions from Spokane to Grays Harbor (rather than the source of the fuel in North Dakota or Alberta). See Westway DEIS at 3.2-19; Imperium DEIS at 3.2-20. SEPA requires an analysis of all GHG emissions, even those that would occur outside Washington State. This is a serious shortcoming since the DEISs acknowledge that rail emissions - even considering

only emissions that would occur in Washington State-would be the biggest direct driver of direct emissions. Westway DEIS at 3.2-18; Imperium DEIS at 3.2-19. The rail emissions that would occur in Washington alone if all three projects go forward are 77,887 metric tons of CO<sub>2</sub> per year. Westway DEIS at 6-11; Imperium DEIS at 6-11. That would be a 7.79% increase in state rail emissions. *Id.* Given the distance from North Dakota to the Washington border, total rail emissions likely more than double that amount, but the DEISs have not disclosed that information.

Permitting of these projects is the decision point that could allow these projects and, therefore their direct emissions, whether they occur in Washington, Montana, North Dakota, or somewhere else. CO<sub>2</sub> is fungible in the atmosphere such that the impacts to Washington State and the rest of the world do not depend on where the emissions occur. For that reason, it is not acceptable to consider emissions from these projects compared to global emissions, while only considering a sliver of the total rail emissions. Westway DEIS at 3.2-19; Imperium DEIS at 3.2-20.

Similarly, the DEISs do not analyze greenhouse gas emissions from ocean transport to refinery, instead stopping the analysis at the edge of Washington's ocean waters. The DEISs fail to review and analyze the entire extent of the proposals' greenhouse gas emissions.

Finally, the DEISs state "*The largest contribution of GHG emissions would result from rail transport and represents an increase of approximately 7.8% in the statewide rail emissions of GHGs. Overall GHG emissions related to operation of the proposed action represent about a 0.11% increase in statewide GHG emissions.*" Westway and Imperium DEISs at p. 6-10. The conclusion that a 0.11% statewide increase in GHG emissions is insignificant is unsupported and unsupportable-this is a significant contribution to the State's entire GHG level for only two projects. Also, DEIS summaries state the following: "Greenhouse gas emissions from the cumulative projects contribute to climate change at the global level." Westway and Imperium DEISs at p. S-27. This is a quote from the DEIS, but no significant impacts are discussed in Chapter 6, Cumulative Impacts.

### 18.3 INDIRECT GHG EMISSIONS

The DEISs must do a full analysis of the lifecycle emissions of these projects. *[Footnote: A lifecycle "well-to-wheel" GHG analysis was performed for the Keystone XL pipeline and could be used as a model. See Exh. 32, Appendix U to Keystone XL EIS, Lifecycle Greenhouse Gas Emissions of Petroleum Products from WCSB Oil Sands Crudes Compared with Reference Crudes, available at <http://keystonepipeline-xl.state.gov/documents/organization/221247.pdf>.]* While the DEISs state that much of the oil received by rail will replace other domestic oil at U.S. refineries (presumably oil received by marine vessel), Westway DEIS at 6-13; Imperium DEIS at 6-13, the DEISs lack any analysis to support that claim. Absent such support, the DEISs must assess potential increases in GHGs associated with increased production or export of crude oil.

The DEISs fail to provide anything other than speculation as to whether these projects would mean more crude oil would be extracted and burned. In conclusory fashion, the DEISs state that "the cumulative projects would not likely affect the crude oil market." Westway DEIS at 6-14; Imperium DEIS at 6-14. These projects alone would move 1.2% of the U.S. daily crude oil supply. *Id.* That is a far from trivial amount of oil. All markets are made up of smaller individual actors, all of which affect supply and demand. The DEISs' speculation to the contrary ignores basic economic principles. The construction of these projects makes available a new source of oil to West Coast refineries via a new transportation method; these effects and their attendant results on the oil market and possible additive emissions cannot be ignored.

The picture is far more complicated than the DEISs reveal, as these projects and projects like them are indeed expected to result in increased tar sands production, increased fracking of Bakken oil, and increased overall GHG emissions. [Footnote: See Exh. 33, *Oil Change International and Sightline Institute, Tracking Emissions: The Climate Impact of the Proposed Crude-By-Rail Terminals in the Pacific Northwest at 1-2 (Nov. 2015) ("Tracking Emissions Report").*] The DEISs failed to consider the GHG cumulative impacts of other, nearly identical, crude-by-rail projects proposed in the Pacific Northwest (both direct and indirect emissions). The cumulative impact of the U.S. Development project is considered, but not the others, which will cumulatively result in quadruple the current crude-by-rail capacity in the region. Tracking Emissions Report at 8, 13. Pacific Northwest crude-by-rail projects could make tar sands projects commercially viable that otherwise would not be, resulting in increased extraction and burning of that crude. Tracking Emissions Report at 30-32. Crude-by-rail terminals, including Westway's and Imperium's, would also increase capacity to handle Bakken, and therefore, and could enable increased Bakken production. *Id.* At 38. The bottom line is that Pacific Northwest crude-by-rail terminals could mean unlocking new crude resources and would result in 41-168 additive metric tons of CO<sub>2</sub> emitted each year. *Id.* at 39.

Moreover, the lifecycle GHG impacts of various sources of crude are not the same. For example, lifecycle emissions of Bakken fracked light oil are likely to be higher than Alaskan or Canadian crude due to methane emissions during the process of obtaining the crude, and significant GHG profile of transporting the crude long distances. [Footnote: See Exh. 31, *Carnegie Endowment, Global Coal-Oil Index (Mar. 2015)*, available at <http://carnegieendowment.org/2015/03/11/know-your-oil-creating-global-oil-climate-index>); see also Exh. 34, *Schneising et al., Remote sensing of fugitive methane emissions from oil and gas production in North American tight geologic formations, Earth's Future (2014)*, available at <http://acmg.seas.harvard.edu/publications/aqast/articles/schneising2014.pdf>.] Lifecycle emissions of tar sands oil are well known to be significantly higher than conventional crudes due to the high energy costs required to extract the crude and the way it combusts, and it is not clear if this is taken into consideration in Table 3.2-9. Unless tar sands bitumen is prohibited, the full lifecycle emissions of transporting it by rail to the refinery should be fully disclosed and analyzed. The costs of these additional GHG emissions should also be disclosed using tools like the federal government's "social cost of carbon" metric. [Footnote: <http://www3.epa.gov/climatechange/EPAactivities/economics/sc.html>.]

#### 18.4 THE PROPOSED MITIGATION IS INADEQUATE, AND THESE PROJECTS WOULD RESULT IN UNAVOIDABLE AND SIGNIFICANT ADVERSE ENVIRONMENTAL IMPACTS.

The direct GHG impacts of these projects alone, even with the flaws described above, will be 0.11% increase in statewide emissions. Westway DEIS at 6-11. The DEISs do not propose any mitigation for GHG emissions other than requiring Westway and Imperium to submit vehicles for routine maintenance and to minimize idling. Westway DEIS at 6-17 to -18; Imperium DEIS at 6-17 to -18. The idling mitigation requirement is independently inadequate because it does not provide substantive requirements, only urging that some plan be created, but the combination of these mitigation measures is laughably inadequate in light of the tremendous impacts these projects will have.

All GHGs should be mitigated, and the final EISs must consider various mitigation options beyond the idling and maintenance measures proposed in the DEISs. Idling is only a small fraction of the GHG emissions these projects would directly release. Mitigation options must include: denial of the project outright; prohibition on high-GHG sources like tar sands; and requirement to purchase credits from a legitimate and verified source to offset all net GHG emissions on an annual basis,

including lifecycle well-to-wheel emissions that are proximately caused by the project. These projects would be responsible for a tremendous increase in GHG emissions, and without mitigation, these emissions create unavoidable and significant adverse environmental impacts.

### **Response T8-113**

Draft EIS Chapter 3, Section 3.2, *Air*, and Chapter 6, Section 6.5.1.2, *Cumulative Impacts*, present estimates of greenhouse gas emissions from onsite operations, offsite transport in Washington State, and combustion of maximum annual throughput of crude oil related to the proposed action and cumulative projects, respectively. The Final EIS reflects greenhouse gas emission estimates from offsite transport from the likely source of crude oil to the furthest likely refinery destination, based on the crude oil market analysis, presented in Final EIS Appendix Q. Refer to the Master Response for Crude Oil Extraction, Transport, and Combustion for more information on the potential sources of crude oil and the potential for the proposed action to drive production at those sources.

Based on the crude market analysis, the proposed action is not likely to affect oil production; therefore, greenhouse gas emissions related to extraction activities are not quantified in the EIS.

### **Comment T8-114**

#### 19.0 ENVIRONMENTAL JUSTICE

The DEISs show that the Westway and Imperium projects will have a disproportionate impact on people of color and low-income communities. This includes impacts on the Quinault Indian Nation and its members, as well as significant adverse impacts to other communities largely made up of low-income individuals and members of racial and ethnic minority groups. While the DEISs acknowledge many harms to communities surrounding the projects and along the rail-routes, they have failed to address that these harms will be disproportionately borne by those communities, an outcome unacceptable under state and federal law. Likewise, despite these serious impacts to individuals and communities, the DEISs erroneously rely on a finding that there will not be significant adverse impacts, Westway DEIS at 7-25 [*Footnote: As discussed above, this finding is not accurate for a number of impacts.*]; but that is not the standard for environmental justice impacts—any impact, whether found to be significant or not, must not be inflicted so as to have a racially disproportionate impact. The disproportionate impacts of these harms is another reason the Westway and Imperium projects should be denied in their entirety. [Photo Cropped from Westway DEIS at 3.9-13; photo reviewed but not reproduced.]

#### 19.1 DISPROPORTIONATE AND ADVERSE IMPACTS ARE ILLEGAL.

A number of laws prohibit disproportionate impacts from falling on communities of color and low-income communities. For example, the 1994 Environmental Justice Executive Order requires federal agencies to ensure that its actions do not have disproportionate impacts on low-income and/or minority populations. Exec. Order No. 12,898, 59 Fed. Reg. 7,629 (Feb. 11, 1994). In Washington State, Ecology has an agreement with EPA to effectuate environmental justice in the state. Environmental Performance Partnership Agreement, Washington State Department of Ecology and U.S. Environmental Protection Agency at 12-15 (rev. July 2015).

Importantly, disproportionate and adverse impacts are also prohibited by Title VI of the Civil Rights Act and EPA's implementing regulations. EPA's regulations prohibit disproportionate impact from

environmental bans. 40 C.F.R. § 7.35. If a disproportionate and adverse impact occurs, EPA may withhold federal funds from the state authorizing the activity, here Ecology. *Id.* at § 7.130(a).

### **Response T8-114**

In accordance with the SEPA Rules (WAC 197-11-402), the Draft EIS focuses on those probable adverse environmental impacts that are significant.

### **Comment T8-115**

19.2 MINORITY AND LOW-INCOME COMMUNITIES LIVE IN THE AREAS THAT WOULD BE AFFECTED.

The DEISs looked at block groups that will be affected by the projects and found that 31 of 57 have minority populations exceeding their counties'. Westway DEIS at 7-15; Imperium DEIS at 7-15. This trend is true immediately surrounding the project areas and along almost the entire length of the rail servicing the projects. Westway DEIS at 7-16; Imperium DEIS at 7-16. The three census block groups and 72% of the block groups along the rail corridor have minority population percentages above their counties. *Id.* The one-mile radius around the projects has a minority population percentage of 31%, see Exh. 41, EJSscreen ACS Summary Report, but the area immediately surrounding the proposed projects have minority population percentages up to

46%. See Exh. 42, EJSscreen Blockgroup Data Combined. *[Footnote: The DEISs use language that devalues the communities assessed by the environmental justice and broader analysis, systematically referring to people as "receptors." That term—regardless of its pervasive use—does not give full humanity and respect to the people, families, and communities who will be harmed by these projects. Likewise, the DEISs say that minority and low-income populations "occur" in certain areas, Westway DEIS at 7-16; this is another dehumanizing characterization of individuals and communities—people live in or reside in areas and undertake many other activities.]* As the DEISs found, the "minority and low-income populations in the Census block groups near the project site are much higher" than for the county as a whole. Westway DEIS at 7-25; Imperium DEIS at 7-25. Similar percentages of minority populations are found along much of the rail corridor. Westway DEIS at 7-16; Imperium DEIS at 7-18.

The county-wide poverty rate in Grays Harbor is 20%, yet that figure is exceeded in the areas that will be most affected by the proposed projects. Westway DEIS at 7-2; Imperium DEIS at 7-2. The DEISs also note that 25 of the 57 census block groups assessed have low-income populations exceeding their county levels. Westway DEIS at 7-15; Imperium DEIS at 7-15. The block groups immediately surrounding the projects have poverty percentages up to 48%. Exh. 42; EJSscreen Blockgroup Data Combined.

### **Response T8-115**

Comment acknowledged.

### **Comment T8-116**

The area immediately surrounding the project is already a hotspot for environmental impacts, which will be compounded if these projects are allowed to go forward. For example, the communities surrounding the project sites already are in the 73rd percentile statewide for

particulate matter and 74th percentile for ozone. They are also in the 87th percentile for proximity to major water dischargers and in the 80th percentile for traffic proximity volume. See Exh. 43, EJSscreen Report.

### 19.3 THESE PROJECTS WOULD CAUSE MAJOR AND DISPROPORTIONATE IMPACTS TO COMMUNITIES OF COLOR AND LOW-INCOME COMMUNITIES.

Essentially all of the impacts from these two crude-by-rail projects would fall disproportionately on low-income communities and communities of color. Yet the DEISs proceed from the false starting point that only impacts rising individually to a significant adversity level are of concern. Westway DEIS at S-31; Imperium DEIS at S-31 (“Routine onsite operations are not anticipated to result in significant environmental impacts and would, therefore, not be expected to disproportionately affect minority and low-income populations.”); Westway DEIS at 7-25; Imperium DEIS at 7-25 (“However, as noted above, potential impacts from routine onsite operations are not anticipated to result in significant environmental impacts and would therefore, not be expected to significantly adversely affect minority and low-income populations around the project site.”). Effects to be avoided, however, include all impacts with disproportionate impacts, and allowing impacts to proceed that fall largely on low-income and minority groups is unacceptable. Ecology and Hoquiam are obligated to prevent exactly these sorts of disproportionate impacts.

#### **Response T8-116**

In accordance with the SEPA Rules (WAC 197-11-402), the Draft EIS focuses on those probable adverse environmental impacts that are significant.

#### **Comment T8-117**

The DEISs do acknowledge, however, that minority and low-income populations will be disproportionately affected by numerous impacts including noise, air emissions, delay, and increased exposure to risks of spills, fires, and explosions. Westway DEIS at S-32; Imperium DEIS at S-32.

The DEISs acknowledge that there will be harmful air emissions resulting from the Westway and Imperium projects. For example, concentrations of NO<sub>2</sub> could exceed the 1-hour NO<sub>2</sub> standard when all three projects are considered. Westway DEIS at 6-7; Imperium DEIS at 6-7. The communities that immediately surround these projects would bear the primary burden of these impacts, and even in the absence of violations of the 1-hour standard, the same communities will endure the routine emissions. The DEISs also acknowledge that portions of residential areas will fall within the 10-per-million risk for cancer area for particulate matter. Westway DEIS at 6-9 to -10; Imperium DEIS at 6-9 to -10. As described above, these neighborhoods surrounding the project site-those that would be significantly and adversely affected by cancer-causing particulate matter-have higher minority population percentages.

[Photo of Cancer risk overlay cropped from Westway DEIS at 6-9; reviewed but not reproduced.]

#### **Response T8-117**

Draft EIS Chapter 3, Section 3.2, *Air*, identifies the impacts to air quality and health risk assessment. The National Ambient Air Quality Standards (NAAQS) have been developed by the U.S. Environmental Protection Agency (EPA) for widely emitted air pollutants to protect the health of the

most susceptible populations. Section 3.2 shows that no violation of the NAAQS would occur during operation of the proposed action. Section 3.2 also addresses the potential impacts of volatile compounds, such as benzene, and identifies that no air toxic is above Washington State Department of Ecology's Acceptable Source Impact Level. Because of the concern with diesel emissions, which is primarily from locomotive emissions, and the potential for increased cancer risk, a diesel particulate matter cancer risk assessment was completed for the study.

The Final EIS air emissions and cancer risk analysis in Chapter 3, Section 3.2.5.2, *Proposed Action*, reflects revised assumptions regarding rail operations (types and number of locomotives), based on information received from PS&P. These changes result in lower diesel particulate matter emission rates and result in a lower cancer risk. The incremental increase in cancer risk from air quality impacts would be less than 10 in 1 million for any off-site receptor. This level of increased risk is not considered significant.

To provide perspective, the most recent EPA National Air Toxic Assessment<sup>21</sup> based on 2012 air emissions has the statewide average air toxic cancer risk at 43 per million and Grays Harbor County at 20 per million. However, EPA excludes diesel particulate matter from cancer risk analysis because there is too much uncertainty about the cancer potency value to assign a numerical value for diesel particulate matter. If diesel particulate matter is responsible for cancer risk similar that found in Puget Sound by the Puget Sound Clean Air Agency and contributes 78% of the additional cancer risk, then a one-in-a-million increase from the proposed action would represent about a 1% increase over current air toxic risk levels.

## Comment T8-118

Other impacts from the proposed projects would also have a disproportionate impact on minority and low-income communities. For example, the noise impacts from the increased rail transportation will affect people living near the site, along with the people living along the rail routes. The DEISs acknowledge that 31 of 43 census block groups along the rail route are considered minority and/or low-income populations. Westway DEIS at 7-26 to -27; Imperium DEIS at 7-26 to -27 ("it is possible that minority and low-income populations closest to the rail line could be disproportionately affected by increases in noise depending on the proximity of noise-sensitive receptors (residents) to the line"). The DEISs go on to acknowledge that this will result in disproportionate impacts but do not propose any additional ways to mitigate that harm or discuss how the disproportionate nature of these impacts will be addressed. The same is evident for traffic impacts, which are also expected to have a disproportionate and negative effect on the populations living closest to the project site. Westway DEIS at 7-26 to -27; Imperium DEIS at 7-27 ("These impacts could disproportionately affect minority and low-income populations in communities immediately surrounding the affected areas.").

## Response T8-118

Mitigation proposed for impacts related to noise and vehicle delay in Final EIS Chapter 3, Sections 3.7, *Noise and Vibration*, and 3.16, *Vehicle Traffic and Safety*, respectively, would apply to impacts experienced by low-income and minority communities.

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<sup>21</sup> U.S. Environmental Protection Agency. 2011. 2011 NATA: Assessment Resulted. Updated in December 2015. Available: <https://www.epa.gov/national-air-toxics-assessment/2011-nata-assessment-results>.

## Comment T8-119

As far as vessel impacts, the DEISs contain two stunning (but accurate) admissions: 1) vessel-related impacts would disproportionately harm low-income and minority people, and 2) would conflict with tribal access to fishing areas, have environmental health and safety impacts, and would occur with some frequency. Westway DEIS at 7-27; Imperium DEIS at 7-27. *[Footnote: The DEISs apparently attempt to downplay these impacts by stating that “While any impacts would disproportionately affect minority and low-income populations, as stated previously, vessel-related impacts are anticipated to be relatively low with two exceptions: the potential for conflicts with tribal access to usual and accustomed fishing areas and the potential for environmental health and safety impacts.” Westway DEIS at 7-27; Imperium DEIS at 7-27. But these impacts are tremendous, and, as the DEISs note, significant and unavoidable.]* As the DEISs concede, these routine and expected impacts “would be unavoidable and significant.” *Id.* This, of course, is impact additional to the threat of catastrophic spills, which could devastate the Quinault Indian Nation's fisheries and way of life or harm the communities surrounding the site. Westway DEIS at 7-26; Imperium DEIS at 7-26 (“Any large releases with the potential to enter the harbor from the project site could also disproportionately affect minority and low-income populations in these areas.”). A careful look at the risk assessment shows that these are not idle concerns. See Westway DEIS at 6-53, -55; Imperium DEIS at 6-53, -55 (“The chance of a collision or derailment resulting in a loss equivalent to one rail car is predicted to be once in 11 years.... An extreme grounding resulting in the loss of the entire contents of vessel could occur every 128 years.”). As discussed above, the aggregate marine spill risk is 44% each year.

Rather than address these disparate impacts through further mitigation, the DEISs do little more than point to the mitigation already planned as adequate. Westway DEIS at 7-27 to- 28; Imperium DEIS at 7-28. The DEISs discuss appointing community and tribal liaisons, but there is no indication that those liaisons would have the authority to actually minimize or reduce impacts. These projects would violate civil rights and other laws because of these disproportionate impacts that are acknowledged to be unavoidable, and on that basis alone they should be denied.

## Response T8-119

Potential impacts of construction and routine operation of the proposed action on tribes are addressed in Chapter 3, Section 3.12, *Tribal Resources*. Potential impacts related to the risk of spills, fires, and explosions are addressed in Chapter 4, *Environmental Health and Safety*.

## Comment T8-120

20.0 THE DEIS FINDS SIGNIFICANT IMPACTS THAT CANNOT BE MITIGATED.

20.1 SUBSTANTIVE SEPA REQUIREMENTS

SEPA is more than a purely “procedural” statute that encourages informed and politically accountable decision-making. In enacting SEPA, the state legislature gave decision-makers the affirmative authority to condition or even deny projects where environmental impacts are serious, cannot be mitigated, or collide with local rules or policies. This authority, like all government authority, is not boundless: the denial of a project must be made on the basis of policies adopted by the relevant government body in light of significant adverse impacts that cannot be reasonably mitigated. This authority has been exercised relatively sparingly. Indeed, in some cases, decision-makers are unaware that they even have it, and incorrectly believe that as long as proposals comply

with all applicable development codes, then agencies have no choice but to approve the project. To the contrary, SEPA, in and of itself, contains the power to say no.

In adopting SEPA, the state legislature declared the protection of the environment to be a fundamental state priority. RCW 43.21C.010. SEPA declares that “[t]he legislature recognizes that each person has a fundamental and inalienable right to a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.” RCW 43.21C.020(3). This policy statement, stronger than a similar statement under the National Environmental Policy Act (“NEPA”), “indicates the basic importance of environmental concerns to the people of the state.” *Leschi v. Highway Comm’n*, 84 Wn.2d 271, 279-80 (Wn. 1974). At the heart of SEPA is a requirement to fully analyze the environmental impact of government decisions that have a significant impact on the environment. RCW 43.21C.031(1). Under SEPA, a full environmental impact statement (“EIS”) is required for any action that has a significant effect on the quality of the environment. WAC 197-11-330. Significance means a “reasonable likelihood of more than a moderate adverse impact on environmental quality.” WAC 197-11-794.

Under SEPA's governing regulations, a SEPA document must fully evaluate all of the direct, indirect, and cumulative effects of projects. WAC 197-11-060(2)(c). While SEPA itself does not define direct, indirect, and cumulative impacts, NEPA does, and these definitions have been borrowed for use in interpreting SEPA. See *Quinault Indian Nation v. City of Hoquiam*, 2013 WL 6637401 (Shorelines Hearings Board, Dec. 9, 2013) (borrowing NEPA definition of cumulative effects for SEPA analysis of crude-by-rail terminal). Indirect impacts are “caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.” 40 C.P.R. § 1508.8(b). Cumulative impacts include “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” 40 C.F.R. § 1508.7; WAC 197-11-060(4)(e) (requiring consideration of cumulative effects in determining whether significance threshold has been crossed); WAC 197-11-330(3)(c) (“Several marginal impacts when considered together may result in a significant adverse impact.”). Also important in the context of fossil fuel transportation are impacts with a low likelihood but high consequences, like spills from rail or marine transportation. WAC 197-11-794 (“An impact may be significant if its chance of occurrence is not great, but the resulting environmental impact would be severe if it occurred.”). Importantly, the regulations specifically direct that an “agency shall not limit its consideration of a proposal's impacts only to those aspects within its jurisdiction, including local or state boundaries.” WAC 197-11-060(4)(b). *[Footnote: Indeed, SEPA constitutes a ringing affirmation of the connectedness of Washington with the rest of the planet. It speaks of “humankind” and “human beings” rather than just citizens of this state. RCW 43.21C.010. SEPA explicitly calls on responsible agencies to “recognize the worldwide and long-range character of environmental problems” and take steps to cooperate in “anticipating and preventing a decline in the quality of the world environment.” RCW 43.21C.030(f); Eastlake Comm. Coun. v. Roanoke Assoc., 82 Wn.2d 475, 487 (1973) (observing “unusually vigorous statement of legislature purpose . . . to consider the total environmental and ecological factors to their fullest in deciding major matters”) (emphasis added). Those regulations also recognize that environmental impacts do not end at the state’s borders, and explicitly require consideration of the impacts of projects outside of the state’s jurisdiction. WAC 197-11-060(c); Cathcart-Maltby-Clearview Comm. Council v. Snohomish Cty., 96 Wn.2d 201, 209 (Wash. 1981) (SEPA “also mandates that extra-jurisdictional effects be addressed and mitigated, when possible.”)]*

The requirement to study indirect impacts associated with oil terminals is equally clear under SEPA's federal analogue, NEPA. For example, in *Mid-States Coalition for Progress v. Surface Transp. Bd.*, 345 F.3d 520 (8th Cir. 2003), the Eight Circuit Court of Appeals agreed that an EIS for a rail project was required to study the potential increased long-term demand for coal that could arise if the project was built. Similarly, in *Border Plant Working Group v. Department of Energy*, 260 F. Supp. 2d 997 (S.D. Cal. 2003), a court invalidated an EIS for power transmission lines because the decision-maker failed to consider the impacts of the operation of the Mexican power plants linked to the lines. [Footnote: See also *Ocean Advocates v. Corps of Engineers*, 402 F.3d 846, 867-68 (9th Cir. 2005) (requiring EIS for dock construction project to consider "increased vessel traffic" that would be proximately caused by project); *S. Fork Band Council of W. Shoshone v. DOI*, 588 F.3d 718, 725 (9th Cir. 2009) ("The air quality impacts associated with transport and offsite processing of the five million tons of refractory ore are prime examples of indirect effects that NEPA requires to be considered.")]. Recent EISs for controversial projects like the Tongue River Railroad and the Keystone XL evaluate potential market impacts on fossil fuel production and consumption.

Moreover, the purpose of SEPA is not to generate the information for its own sake. Rather, the purpose of SEPA is to inform an underlying substantive decision; e.g., whether or not to grant some underlying permit or authorization to take action that potentially affects the environment. WAC 197-44-400. Accordingly, the information developed under SEPA on indirect and cumulative impacts of fossil fuel projects is intended to inform the ultimate permitting decision.

And on this point, SEPA is explicit. It provides substantive authority for government agencies to condition or even deny proposed actions—even where they meet all other requirements of the law—based on their environmental impacts. RCW 43.21C.060. As one treatise points out, when this premise was challenged by project proponents early in SEPA's history, "the courts consistently and emphatically responded that even if the action previously had been ministerial, it became *environmentally discretionary* with the enactment of SEPA." Richard Settle, *SEPA: A Legal and Policy Analysis* (Dec. 2014) at §18.01[2] (emphasis added).

Courts have repeatedly recognized that this denial authority exists, even where projects otherwise comply with all relevant applicable codes. Indeed, the Washington Supreme Court explicitly affirmed that "under the State Environmental Policy Act of 1971 a municipality has the discretion to deny an application for a building permit because of adverse environmental impacts even if the application meets all other requirements and conditions for issuance." *West Main Associates v. Bellevue*, 106 Wn.2d 47, 53 (1986). An appeals court similarly affirmed that "counties therefore have authority under SEPA to condition or deny a land use action based on adverse environmental impacts even where the proposal complies with local zoning and building codes." *Donwood v. Spokane County*, 90 Wash. App. 389 (1998). Decision-makers have denied permits under this authority in a number of other contexts, many of which are similar to those of proposed crude oil terminals. [Footnote 80:]

The complete text of the applicable language is:

The policies and goals set forth in this chapter are supplementary to those set forth in existing authorizations of all branches of government of this state, including state agencies, municipal and public corporations, and counties. Any governmental action may be conditioned or denied pursuant to this chapter: PROVIDED, That such conditions or denials shall be based upon policies identified by the appropriate governmental authority and incorporated into regulations, plans, or codes which are formally designated by the agency (or appropriate legislative body, in the case of local government) as possible bases for the exercise of authority pursuant to this chapter. Such designation shall occur at the time specified by RCW 43.21C.120. Such action may be conditioned only to mitigate specific adverse

environmental impacts which are identified in the environmental documents prepared under this chapter. These conditions shall be stated in writing by the decision maker. Mitigation measures shall be reasonable and capable of being accomplished. In order to deny a proposal under this chapter, an agency must find that: (1) The proposal would result in significant adverse impacts identified in a final or supplemental environmental impact statement prepared under this chapter; and (2) reasonable mitigation measures are insufficient to mitigate the identified impact. Except for permits and variances issued pursuant to chapter 90.58 RCW, when such a governmental action, not requiring a legislative decision, is conditioned or denied by a nonelected official of a local governmental agency, the decision shall be appealable to the legislative authority of the acting local governmental agency unless that legislative authority formally eliminates such appeals. Such appeals shall be in accordance with procedures established for such appeals by the legislative authority of the acting local governmental agency.

RCW 43.21C.060 (emphasis added); *see also* WAC 197 197-11-030(1) (“The policies and goals set forth in SEPA are supplementary to existing agency authority.”). This authority is amplified in Ecology’s SEPA regulations, which lay out additional procedures and requirements for conditioning or denial pursuant to SEPA’s substantive authority. WAC 197-11-660. For example, in order to deny a proposal under SEPA, an agency must find that “reasonable mitigation measures are insufficient to mitigate the identified impact.” WAC 197-11-660(f)(ii).

In other words, communities that are reviewing proposed projects have the discretion to deny those projects, as long as: (a) the denial is based on an appropriate policy that is incorporated into local codes or rules; (b) the community finds that the project would result in significant adverse impacts; and (c) “reasonable mitigation measures” cannot mitigate those impacts. These criteria are likely to be scrutinized closely by the courts when entities use their substantive SEPA authority to deny a project. [*Footnote: Settle, at § 180.01[2] (“Substantive SEPA authority is alive and well but must be exercised in strict compliance with all pertinent requirements, which must be supported by thorough documentation and convincing evidentiary support in the administrative record.”).*] Even so, in the case of major fossil fuel infrastructure projects, like the Westway and Imperium oil shipping terminals, these criteria are satisfied.

With respect to the first criterion, Hoquiam has already identified a number of policies to protect the public’s health, safety, and welfare that may be used to deny or condition these terminals under SEPA. Hoquiam Municipal Code § 11.10.220. The adopted policies are sweeping, including a “fundamental and inalienable right to a healthful environment” for all people, a goal of “[a]chiev[ing] a balance between population and resource use which will permit high standards of living and a wide sharing of life’s amenities,” and a commitment to “enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.” See also RCW 43.21C.020 (“The legislature recognizes that each person has a fundamental and inalienable right to a healthful environment.”). Hoquiam’s substantive SEPA authorities explicitly incorporate its development, health, and safety codes, as well as its comprehensive plan and Shorelines master program. These explicit SEPA authorities include—among many other things—its shoreline management plan and its zoning ordinances.

Importantly, in 2015, Hoquiam amended its city code to explicitly address the public health, safety, and welfare risks of crude oil shipping terminals. Hoquiam first enacted a moratorium on new crude oil storage facilities and then went through its complete code amendment process to adopt new provisions banning crude oil wholesale storage facilities as a “response to safety and environmental concerns raised by the public and Hoquiam City Councilmembers about ‘crude-by-rail’ operations at the Port of Grays Harbor.” Exh. 35, Hearing Examiner Recommendation, Re: Hoquiam City Council

Resolution No. 2015-09, (TA #15-01) at 2 (Aug. 17, 2015). At the public hearing, the Hearing Examiner probed the purpose behind the proposed code amendments:

The Hearing Examiner then requested that [Hoquiam City Administrator] Mr. Shay clearly articulate the public purpose behind the proposed amendments. Specifically, how would the proposed prohibition of bulk crude oil storage and transfer serve the public's health, safety and welfare? Mr. Shay responded that train derailments and explosions across the nation in recent years underscored the health and safety risks to communities posed by crude-by-rail operations, and that the Council wanted to protect its citizens from such dangers. By preventing new applications for bulk crude oil storage facilities, the City would effectively be precluding the movement of crude oil within the City of Hoquiam. He also indicated that there were legitimate concerns about the environmental damage that might be occasioned by a crude oil spill in Grays Harbor.

The Hearing Examiner questioned Mr. Shay as to whether the safety concerns identified were unique to crude oil storage and handling and could be distinguished from refined or partially refined products that might be stored in bulk. Mr. Shay responded that unrefined crude oil presented a much greater safety concern, principally because of the large-scale movement of crude oil via railroad.

Hearing Examiner Decision at 6.

On Sept. 14, 2015, Hoquiam adopted its zoning code amendments to “substantially advance the public health, safety and welfare of the citizens of the City of Hoquiam,” Hearing Examiner decision at 17, and rescinded the March moratorium as no longer necessary. Exh. 36 (code amendment language); Exh. 37 (moratorium rescission).

As to the second criterion, the DEISs, even with all the flaws and gaps identified above, find a wide range of serious concerns associated with these projects, including the substantial risk of derailments, spills, and explosions from unit trains carrying crude oil, heightened risks of oil spills and accidents from marine shipping of fossil fuels, and contribution of the projects to greenhouse gas pollution. These are significant and cumulative impacts that the community has recognized.

Finally, as to the third criterion, the DEISs themselves find many of the significant adverse impacts incapable of mitigation. See, e.g., Westway DEIS at S-37, S-39, S-40, S-41, S-45, S-49, S-51, S-53, S-56, S-58, S-60, S-61, S-63. Many of the impacts of these projects—vast increases in train and marine vessel traffic, and attendant increases in local oil spill hazards, for example—are intrinsic to the projects themselves, and it would presumably not be “reasonable” to limit them in a way that doesn't dramatically alter the project itself. Moreover, limitations on local government's ability to directly mitigate some effects means that some potential mitigation measures to promote safety may not be “capable of being accomplished,” unless the proponent agrees to them.

## **Response T8-120**

Comment acknowledged.

## **Comment T8-121**

### **21.0 OTHER REQUIREMENTS**

The DEISs should also include an analysis of the likelihood that Westway and Imperium will comply with mitigation measures. For example, there has been substantial concern that these companies will not be able to demonstrate the requisite financial responsibility before operation of these projects commences, pursuant to RCW 88.40.025. There is nothing preventing the companies from making this demonstration before permits are issued, *Quinault Indian Nation v. Imperium Terminal*

Servs., LLC, No. 45887-0-II, ---Wash. App. ----, 2015 WL 6437694, at \*6 (Wash. Ct. App. Oct. 20, 2015), and Ecology and Hoquiam should make that a requirement.

### **Response T8-121**

Draft EIS Chapter 4, *Environmental Health and Safety*, Sections 4.4.5, 4.5.5, and 4.6.5, discuss who would pay for the response and cleanup of an oil spill at the terminal or during rail or vessel transport, respectively. Refer to the Master Response for Liability and Responsibility for Incidents for a discussion of liability and the levels of financial responsibility required by federal and state law and an explanation of how these issues are addressed in the Draft EIS and Final EIS.

### **Comment T8-122**

Likewise, the Ocean Resources Management Act (“ORMA”) exists to protect Washington's ocean coast against impacts like those related to these projects. See RCW 43.143.010; *id.* at .030. Washington courts have yet to apply ORMA to these projects, but an ORMA analysis in the environmental review could aid decisionmakers in ultimate permitting decisions.

#### 22.0 CONCLUSION

For the reasons set forth above, the DEISs are legally and factually inadequate. The DEISs miss key impacts and fail to take a hard look at all the direct, indirect, and cumulative impacts of the proposed project. Even with their flaws, the DEISs find significant adverse impacts and risks to the Quinault Indian Nation's federally-protected treaty rights and to the environment and public health that cannot be mitigated. The adverse treaty resource, environmental, and public health aspects of the projects demonstrate that the projects should be denied. Ecology and the City of Hoquiam should first demand that the DEISs be amended and supplemented to correct their errors and omissions. Ecology and Hoquiam should then use the analysis and findings in revised draft and final EISs to reject these oil shipping terminals under their substantive SEPA authority.

Sincerely,

Kristin L. Boyles

Matthew R. Baca

Attorneys for the Quinault Indian Nation

### **Response T8-122**

Comment acknowledged.

### **Comment T8-123**

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### **Response T8-123**

Referenced bibliography acknowledged.

### **Comment T8-124**

Quinault Indian Nation Comments on Westway and Imperium DEISs

EXHIBIT 1

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## MEMORANDUM

TO: Kristen Boyles, Earthjustice

FROM: Elise DeCola and Sierra Fletcher, Nuka Research CC: Tim Robertson, Nuka Research

DATE: November 10, 2015

RE: Grays Harbor Crude-by-Rail Terminal Draft Environmental Impact Statement Review for Westway and Imperium Expansion projects

This memo provides a technical review of the Draft Environmental Impact Statements (DEIS) for the Westway and Imperium Expansion projects in Grays Harbor, including cumulative effects from the U.S. Development Group proposal. Nuka Research and Planning Group, LLC (Nuka Research) was asked to prepare this document to support the Quinault Indian Nation, represented by Earthjustice, in reviewing the DEISs' assessment of oil spill risk and response preparedness related to the potential for tank cars and marine vessels to spill oil in marine waters or rail cars to spill into the Chehalis River.

### Summary

We focused our review of the DEIS documents on evaluating the oil spill risks from the proposed expansion of rail car and marine vessel activities in Grays Harbor. In reviewing various descriptions of risk analysis and estimates of risk, we found that it was very difficult to discern from the application a clear and comprehensive assessment of the potential for these expansion projects, individually and together, to increase the risk of oil spills.

While the DEIS documents provide enough information to discern that oil spill risks will generally increase if either or both projects move forward, they do not provide a clear synthesis of risk that accounts for both the likelihood and consequences of a spill from the proposed new activities. We noted the following areas where the oil spill risk analysis is incomplete, unclear, or inaccurate:

- The DEIS documents present both qualitative and quantitative analyses of risk. The qualitative scales characterize oil spill likelihood and impacts on a continuum from “unlikely” to “likely.” When the qualitative scales are compared to quantitative data, they appear to misrepresent the results.
- For example, the qualitative scales represent the likelihood of a 105,000 gallon marine vessel oil spill from the no action alternative as roughly equal to the likelihood of a 1.2 million gallon spill from the Westway expansion. In fact, the likelihood is 2.5 times higher for the 1.2 million gallon spill at Westway. Similar discrepancies exist for the Imperium risk analyses.
- In the rail car risk assessments, the qualitative sliding scales show only slight differences between risks from the no action to the proposed actions, even though the current risk of a crude oil rail car spill is zero.

### Response T8-124

For the reasons discussed in the Master Response for Risk Assessment Methods, the figures depicting risks presented in Draft EIS Chapter 4, *Environmental Health and Safety*, have been removed from the Final EIS.

## Comment T8-125

- The DEIS does not distinguish between the broad range of petroleum products that would be transported. The DEIS identifies the following products that could be moved via vessel or rail in the proposed projects: Bakken crude oil, bitumen, ethanol, naphtha, gasoline, vacuum gas oil, jet fuel, No. 2 fuel oil, No. 6 fuels oil, kerosene, renewable jet fuel, renewable diesel, used cooking oil, and animal fat. The potential consequences of spills from this wide range of products would vary significantly, as would the ability to contain and recover the different types of product.

## Response T8-125

This comment identifies commodities proposed by both Westway and REG (formerly Imperium Terminal Services). Comments specific to the REG project would be addressed in responses to comments in the Final EIS for that project. As noted in Draft EIS Chapter 2, *Proposed Action and Alternatives*, the applicant, Westway, is proposing to store and handle crude oil and not the other commodities listed in the comment. The analysis of impacts in the Draft EIS considers the crude oils identified under the proposed action: Bakken crude oil and diluted bitumen. Final EIS Chapter 4, Section 4.3, *Risk Considerations*, reflects updated information about the chemical properties of these two types of crude oils. For additional information about the most likely sources of crude oil, refer to the Master Response for Crude Oil Extraction, Transport, and Combustion. For additional information about how different types of oil were considered in the oil spill modeling presented in Draft EIS Chapter 4, *Environmental Health and Safety*, and Appendix N, *Oil Spill Modeling*, refer to the Master Response for Oil Spill Modeling Methods.

## Comment T8-126

- The DEIS characterizes the risk of major marine vessel oil spills reaching water as highly “likely” but not absolutely certain. It is implausible that a 1.2 million gallon oil spill from a vessel that hits a dock or jetty would not result in oil reaching water, yet the qualitative scale appears to show that there is some chance that the 1.2 million gallons would not impact the water.

## Response T8-126

For the reasons discussed in the Master Response for Risk Assessment Methods, the figures depicting risks presented in Draft EIS Chapter 4, *Environmental Health and Safety*, have been removed from the Final EIS.

## Comment T8-127

- The DEIS lacks sufficient information about the methods used to evaluate potential environmental impacts from the three large marine vessel oil spills described. The qualitative risk evaluation does not distinguish between potential environmental impacts based on spill size, location, or volume spilled. The Risk Assessment Technical Report does not present a consequence analysis, despite the fact that the Modeling Report (Appendix N) shows that for a 15.1 million gallon marine vessel spill, up to 11.2 million gallons is estimated to reach the shoreline within 24 hours. This is an Exxon Valdez-sized spill volume that would impact the Grays Harbor coastline. The potential consequences of such a catastrophic event are not considered.

## Response T8-127

As discussed in the Master Response for Environmental Health and Safety Analysis, the analysis of potential environmental health and safety impacts looks at the relative risks for a set of release scenarios that could occur as the result of terminal operations and rail and vessel transport associated with the proposed action. The risk assessment in Appendix N, *Oil Spill Modeling*, does not predict precise locations or spill sizes where spills might occur. This approach provides decision-makers and planners with a range of potential outcomes related to the proposed action to help them understand potential risks and propose targeted mitigation measures. By extension, the Draft EIS does not predict the specific consequences that would affect individual resource areas or populations along rail and vessels transportation corridors with any single release scenario. Rather, Draft EIS Chapter 4, Section 4.7, *Impacts on Resources*, describes the general types of impacts that would be expected if an incident occurs.

Additionally, as noted in the discussion of consequences in Draft EIS Chapter 4, *Environmental Health and Safety*, and in Appendix N, the release scenarios for vessels were based in part on regulatory requirements for contingency planning to consider worst-case discharges. To that end, oil trajectory modeling assumed an instantaneous release of the entire release volume and that no efforts to respond to or mitigate a release are made. As noted in Section 4.2, *Applicable Regulations*, several regulations are in place, including design standards for vessels intended to reduce the consequences of a spill in the event of an incident. However, rapid, coordinated response is critical to minimizing the consequences of an oil spill. As noted in Sections 4.4, 4.5, and 4.6, which describe the potential for unavoidable and significant adverse environmental impacts for terminal operations, rail transport, and vessel transport, respectively, no mitigation measures would completely eliminate the possibility of a spill or explosion.

## Comment T8-128

- The manner in which oil spill frequency estimates and return rates are presented in the DEIS obscures the basic fact that these projects, if approved, would significantly increase the oil spill risk in Grays Harbor. The quantitative analysis presented in the DEIS estimates that the frequency of large spills from the Westway expansion would increase by 8-fold and at Imperium, spill frequency would increase to 30 times the no-action level. Oil spill frequency would be close to 40 times current levels both projects proceed, and even higher if the U.S. Development project also moves forward.
- The DEIS discusses and presents the project risks in a very compartmentalized manner. Individual probabilities are calculated for spills from rail, terminal, or vessel operations for each project. Cumulative risks are described for specific scenarios for each phase of operations, but these probability estimates are never aggregated. Spill probabilities are also never considered from the perspective of the potentially impacted environment. Based on the information presented in the DEIS, the chance of any size oil spill impacting the marine environment from vessel or terminal operations is 0.44/year. The expected frequency of any type of oil spill (2,100 gallons or more) impacting the marine environment is one spill every 2.2 years. The DEIS does not present this information, and does not consider the potential consequences to the marine environment from one oil spill every 26 months.

### **Response T8-128**

As discussed in the Master Response for Environmental Health and Safety and based on the risk assessment in Draft EIS Appendix M, *Risk Assessment Technical Report*, the analysis of risks presented in Draft EIS Chapter 4, *Environmental Health and Safety*, evaluates the likelihood of different spill sizes associated with terminal (onsite) operations, rail transportation, and vessel transportation separately. The risks across these operations are not combined in the Draft EIS because of differing regulatory and design requirements described in Chapter 4, because the cause of an incident involving the facility or rail or vessel transport would likely be different, and because the proposed facility, rail line, and vessel transport corridor are physically separated. The conclusions asserted in the comment above are not supported by the analysis in Appendix M.

### **Comment T8-129**

- The DEIS for Westway and Imperium cite an identical set of mitigation measures for marine vessel operations, which were presumably developed in tandem with the vision that these mitigation measures would be jointly funded and implemented. It is unclear whether there would be a reduction to mitigation measures if one but not both projects proceed. If the proposed mitigation were reduced, there could be a corresponding increase in the probability or consequences of marine oil spills.

### **Response T8-129**

Although the Westway and REG (formerly Imperium Terminal Services) Draft EISs were developed and published concurrently, they are independent proposals. Therefore, measures identified in the Westway EIS would be required of Westway if a permit is issued. Implementation of applicant measures would be enforceable through permits. The applicant would be responsible for ensuring such measures were implemented per the terms of the permit. The applicant could fund measures through cost-sharing opportunities, such as with REG, through grant opportunities, or other means if desired. Implementation of those measures would be the sole responsibility of Westway, regardless of lost potential for cost sharing.

### **Comment T8-130**

- A simple arithmetic approach is used to estimate potential impacts of rail car incidents to sensitive habitats based on the percentage of the rail corridor that is proximate to sensitive areas. This is not a valid consequence analysis method.

### **Response T8-130**

As discussed in the Master Response for Environmental Health and Safety Analysis, the analysis of potential environmental health and safety impacts looks at the relative risks for a set of release scenarios that could occur as the result of terminal operations and rail and vessel transport associated with the proposed action. The risk assessment in Appendix N, *Oil Spill Modeling*, does not predict precise spill sizes or locations where spills might occur. This approach provides decision-makers and planners with a range of potential outcomes related to the proposed action to help them understand potential risks and propose targeted mitigation measures. By extension, the Draft EIS does not predict the specific consequences that would affect individual resource areas or populations along rail and vessels transportation corridors with any single release scenario. Rather,

Chapter 4, Section 4.7, *Impacts on Resources*, describes the general types of impacts that would be expected if an incident occurs.

### **Comment T8-131**

- The modeled oil spill scenarios use medium crude oil as a proxy for a range of project oils, including Bakken crude and diluted bitumen; in reality, the chemical and physical properties of these and other potentially transported oils vary widely. Modeled behavior of medium crude oil may not accurately describe how a diluted bitumen or Bakken crude spill would behave.

### **Response T8-131**

As discussed in the Master Response for Oil Spill Modeling Methods, Draft EIS Appendix N, *Oil Spill Modeling*, acknowledges the limitations of the selected modeling tool to consider Bakken crude oil or diluted bitumen specifically. The model developer, NOAA, was consulted to assist in finding a suitable proxy; medium crude oil was used based on their guidance. To provide additional information about the weathering behavior of these types of oil in the environment, a comparison of behavior of the medium crude oil proxy, Bakken crude oil, and diluted bitumen in the environment was completed using ADIOS and is presented in Appendix N.

### **Comment T8-132**

- The modeled oil scenario trajectory maps are not informative about the scale of potential impacts, and the trajectory models are not used to evaluate potential consequences of a major marine oil spill. A consequence analysis that considered the spill trajectories against local wildlife, human use, and environmental sensitivities would inform the overall project risks.

### **Response T8-132**

As discussed in the Master Response for Environmental Health and Safety Analysis, the analysis of potential environmental health and safety impacts looks at the relative risks for a set of release scenarios that could occur as the result of terminal operations and rail and vessel transport associated with the proposed action. The risk assessment in Appendix N, *Oil Spill Modeling*, does not predict precise spill sizes or locations where spills might occur. This approach provides decision-makers and planners with a range of potential outcomes related to the proposed action to help them understand potential risks and propose targeted mitigation measures. By extension, the Draft EIS does not predict the specific consequences that would affect individual resource areas or populations along rail and vessels transportation corridors with any single release scenario. Rather, Chapter 4, Section 4.7, *Impacts on Resources*, describes the general types of impacts that would be expected if an incident occurs, including the potential impacts on wildlife and human health.

### **Comment T8-133**

- The escort fleet proposed to support the expansions will likely be inadequate to support the cumulative increases in large commercial vessel traffic.

### **Response T8-133**

Draft EIS Chapter 6, Section 6.5.6.2, *Cumulative Impacts*, provides an analysis of the capacity of the existing fleet of harbor tugs in Grays Harbor to escort laden tank vessels related to the cumulative

projects. As described in that section, the tank vessels related to the cumulative projects would not exceed the capacity of the existing tugs.

### **Comment T8-134**

- A vessel management system is proposed as a mitigation measure with no corresponding discussion of how it would be operated or funded.

### **Response T8-134**

The vessel management system identified in the referenced mitigation measure could be developed in different ways. How it is operated would depend on what form it takes. The regulatory expertise and responsibilities of the groups identified in the mitigation measure would apply. Final EIS Chapter 3, Section 3.17.7.1, *Applicant Mitigation*, and Chapter 4, Section 4.6.3.1, *Applicant Mitigation*, reflect additional text indicating the funding responsibility of the applicant for this mitigation measure. In addition, the measure has been revised to reflect new Washington State legislation in RCW 88.16.

### **Comment T8-135**

- The significant increase in potential spill frequencies described in the DEIS should warrant a critical examination of the capacity of oil spill response resources available to respond to a Grays Harbor area spill.

### **Response T8-135**

Final EIS Chapter 4, *Environmental Health and Safety*, has been updated to better reflect existing local and statewide emergency service response capabilities and resources, updated planning requirements, clarifications about the potential impacts of the proposed action on local emergency response providers, and additional mitigation measures to reduce risks. As noted, the federal and Washington State rules use an approach that allows equipment to be cascaded into the area within regulatory periods. Equipment is listed by plan holders and response contractors on the Western Response Resource list at [www.wrrl.us](http://www.wrrl.us). This equipment is available for use in a facility, rail, or vessel spill. Final EIS Chapter 4 reflects additional mitigation measures to address gaps in emergency preparedness planning and response capabilities. These measures include the provision of additional firefighting equipment, spill response and recovery equipment and other tools, and annual emergency response training opportunities to local jurisdictions. Nonetheless, mitigation would not completely eliminate the possibility of an incident. Depending on the location, amount spilled, type of crude oil, and environmental conditions, such as the time of year, water flows, and weather conditions, environmental impacts could be significant. Section 4.7, *Impacts on Resources*, describes the types of impacts that could occur in the event of an oil spill, fire, or explosion. Refer to the Master Response for Emergency Response and Planning Gaps Evaluation.

### **Comment T8-136**

#### **DEIS Documents Reviewed**

Nuka Research focused our review on the following components of the DEIS, inclusive of cross-referenced studies.

- Westway Expansion Project and Imperium Terminal Services Expansion Project DEISs

- Chapter 2, Proposed Actions and Alternatives
- Chapter 3, Section 3.17: Affected Environment, Vessel Traffic
- Chapter 4, Section 4.6: Environmental Health Risks- Vessel Transport o Chapter 5: Extended Rail and Vessel Transport
- Chapter 6: Cumulative Impacts
- Appendix N: Oil Spill Modeling
- Risk Assessment Technical Report (Appendix M to both DEISs)

Because of the parallel organization of the two DEIS documents, references to section numbers apply to both documents, unless otherwise noted.

### **Detailed Comments**

#### **Oil Spill Risk Analysis Methods and Results**

The additional marine vessel and rail car movements associated with the two proposed projects (Westway and Imperium) increases the potential for an oil spill to occur and adversely impact wildlife and their habitat, plant life, and human populations. The DEIS documents present information about oil spill risks, but the methodology for the oil spill risk assessments is not clearly explained, and there are significant gaps in the analysis and results. Because oil spill risk information is presented so unevenly, it is difficult to distill out the fact that the potential for an oil spill to impact Grays Harbor increases significantly if these projects are approved.

#### **Response T8-136**

For information about the methods, assumptions, and sources of data used in the risk assessment, refer to the Master Response for Risk Assessment Methods.

### **Comment T8-137**

#### **Qualitative Scales are Misleading (Marine Vessel Risks)**

Figures 4.6-1 and 4.6-2 present a qualitative diagram meant to represent the risk components for three different large marine vessel spill scenarios under the no action alternative (4.6-1) and the proposed action (4.6-2). The scale is bounded by “unlikely” and “likely” but does not provide any calibration for understanding this scale. Intuitively, it appears to be a linear scale, but this is never explicitly stated. The use of qualitative tools to interpret risk for a non-technical audience is a reasonable approach, but the sliding scales presented in the DEIS are not a standard method; as practitioners of oil spill risk assessment we have never come across this approach. The qualitative “sliding scale” oversimplifies a complex process, and its relationship to the quantitative risks as estimated in the DEIS is not clear.

#### **Response T8-137**

For the reasons discussed in the Master Response for Risk Assessment Methods, the figures depicting risks presented in Draft EIS Chapter 4, *Environmental Health and Safety*, have been removed from the Final EIS.

## Comment T8-138

### Likelihood of an Incident

The “unlikely” to “likely” scale appears to be relative, rather than absolute. For example, as shown in the excerpts from Figures 4.6-1 and 4.6-2 (Westway), the location of the red sliding box is in the same location for a 105,000 gallon spill under the no action alternative (Figure 4.6-1) as it is for a 1.2 million gallon spill under the proposed expansion, suggesting that the likelihood of a 1.2 million gallon spill from Westway if the expansion proceeds would be equivalent to the current risk of a 105,000 gallon spill from existing operations. However, the quantitative assessment shows that the return period for the 1.2 million gallon spill under the Westway expansion is 1 in 360 years, while the likelihood of a large spill under no-action is **1 in 920 years. The likelihood of a 1.2 million gallon spill from Westway expansion is 2.5 times higher than the likelihood of a 105,000 gallon spill under no action, yet the two figures show these as essentially equivalent using the qualitative scale.** This is misleading and inaccurate.

The same technique is applied in the Imperium DEIS, with similarly misleading results. The figure to the left shows the side-by-side comparison from the Imperium DEIS Figures 4.6-1 and 4.6-2. Again, the qualitative scale depicts roughly the same value for a 105,000 gallon spill under no action as a 1.2 million gallon spill for the Imperium expansion, even though **the likelihood of a 1.2 million gallon spill from the Imperium expansion is 3 times the likelihood of a 105,000 gallon spill under no action.** Again, this qualitative scale misrepresents the quantitative estimates.

The cumulative impact analysis uses this same approach to show the aggregate risks from Westway and Imperium (shown below). Again, the calibration across the various figures is unclear.

### Response T8-138

For the reasons discussed in the Master Response for Risk Assessment Methods, the figures depicting risks presented in Draft EIS Chapter 4, *Environmental Health and Safety*, have been removed from the Final EIS.

## Comment T8-139

### Likelihood of Oil Spill Reaching Water

The second Risk column in Figure 4.6-2, “Likelihood of Reaching Water” shows the same value for all three scenarios, which is close to likely but not all the way there (the absence of a numeric scale makes it awkward to try to describe what this figure is attempting to communicate). It is difficult to conceive of how any of these three vessel scenarios- which represent spill sizes ranging from 105,000 gallons to 1.2 million gallons and occur from an underway vessel- would not result in oil reaching the water. The DEIS does not explain why this scale does not depict the likelihood of a major marine vessel spill reaching water as fully likely, since it would be unavoidable.

### Potential Environmental Impacts

The third Risk column, “Potential Environmental Impacts,” shows the difference in risk from the no action alternative (4.6-1) to the proposed action (4.6-2). The qualitative scale indicates a slight increase in likelihood of an incident occurring (first column) and no change to the potential environmental impact (third column). This does not make sense, because under the no action condition, there would be no change to the products that could spill in Grays Harbor, while the

proposed action would introduce several new types of petroleum oil into the system. Logically, the introduction of large marine vessels moving petroleum oils through Grays Harbor increases the potential for environmental harm, yet the DEIS figures appear to suggest that the potential for adverse environmental impacts from a crude oil tank vessel spill are equivalent to the potential adverse environmental impacts from existing vessel traffic, which include large commercial cargo vessels and tank vessels carrying methanol, but no crude oil-carrying vessels. The accompanying text does not justify the highly improbable notion that the environmental impacts from a crude oil tanker spill would be the same as for a fuel oil spill from existing traffic, even though the spill volume from a tanker would be much higher.

In Figure 4.6-2, the environmental impacts column has the same value for all three scenarios, suggesting that the environmental impacts of a 105,000 gallon spill would be the same as from a 1.2 million gallon spill. It also seemingly does not consider which product is spilled. The potential impacts of Bakken crude oil, bitumen, ethanol, naphtha, gasoline, vacuum gas oil, jet fuel, No. 2 fuel oil, No. 6 fuels oil, kerosene, renewable jet fuel, renewable diesel, used cooking oil, and animal fat would vary significantly.

The underlying methods for the qualitative evaluation of environmental impacts are not described, and none of the DEIS materials provide an actual consequence analysis to systematically evaluate the potential impacts associated with the three large marine vessel oil spill scenarios presented.

### **Response T8-139**

For the reasons discussed in the Master Response for Risk Assessment Methods, the figures depicting risks presented in Draft EIS Chapter 4, *Environmental Health and Safety*, have been removed from the Final EIS.

## **Comment T8-140**

### **Quantitative Oil Spill Risk Analysis Incomplete (Marine Vessel Risks)**

Tables 15 and 19 in Appendix M present frequency estimates for potential vessel oil spills under the existing conditions (Table 19) and proposed actions/cumulative projects (Table 15). The relationship between the two tables is not clearly explained, but it appears that Table 15 shows how the predicted oil spills would increase from the baseline (no-action) numbers in Table 19. In this case, the data show a significant increase in the potential for oil spills, but the accompanying text does not clearly state this. The quantitative analysis presents three large spill scenarios, but does not address the potential for small to medium spills, which are by far the most common and are likely to occur if either project is approved. The aggregate probability for spills from Westway and Imperium, along with the US Development project also proposed for Grays Harbor, is not clearly calculated or explained.

### **Response T8-140**

Draft EIS Appendix M, *Risk Assessment Technical Report*, Table 15 presents the risks of a crude oil spill associated with the proposed action, REG (formerly Imperium Terminal Services) Terminal Expansion Project, and the cumulative scenario for three potential vessel-related incidents: collision, allision, and grounding. Table 19 presents the risks associated with existing operations at the project site that would be ongoing under the no-action alternative for the same three potential incident types. The tables are not directly comparable because in the case of Table 15, the risks

incorporate the addition of vessel transport of crude oil related to the proposed action whereas, in Table 19, the risks are associated with existing operations involving methanol transport. As stated in the comment, the potential for oil spills would increase under the proposed action because no crude oil operations occur under existing conditions. Draft EIS Chapter 4, Environmental Health and Safety, presents a full discussion of potential impacts.

As noted in Appendix N, *Oil Spill Modeling*, the release scenarios include spill volumes up to the amount specified, meaning that the chances of any release scenario occurring include the possibility of a smaller spill for the same three incidents. The small to medium spills mentioned in the comment would most likely be associated with vessel loading activities. These are covered in Section 4.4, *Environmental Health Risks—Terminal (Onsite)* and Appendix M, Chapter 3, *Terminal (Onsite) Evaluation*. As noted in Appendix M, the cumulative scenario assumes terminal, rail, and vessel operations associated with concurrent operations of the proposed action, the REG (formerly Imperium Terminal Services) Expansion Project, and the Grays Harbor Rail Terminal Project. The frequency of incidents was summed for the three projects based on their activity levels. Tables 3 and 9 of Appendix M include the assumed vessel traffic volumes that were used in the cumulative risk assessment.

## Comment T8-141

### Significant Increase in Frequency of Oil Spills

The predicted frequency of a 105,000 gallon spill from a collision from a Westway vessel under current conditions as shown in Table 19 is 0.0011; this increases by 0.008 events/year based on the information in Table 15. **This means the predicted frequency of a large spill from a collision increases 8-fold at Westway** (from 0.0011 to 0.0091). **At Imperium, the predicted frequency increases by 30-fold** (from 0.00047 to 0.01447).

**The estimated frequency of a 15.1 million gallon spill from an allision increases 8-fold for Westway and 28-fold for Imperium.** For a 1.2 million gallon grounding scenario, the frequency also increases 8-fold for Westway and 29-fold for Imperium. When the cumulative changes are considered, the frequency of potential spills increases even more substantially, but cannot be calculated from the information in the DEIS because Table 19 does not estimate the cumulative frequency of oil spills under existing conditions.

Overall, the predicted frequency of oil spills in Grays Harbor increases to 8 times the current level if the Westway expansion occurs, 30 times the current level if the Imperium expansion occurs, and even more (roughly 38 times the current level) if both projects proceed. As discussed below, the aggregate probability of an oil spill occurring if the U.S. Development project also proceeds is not clearly presented in the DEIS.

Like other risk estimates in these DEIS documents, these analyses presume that the consequences of current (no-action) spills of non-crude oil products is equivalent to potential future risks of crude oil spills; this is an incorrect assumption.

### Response T8-141

As noted in the response to the previous comment, Tables 15 and 19 are not directly comparable to each other because, in the case of Table 15, the risks associated with the proposed action, REG (formerly Imperium Terminal Services) Expansion Project, and the cumulative scenario (including

U.S. Development) adds the vessel transport of crude oil related to the proposed action, whereas, in Table 19, the risks are associated with continuation of existing operations involving methanol transport at the project site and primarily biodiesel-related products at the REG project site under the no-action alternative. U.S. Development's Grays Harbor Rail Terminal Project is not included in Table 19 because there are no current operations that would be expected to continue under the no-action alternative. Draft EIS Chapter 4, *Environmental Health and Safety*, acknowledges that implementation of the proposed action presents new risks that would not otherwise occur.

## Comment T8-142

### **Small and Medium Spills from Vessels at Terminal not Included with Vessel Spill Risks**

Table 6-19 (Cumulative Risks) describes a series of small, medium, and large spills, including 2,100 gallon (small) and 10,000 gallon (medium) transfer spills during vessel loading. Table 2 (Section 3.3) presents probabilities for these smaller events, which are expected to occur at a much higher frequency than larger spills. Presumably, a spill during vessel loading would have the potential to impact the marine environment. However, both the qualitative and quantitative risk estimates only present the probabilities for larger vessel spills. In order to appreciate the cumulative risks to the marine environment, the presentation of results for vessel oil spill risks should also present small and medium-sized spills, which have the potential to occur much more frequently and can have significant environmental impacts, depending upon timing and location.

### **Response T8-142**

As noted in Appendix N, *Oil Spill Modeling*, the release scenarios include spill volumes up to the amount specified, meaning that the chances of any release scenario occurring includes the possibility of a smaller sized spill from the specified event. The small to medium spills mentioned in the comment are most likely to occur during rail unloading or vessel loading activities rather than during vessel transit. These are covered in Appendix M, *Risk Assessment Technical Report*, Chapter 3, *Terminal (Onsite) Evaluation*, and Draft EIS Chapter 4, Section 4.4, *Environmental Health Risks—Terminal (Onsite)*. The reason that incidents occurring during vessel transit are skewed to the larger spill sizes is because the magnitude of the incident must be sufficiently great that the forces involved to penetrate the hull of the vessel. In those cases, the releases sizes are more likely to be relatively larger given the loss of integrity of at least one compartment.

## Comment T8-143

### **Cumulative Oil Spill Risks Not Adequately Expressed**

While there are several places in the DEIS documents where cumulative oil spill risks are discussed, the DEIS does not adequately consider the cumulative risks from **all types and sources of oil spills**. There are many examples throughout the DEIS where risks are compartmentalized based on the source of the spill (vessel, rail, terminal), the size of the spill, or the potential spiller (Westway, Imperium, or U.S. Development); yet, the aggregate risk of any type or size of incident occurring from any of these potential sources is never presented.

Aggregate probability of events that are not mutually exclusive can be estimated by summing up the individual probabilities. If, for example, one was interested in understanding the potential for any spill from the terminal or associated vessels to impact the marine environment, the individual probabilities could be added together. The Risk Assessment Technical Report (Appendix M)

provides the following values for cumulative predicted increases in frequency of release (event/year, based on data in Table 2 and Table 15):

- 2,100 gallon vessel loading spill: 0.38
- 10,000 gallon vessel loading release: 0.023
- 50,400 gallon release from pipeline or storage tank due to seismic event: 0.0022
- 8.4 million gallon (Westway) or 3.36 million gallon (Imperium) storage tank failure: 0.00011
- 105,000 gallon spill from vessel collision: 0.022
- 15.1 million gallon spill from vessel allision: 0.0086
- 1.2 million gallon spill from vessel grounding: 0.0078

The additive probability- the chance that any of these types of spills might occur if Westway, Imperium, and U.S. Development projects proceed- is 0.44. **The chance of any size spill impacting the marine environment in a given year is 44%. The expected frequency of any type of oil spill (2.100 gallons or more) impacting the marine environment is one spill every 2.2 years.**

The DEIS does not present this information, and does not consider the potential consequences to the marine environment from one oil spill every 26 months.

### **Response T8-143**

As discussed in the Master Response for Environmental Health and Safety Analysis, the analysis of potential environmental health and safety impacts looks at the relative risks for a set of release scenarios that could occur as the result of terminal operations and rail and vessel transport associated with the proposed action. The risk assessment in Appendix N, *Oil Spill Modeling*, is not intended to predict the most likely outcomes associated with the proposed action. As discussed further in that master response, the approach was selected to provide decision-makers and planners with a range of outcomes related to the proposed action and related rail and vessel transport.

As further discussed in the Master Response for Environmental Health and Safety and based on the risk assessment in Draft EIS Appendix M, *Risk Assessment Technical Report*, the analysis of risks presented in Draft EIS Chapter 4, *Environmental Health and Safety*, evaluates the likelihood of different spill sizes associated with terminal (onsite) operations, rail transportation, and vessel transportation separately. The risks across these operations are not combined in the Draft EIS because of differing regulatory and design requirements described in Chapter 4, because the cause of an incident involving the facility or rail or vessel transport would likely be different, and because the proposed facility, rail line, and vessel transport corridor are physically separated.

### **Comment T8-144**

#### **Overlapping Mitigation Measures (Marine Vessel Risks)**

The DEIS documents for Westway and Imperium both include a list of mitigation measures to reduce the potential for marine vessel incidents to occur and cause oil spills. These measures are repeated in several places throughout the DEIS documents (e.g. Section 3.17.7.1, Section 4.6.3.1) and are identical for both expansion project proposals. Since both projects are proposing the same mitigation measures, it is reasonable to assume that these measures were developed jointly and envision a cooperative approach to funding and implementation. However, it is not clear what

would happen in the event that one or the other, but not both, of these projects was permitted. Would the commitments be reduced if a single operator was required to bear the full costs of implementation? Any changes or reductions to mitigation measures could cause a corresponding increase to the risk or impacts of an oil spill.

### **Response T8-144**

As noted previously, although the Westway and REG (formerly Imperium Terminal Services) Draft EISs were developed and published concurrently, they are independent proposals. Therefore, measures identified in the Westway EIS would be required of Westway if a permit is issued. Implementation of applicant measures would be enforceable through permits. The applicant would be responsible for ensuring such measures were implemented per the terms of the permit. The applicant could fund measures through cost-sharing opportunities, such as with REG, through grant opportunities, or other means if desired. Implementation of those measures would be the sole responsibility of Westway, regardless of lost potential for cost-sharing.

### **Comment T8-145**

#### **Rail Car Oil Spill Risks and Mitigation**

Crude by rail is a relatively new risk in Washington. Table 5-1 and Figure 5-2 show that prior to 2012, this risk did not exist. As shown in Table S-5, there are no crude oil by rail terminals currently operating in Grays Harbor, so like tank vessel crude oil spills, crude oil rail car spills in Grays Harbor are an entirely new risk that would be created by these two proposed actions. Section 4.5.1 indicates that current rail traffic consists of grain, auto, and mixed freight trains, a few of which contain methanol, vegetable oil, sodium methyate, biodiesel, and glycerin.

Section 5.7 acknowledges that no mitigation measures can completely eliminate the possibility of a large oil spill, fire or explosion from rail cars carrying crude oil. Therefore, the proposed expansion projects create a new risk (crude oil incident) in Grays Harbor.

### **Response T8-145**

Draft EIS Chapter 4, *Environmental Health and Safety*, acknowledges that the proposed action would introduce new risks associated with the handling, storage, and transport of crude oil in the study area.

### **Comment T8-146**

#### **Qualitative Scales are Misleading**

Figure 4.5-1 presents a “sliding scale” risk evaluation for the no action alternative, and Figure 4.5-2 shows the risks from the proposed action. These are similar to the scales used for the vessel oil spill risks, and like those figures, are ambiguous and difficult to interpret.

- The likelihood of an incident for a small spill (1,000 gallons) during rail transport is shown as virtually equivalent on the sliding scales in Figures 4.5-1 and 4.5-2. But the bullet lists that follow these illustrations describe the likelihood of a small spill as once every 170 years under no action, and once every 63-66 years under the proposed action. The illustrations do not clearly depict this 250% increase in likelihood.

- The likelihood of an incident for a medium spill (30,000 gallons) is also shown as equivalent on both Figures 4.5-1 and 4.5-2, but again the numeric estimates provided in the text below the figures show an increase from once in 97 years to once every 23-27 years. This is more than a 350% increase in likelihood, but is not clearly expressed in evaluating the two figures.
- The likelihood of an incident from a large 3-car incident (90,000 barrels) increases from once every 6,300 years to once every 160-270 years. This is a more than 23 times (2300%) increase in likelihood. Again, the two figures do not represent this significant increase from the no action to the proposed action.

### Response T8-146

For the reasons discussed in the Master Response for Risk Assessment Methods, the figures depicting risks presented in Draft EIS Chapter 4, *Environmental Health and Safety*, have been removed from the Final EIS.

### Comment T8-147

The Risk Assessment Technical Report cites a rail transportation model from 1996 as the source of frequency data for release sizes from rail car spills; however, this report significantly predates the crude by rail transportation boom in the U.S.; therefore the spill statistics are for all hazardous materials. **The analysis is essentially taking 20-year old data on hazardous materials rail car incidents and using this as a proxy for the current baseline of crude oil tank car rail spills for the no-action alternative.** In fact, those accident rates are not a valid proxy for the no-action frequency of crude oil spills from rail cars, which should be zero.

### Response T8-147

The 1996 model referred to in the comment allows for application of current accident rate and consideration of different configurations of tank cars (such as thicker walls, jackets, fitting protection, and other factors that will be on the new designs required under the May 2015 final rule). This model is primarily used for the evaluation of different numbers of cars derailing and spilling, not for a source of 20-year-old data.

### Comment T8-148

The accident rate assumptions used to calculate release probabilities from rail cars is 1E-5 per train mile, which is significantly lower than the calculated historical accident rate for PS&P (2.2E- 5), based on the assumed "improvements that PS&P has planned prior to the implementation of the proposed actions." Given that these are assumed and unproven changes, the use of a substantially lower release probability is not justified.

### Response T8-148

It is assumed the rates listed in the comment refer to accident rates and not release rates. As noted in Draft EIS Appendix M, *Risk Assessment Technical Report*, Section 4.2.2, *Accident Rates*, although PS&P accidents rates through 2014 are roughly ten times the national average, at 2.2E-5 per train mile, with the changes made by PS&P since the accidents in April and May 2014, and assuming the implementation of improvements that PS&P has planned, a long-term rate of 1E-5 per train mile was applied in this analysis. This is still higher than the national average for accidents.

## Comment T8-149

Page 4-8 of the Risk Assessment Technical Report calculates that the likelihood of a derailment occurring near critical marbled murrelet habitat is once in 720 (Westway) or 450 (Imperium) years, by presuming that 5% of rail accidents would impact this habitat, since it represents 5% of the total route. This straight arithmetic calculation presumes that the likelihood of a spill occurring is equal along all stretches of the route is equal, which is not necessarily the case. It also discounts the potential for a spill that occurs at other points along the route to migrate over water or land to impact the critical habitat. This is not a valid approach to evaluating potential consequences to critical habitat.

## Response T8-149

As described in the Master Response for Environmental Health and Safety Analysis, the impacts analysis presented in the Draft EIS focuses on the risks of a set of spill scenarios rather than predicting where a specific incident of a certain type may be more likely. The detailed approach explained in Appendix M, *Risk Assessment Technical Report*, evaluates the likelihood of certain incidents occurring, and considers all causes of failure, including construction defects, natural hazards, human error, and material failures.

## Comment T8-150

### Cumulative Oil Spill Risks Not Adequately Expressed

Aggregate probability of events that are not mutually exclusive can be estimated by summing up the individual probabilities. If, for example, one was interested in understanding the potential for any spill occurring from a rail car, the individual probabilities could be added together. The Risk Assessment Technical Report (Appendix M) estimates the frequency of rail car release in 2017 and 2037 if both projects proceed (event/year, based on data in Table 5, shown below).

**Table 5. Representative Probabilities of Different Release Sizes during Rail Transport**

<b>Failure Event and Potential Associated Release</b>	<b>No-Action Alternative<sup>a</sup></b>	<b>2017 Operations<sup>b</sup></b>	<b>2037 Operations<sup>c</sup></b>
Partial one rail car spill scenario (1,000 gallons or 23.8 barrels)	0.02	0.08	0.07
One rail car spill scenario (30,000 gallons or 714 barrels)	0.035	0.21	0.17
Three rail car spill scenario (90,000 gallons or 2,14 barrels)	0.00054	0.03	0.02
Five rail car spill scenario (150,000 gallons or 3,570 barrels)	Not evaluated	0.0015	0.00066
30 rail car spill scenario (900,000 gallons or 21,400 barrels)	Not applicable	0.0001	0.0005

a. The release probabilities associated with the no-action alternative assume fewer rail cars of interest per train.

b. 2017 Operations assumes a mix of 50% current jacketed CPC-1232 rail cars (no upgraded CPC-1232s yet, but also no DOT-111s) and 50% new DOT-117s.

c. 2037 Operations assume use of an DOT-117 rail cars.

The additive probability- the chance that any of these types of spills might occur if Westway, Imperium, and U.S. Development projects proceed- is 0.32 for 2017 operations and 0.26 for 2037 operations. Under the no action alternative, the probability is 0.05. **The chance of any size oil spill from rail operations increases from 5% per year to 32% per year (2017 operations).** The return rate for rail car spills (2017 operations) increases from once every 20 years under the no action alternative to once every 3.1 years if the projects proceed.

The DEIS does not present this information, and does not consider the potential consequences to the environment from one oil spill every three years.

### **Response T8-150**

As discussed in the Master Response for Environmental Health and Safety and based on the risk assessment in Draft EIS Appendix M, *Risk Assessment Technical Report*, the analysis of risks presented in Draft EIS Chapter 4, *Environmental Health and Safety*, evaluates the likelihood of different spill sizes associated with terminal (onsite) operations, rail transportation, and vessel transportation separately. The risks across these operations are not combined in the Draft EIS because of differing regulatory and design requirements described in Chapter 4, because the cause of an incident involving the facility or rail or vessel transport would likely be different, and because the proposed facility, rail line, and vessel transport corridor are physically separated.

### **Comment T8-151**

#### **Oil Spill Modeling Assumptions and Inputs**

The modeling assumptions and inputs used to evaluate potential oil spill trajectories and consequences are not adequate to evaluate the potential impacts of a major oil spill to coastal, marine, and riverine environments and resources.

## Response T8-151

Refer to the Master Response for Oil Spill Modeling Methods for a discussion of approach, assumptions, and limitations of the oil spill model.

## Comment T8-152

### Type of Oils Handled

In various places, the DEIS documents identify the following as products that may be transported by the Westway and Imperium expansion projects: Bakken crude oil, bitumen, ethanol, naptha, gasoline, vacuum gas oil, jet fuel, No. 2 fuel oil, No. 6 fuels oil, kerosene, renewable jet fuel, renewable diesel, used cooking oil, and animal fat. These products vary significantly in their physical and chemical properties, but the modeling reports in both DEIS (Appendix N) use medium crude oil as a proxy for Bakken and diluted bitumen. Bakken crude and diluted bitumen are very different products, and medium crude oil is not necessarily a valid proxy for either. Bakken crude is generally characterized as a light sweet crude oil high in light-end hydrocarbons that make it particularly flammable when compared to conventional crude oil. The density of Bakken crude typically ranges from 39.7° to 42.2° API gravity (CRS, 2014). Diluted bitumen blends are heavier, sour crude oils. Densities for diluted bitumen are typically below 20° API gravity (CRS, 2014). Neither of these oils fall into the range for medium crude oils, which are typically characterized as having an API gravity between 27 and 35° (Exxon Mobil, 2015). Medium crude oil is not an appropriate proxy for either Bakken crude or diluted bitumen, and the model outputs do not necessarily reflect the potential fate and effects of a spill of either of these substances.

## Response T8-152

This comment identifies commodities proposed by both the applicant and REG (formerly known as Imperium Terminal Services). Comments specific to the REG project would be addressed in responses to comments in the Final EIS for that project. As noted in Draft EIS Chapter 2, *Proposed Action and Alternatives*, the applicant is proposing to store and handle crude oil and not the other commodities listed in the comment.

As discussed in the Master Response for Oil Spill Modeling Methods, Draft EIS Appendix N, *Oil Spill Modeling*, acknowledges the limitations of the selected modeling tool to consider Bakken crude oil or diluted bitumen specifically. To provide additional information about the behavior of these types of oil in the environment, a comparison of behavior of the medium crude oil proxy, Bakken crude oil, and diluted bitumen, in the environment was completed using ADIOS and presented in Draft EIS Appendix N, *Oil Spill Modeling*.

## Comment T8-153

### Modeled Scenarios

The scenarios modeled in Appendix N represent a 10,000 gallon loading spill at berth, a 2 million gallon (Imperium) and 8.4 million gallon (Westway) storage tank spill, and a 15.1 million gallon spill from a vessel at the entrance from Grays Harbor. These scenarios differ from the spill scenarios presented in the Risk Assessment Technical Report (Appendix M), which describe a catastrophic scenario for Imperium as 3.36 million gallons.

## Response T8-153

This comment identifies scenarios specific to REG (formerly known as Imperium Terminal Services). While although that project is still considered in the cumulative risk scenarios, comments specific to the REG project would be addressed in responses to comments in the Final EIS for that project. It should be noted that the comment is correct. Final EIS Appendix M, Table 2 has been revised to correct the typographical error. The volume associated with REG's largest proposed tank should read 3.36 million gallons (80,000 barrels).

## Comment T8-154

### Duration of Scenarios

Trajectory analyses only model the first 48 hours of each spill. It is common practice to model out to 72 hours, and while the use of a shorter modeling duration is not necessarily invalid, the rationale for this timeframe should be explained.

## Response T8-154

In addition to the spill sizes being informed by existing regulations,<sup>22</sup> the analysis also adhered to planning requirements to show spill trajectories in 24- and 48-hour increments (WAC 173-182-405). Consistent with these standards, the oil spill modeling assumes that no efforts to respond or mitigate a release are made.

## Comment T8-155

### Trajectory maps

The trajectory maps presented in Figures 1 through 6 of the Westway DEIS lack any quantitative scale. For example, the dark red dots that depict beached oil do not ascribe any parameters to the amount of oil represented by each dot. GNOME typically outputs data such that each dot can be interpreted as a standard volume of oil, and this helps with comparing trajectory maps and understanding impacts. When comparing the maps in Figures 1 and 2, which represent a 238 barrel spill, with Figures 3 and 4 (200,000 bbl spill) and Figures 5 and 6 (360,000 bbl spill) and comparing shoreline oiling, the smallest spill (Figures 1 and 2) seems to result in much more extensive shoreline oiling within Grays Harbor than the much larger spill in Figures 3 and 4. The thickness of the dots in Figure 5 and 6 seem to suggest that the shoreline oiling for this largest spill scenario, which impacts the outer coast more than Grays Harbor, is more severe than the other two scenarios, but this is never explained.

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<sup>22</sup> The quantity of oil spilled for these scenarios was based upon the definition of worst-case spill in WAC 173-182 (Oil Spill Contingency Plan) for an onshore facility, a vessel, and for rail transport. For an onshore facility, the worst-case spill means the entire volume of the largest aboveground storage tank, which for the proposed action would have a capacity of approximately 8.4 million gallons (200,000 barrels of crude oil). For a vessel, the worst-case spill means a spill of the vessel's entire cargo and fuel. The largest tankers would be Panamax class with the capacity to hold up to 14.7 million gallons (350,000 barrels). An additional 420,000 gallons (10,000 barrels) was added to represent the fuel onboard the vessel. The transfer release was estimated taking into account the proposed transfer rate to the vessel multiplied by approximately 1 minute and 25 seconds to account for the maximum shutdown response time.

Similarly, the use of yellow, green and pink shading to depict light, medium, and heavy oiling does not provide much context for evaluating impacts. The largest extent of continuous heavy oiling (pink) appears in Figure 2, a 238-bbl spill at the Terminal under low flow conditions in winter. The trajectory map in Figure 4, which shows the 200,000-bbl spill at the same location under the same conditions, does not show as much heavy oiling despite the 100-fold increase in spill volume. This is counter-intuitive and is not well explained in the modeling report. The total area of pink in Figures 5 and 6, which depict the 360,000-bbl spill, are smaller than the Grays Harbor spill. While this may be attributable to increased spreading, no such explanation is provided.

### **Response T8-155**

The output of GNOME was converted using GNOME Analyst (a NOAA Application). GNOME Analyst converts the “best guess” spot number and position data into oil density contours. The contours are intended to provide a practical view of how the oil may spread given the spill and environmental factors discussed in Draft EIS Appendix N, *Oil Spill Modeling*. The mass balance results in Table 2 of Appendix N can be used to calculate the amount of oil in gallons or barrels that is estimated by the model (within a range) to remain floating, to be beached, or that could have evaporated or dispersed.

The referenced maps are two-dimensional. They represent snapshots of the spill impacts and densities at only two points in time, at a 24-hour period and at a 48-hour period. The movement of oil prior to or after these snapshot representations shows a different degree of oil impact and oil densities in different locations due to the flow of water in Grays Harbor over time as influenced by tides and currents and the oil spreading as influenced by the wind.

Potential oil spill impacts are discussed in the context of two historical oil spills in Attachment A to Appendix N.

### **Comment T8-156**

#### **Significant Shoreline Impacts**

The modeling reports include a mass balance estimate that predicts the percentage of the oil spill that would be floating on the water, evaporated/dispersed, and “beached,” or stranded on shorelines where it must be cleaned up. The trajectory analyses for Westway estimate that 24 hours after a 10,000 gallon spill, up to 74.3% of the oil (7,430 gallons) would have reached the shoreline. For a 15.1 million gallon spill, up to 74.5% (11.2 million gallons) is estimated to reach the shoreline by hour 24. For this largest spill, that amounts to a volume of oil the size of the Exxon Valdez oil spill along the Grays Harbor and outer coastline, where it would impact shoreline habitats, birds, and other species.

These analyses emphasize that the window of opportunity to contain and recover oil before it impacts shorelines is incredibly short, which has implications to oil spill response preparedness (discussed below).

### **Response T8-156**

Draft EIS Appendix N, *Oil Spill Modeling*, indicates that the release scenarios were informed by existing regulations and that the analysis adhered to planning requirements to show spill trajectories in 24- and 48-hour increments (WAC 173-182-405). Consistent with these standards,

the oil spill modeling effort assumes that no efforts to respond to or mitigate a release are made. As noted in Chapter 4, Section 4.2, *Applicable Regulations*, several regulations are in place, including design standards for rail cars and vessels intended to reduce the consequences of a spill in the event of an incident. However, rapid, coordinated response is critical to minimizing the consequences of an oil spill.

## **Comment T8-157**

### **Lack of Consequence Analysis**

One of the values in conducting oil spill trajectory analyses is to evaluate the vulnerability of sensitive resources and environmental receptors in the path of a potential spill. While the modeling analyses show potential on-water concentrations and shoreline distribution of oil, it does not evaluate the potential consequences of oil reaching these areas. A consequence analysis typically assigns some weight to oil spill vulnerabilities in order to consider the potential consequences of a worst case oil spill and develop mitigation measures intended to minimize or prevent such adverse impacts.

### **Response T8-157**

As discussed in the Master Response for Environmental Health and Safety Analysis, the analysis of potential environmental health and safety impacts looks at the relative risks for a set of release scenarios that could occur as the result of terminal operations and rail and vessel transport associated with the proposed action. Appendix M, *Risk Assessment Technical Report*, and Appendix N, *Oil Spill Modeling*, do not predict precise spill sizes or locations where spills might occur. This approach provides decision-makers and planners with a range of potential outcomes related to the proposed action to help them understand potential risks and propose targeted mitigation measures. By extension, the Draft EIS does not predict the specific consequences that would affect individual resource areas or populations along rail and vessels transportation corridors with any single release scenario. Rather, Chapter 4, Section 4.7, *Impacts on Resources*, describes the general types of impacts that would be expected if an incident occurs. Refer to Master Response Oil Spill Modeling Methods for additional information about the approach to, input assumptions for, and limitations of the oil spill modeling.

## **Comment T8-158**

### **Gaps in Vessel Traffic Analyses**

Each DEIS discusses vessel traffic risks and impacts within the body of the respective DEIS, in the joint Risk Assessment Technical Report (Appendix M), and in the heavily cited 2014 WorleyParsons report Vessel Traffic Impact Analysis for Westway and Imperium.

### **Escort Tug Availability and Capacity**

Section 3.17 contains a qualitative discussion of escort tug capacity in Grays Harbor. Three harbor tugs are described as available within Grays Harbor, and their capabilities are described in general terms. The Neah Bay tug, located more than 100 miles away, is also discussed though the DEISs' both concede that the 12-18 hour transit time required for the tug to reach Grays Harbor make it an unlikely asset for most emergency response situations.

The DEIS documents state that the three tugs are sufficient to provide escort and docking assistance according to the proposed mitigation measures for each project, which Section 3.17.7.1 describes as at least one escort tug for laden outbound tank vessels traveling between the Hoquiam River and Grays Harbor entrance and two tugs to assist with docking and undocking. The DEIS documents state that the three tugs are adequate to handle the forecasted increase in vessels for both 2017 and 2037 for each project, but does not clearly describe how those three tugs will be able to provide assistance to meet the increased vessel traffic. Additionally, the Vessel Traffic Impact Analysis for Imperium and Westway (WorleyParsons, 2014) states that the tug fleet in Grays Harbor consists of two, not three tugs.

Chapter 6 discusses the cumulative impact to escort tugs to meet the cumulative increase to 1,082 large commercial vessel transits in 2017 and 1,180 in 2037, inclusive of the three proposed projects and baseline commercial vessel traffic. Text on page 6-47 justifies that three tugs are appropriate to meet the cumulative tank vessel calls, which are stated as 395 in 2017 and 406 in 2037. However, two tugs are required for all large commercial vessels, which means that the existing fleet of two or three tugs will actually be required to accommodate escort and docking/mooring for 1,082 vessels per year in 2017 and 1,180 vessels per year in 2037. The requirement for two tugs to assist with docking/mooring means that it will not be possible to dock and undock more than one large vessel at a time. It is not at all clear how two or three tugs would be able to manage the escort requirements for three or more large commercial vessels per day, particularly given that the tide windows limit the opportunity to transit to and from the terminal.

The DEIS documents also lack any further analysis of tug capabilities and limitations relative to the increased vessel traffic from individual and/or cumulative projects. Additional analysis should be provided to demonstrate that the three existing tugs have sufficient capabilities (bollard pull, horsepower, towlines and winches, etc.) to provide assistance to a fully laden Panamax tanker (largest vessel identified in DEIS). Section 3.17.7.1 states that escort tugs “must have an aggregate shaft horsepower equivalent to at least 5% of the deadweight tons of the escorted oil tanker or tank barge.” The tractor tug Wynema Spirit has 3,600 horsepower, which would be adequate to handle a vessel up to 72,000 deadweight tons (Port of Grays Harbor, 2013). However, laden Panamax tankers can weigh up to 80,000 deadweight tons, which would exceed the stated policy. The DEIS does not adequately demonstrate that there is sufficient tug capacity resident in Grays Harbor to handle new tanker traffic.

Section 6.5.6.3 of both DEIS documents lists a number of requirements that would be developed relative to escorting, tethering, and maneuvering laden tank vessels if either or both projects move forward. However, the analysis does not evaluate the appropriateness of the three escort tugs resident in Grays Harbor to implement these requirements. The DEIS analysis should take into account the proposed mitigation measures and re-evaluate the number and capability of tugs required to support the cumulative increase to vessel traffic in Grays Harbor.

## **Response T8-158**

Final EIS Chapter 3, Section 3.17.4.2, *Large Commercial Vessels, Tug Services*, clarifies the capabilities of the tugs currently stationed in Grays Harbor.

Final EIS Chapter 3, Section 3.17.5.2, *Proposed Action*, and Chapter 6, Section 6.5.6.2, *Cumulative Impacts*, provide additional information to clarify tug needs in Grays Harbor with the proposed action and cumulative projects, respectively, and to further qualify existing tug capacity to support projected commercial vessel traffic.

## Comment T8-159

### Vessel Traffic Management

In Sections 3.17.7.1 and 6.5.6.3 of both DEIS documents, the list of mitigation measures include a commitment to “work with the U.S. Coast Guard, Ecology, Port of Grays Harbor, and Grays Harbor Safety Committee to propose, develop, and implement a formal vessel management system...[which] will include the ability to schedule, track, and monitor vessel movements in the harbor and off the entrance to the harbor.” The DEIS indicates that this system would be up and running before commencing operations. However, it does not specify how this system would be designed, implemented, or funded. Establishing a vessel management system will include both capital and operating costs- would these be borne and sustained by Westway and Imperium? Would regulatory action be required for the U.S. Coast Guard to establish a vessel management system for Grays Harbor?

Mitigation measures described in these sections also indicate that deep draft vessel traffic will be prohibited within the south channel to Terminal 1 in both directions when a laden tank vessel is transiting within the same channel. There is no analysis provided to demonstrate that this is feasible in the context of roughly 1,100 large commercial vessel transits per year given the tidal draft restrictions.

### Response T8-159

The vessel management system identified in the referenced mitigation measure could be developed in different ways. How it is operated would depend on what form it takes. The regulatory expertise and responsibilities of the groups identified in the mitigation measure would apply. Final EIS Chapter 3, Section 3.17.7.1, *Applicant Mitigation*, and Chapter 4, Section 4.6.3.1, *Applicant Mitigation*, have been revised to propose the funding responsibility of the applicant for this mitigation measure. In addition, the measure has been revised to reflect new Washington State legislation in RCW 88.16.

## Comment T8-160

### Vessel Traffic Projections

Throughout the DEIS, future vessel traffic projections are presented for 2017 and 2037. However, the Vessel Traffic Impact Analysis for Imperium and Westway presents vessel traffic projections for 2030. The reason for this discrepancy is not explained in the DEIS documents.

The vessel traffic increase projections are derived from a number of assumptions about the size and type of vessels that may visit the terminal. The DEIS state that vessel traffic projections are based on barge trips, because these result in the highest number of transits. However, they appear to use a relatively large tank barge to estimate the number of trips (6.3 million gallon capacity). If this was a smaller capacity barge, then the number of trips to transport the annual throughput would be even higher. For example, if the barges were all 1.05 million gallons rather than 6.3, then the number of transits would be roughly 6 times higher than shown in the DEIS.

The historic vessel movement data for Grays Harbor (Table 3.17-6) shows that tankers are used more frequently than tank barges; it is unclear whether this is meant to suggest that the proposed expansion projects would shift to the use of barges rather than tankers. A more explicit projection for the makeup of the vessel fleet that would transport oil from these terminals would inform a better understanding of overall vessel transit risks.

## Response T8-160

The Vessel Traffic Impact Analysis for Imperium and Westway, referred to by the commenter, was prepared by WorleyParsons for the applicant and Imperium Terminal Services prior to the development of the Draft EIS. As noted in the revisions to Final EIS Chapter 3, Section 3.0, *Introduction*, the analysis considers the potential for impacts over the lifetime of the proposed facilities. For impacts that are quantitatively evaluated, the analysis considers the potential for impacts in 2017 and in 2037, starting with the anticipated first year of operation and continuing through a representative analysis period. This approach provides context to decision-makers about how the impacts of operations would evolve over a reasonably foreseeable period. This is particularly relevant for transportation- and risk-related impacts, which can evolve over time because of reasonably foreseeable increased growth, planned infrastructure changes, and phased regulatory requirements for improved transportation efficiency and safety.

As stated in Draft EIS Chapter 3, Section 3.17.5.2, *Proposed Actions, Operations*, the Crowley 550-Class tank barge is assumed in the analysis, because it would result in the most vessel trips and would be the vessel most likely used under current channel conditions.

Refer to Master Response for Vessel Traffic Baseline and Projections for more information on the development of the vessel traffic projections used in the Draft EIS.

## Comment T8-161

### Lack of Consideration for Marine Oil Spill Response Capability and Limitations

The DEIS documents do not address oil spill response planning at all. However, the modeled oil spills presented in Appendix N make it clear that swift response is essential to avoid oil reaching shorelines within the first 24-48 hours of a release.

Without a clear understanding of overall response capacity- what can and cannot be done to contain and recover an oil spill before it impacts wildlife and the environment - it is impossible to evaluate the risks associated with increasing the potential for spills to occur. Effective oil spill contingency planning requires that factors within the control of responders- such as how the resources will be configured, having enough adequately trained responders on-scene, and ensuring a timely response- are understood ahead of time and any gaps filled through acquisition of additional equipment, personnel, or training. The times when weather conditions impede or preclude an on-water response- referred to as a “response gap” - is also a critical component to evaluating the potential consequences of a marine oil spill.

## Response T8-161

Draft EIS Chapter 4, Section 4.2.1, *What framework prevents incidents from happening?* describes the formalized planning framework in place to address risks related to oil spills, fires, or explosions from the terminal operations, rail transport, or vessel transport. The responsible party may vary during the transport of crude oil. This section describes the requirements for planning and preventive equipment and design. Section 4.2.2, *What framework prepares for an incident?* describes federal and state regulations to prepare for an incident, the integration of plans, and drill and exercise requirements.

Draft EIS Chapter 4, Section 4.2.2, *What framework prepares for an incident?* describes the formalized planning framework in place to address risks related to oil spills, fires, and explosions. As

noted in this section, the applicant would be required to develop various emergency response plans consistent with federal and state requirements. Final EIS Section 4.4.2.1, *Oil Spills*, and Section 4.4.2.2, *Explosions*, have been revised to include information about the specific plans required of the applicant prior to beginning operations. As required by federal and state laws, these plans will meet all applicable standards as enforced by the appropriate regulatory agency.

Final EIS Section 4.2.3, *What framework provides responses to an incident?* has also been updated to better reflect existing response capabilities and resources in the study area, including information identifying existing gaps from the Marine and Rail Oil Transport Study (Ecology 2015). Final EIS Section 4.7, *Impacts on Resources*, has been updated to better reflect how the proposed action could affect emergency service responses.

Final EIS Chapter 4, Sections 4.4.3, 4.5.3, and 4.6.3 reflect additional mitigation measures to address gaps in emergency preparedness planning and response capabilities. These measures include the provision of additional firefighting equipment, spill response and recovery equipment and other tools, and annual emergency response training opportunities to local jurisdictions.

Chapter 4 also identifies other proposed measures that can be implemented to ensure broader prevention, preparedness, and response planning involves the appropriate stakeholders and that updates to any plans applicable to reducing risks related to the proposed action contain appropriate applicant information and participation. To the extent possible, measures addressing the need for more coordinated and focused planning include the role of the applicants as appropriate. Refer to the Master Response for Emergency Response and Planning Gaps Evaluation for additional information about how the Draft EIS approaches the analysis of emergency planning and response capabilities.

Nonetheless, mitigation would not completely eliminate the possibility of an incident. Depending on the location, amount spilled, type of crude oil, and environmental conditions, such as the time of year, water flows, and weather conditions, environmental impacts could be significant. Section 4.7 describes the types of impacts that could occur in the event of an oil spill, fire, or explosion. Refer to the Master Response for Emergency Response and Planning Gaps Evaluation.

## **Comment T8-162**

### **Resident Oil Spill Response Capacity**

The significant increase in potential spill frequencies described in the DEIS should warrant a critical examination of the capacity of oil spill response resources available to respond to a Grays Harbor area spill. This may include a combination of locally-based resources and those that could be mobilized from other parts of the state. It is a recognized industry best practice to “evaluate the resources currently available to the operation at each tier, including the times for their mobilization and deployment within the theatre of response operations ...This enables gap analyses to be carried out to identify whether the existing resources and their associated logistics are adequate, or whether they require alterations or expansion.” (IPIECA, 2013)

Studies conducted for San Juan County, Washington (Nuka Research, 2015) and the Province of British Columbia (Nuka Research, 2013) provide examples of response capacity analyses that model the maximum capacity of a combination of oil spill response resources to actually recover oil under optimal circumstances. Similar approaches have been used to evaluate response systems in Norway (Eckroth et al., 2015). These analyses consider factors such as the type and recovery efficiency of

skimmers, swath width of the boom used, vessel speed, time to mobilize and arrive on scene, primary and secondary storage capacity, and basic oil weathering processes. The outcome of the model is an optimistic estimate of how much oil could be recovered if all systems are able to deploy immediately and operate perfectly. This information can be compared to potential oil outflow estimates. The potential benefits achieved from making modifications to the system can also be quantified.

Applying a response capacity analysis to one or more spill locations along the marine shipping route out of Gray's Harbor would significantly enhance our understanding of the extent to which the available resources could be expected to be used in an effective spill response.

## **Response T8-162**

As discussed in the Master Response for Environmental Health and Safety Analysis, the analysis of potential environmental health and safety impacts looks at the relative risks for a set of release scenarios that could occur as the result of terminal operations and rail and vessel transport associated with the proposed action. Appendix M, *Risk Assessment Technical Report*, and Appendix N, *Oil Spill Modeling*, do not predict precise spill sizes or locations where spills might occur. This approach provides decision-makers and planners with a range of potential outcomes related to the proposed action to help them understand potential risks and propose targeted mitigation measures. Refer to the Master Response for Oil Spill Modeling Methods for additional information about the approach to, input assumptions for, and limitations of the oil spill modeling.

By extension, the Draft EIS does not predict the consequences that would affect individual resource areas or populations along rail and vessels transportation corridors with any single release scenario and therefore, does not include a detailed evaluation of response capabilities for any one potential outcome or jurisdiction. Rather, as discussed in the Master Response for Emergency Response and Planning Gaps Evaluation, Draft EIS Chapter 4, Section 4.2, *Applicable Regulations*, provides a discussion of the overall framework in place to prevent, plan for, and respond to an oil spill, fire, or explosion.

As noted in Section 4.2.3, *What framework prepares for responses to an incident?* the framework for responding to an incident is a well-established and coordinated system formalized at the national, regional, state, and facility level. Depending on the size of the release, the location, and specific circumstances of the incident, the response efforts and parties involved can vary. However, local and state fire, police, or emergency responders are likely to be the first responders to an incident, regardless of the location. As noted in Section 4.2.3, within the study area, local first responders do not have the appropriate equipment for initial responses to large fires, explosions, or spills. This information was based on discussions with local emergency service responders. Additional information has been added to Final EIS Sections 4.4, 4.5, and 4.6 to characterize emergency response capabilities of local first responders near the project site, along the PS&P rail line, and around Grays Harbor, respectively.

To address gaps at the local level, Draft EIS Sections 4.4.3, 4.5.3, and 4.6.3, included applicant measures that propose placing response equipment at key points in the study area and establishing formalized notification protocols at the local level in case of an incident. Additional applicant measures have been proposed in the Final EIS based on further coordination with local emergency response officials. These measures include the provision of additional fire-fighting equipment, spill response and recovery equipment and other tools, and annual emergency response training opportunities to local jurisdictions.

## Comment T8-163

### Potential Oil Spill Response Gaps

The concept of an oil spill response gap has been applied with increasing frequency as an analytic tool to evaluate the potential for local environmental conditions to impede or prevent effective deployment of oil spill response equipment and tactics. Response gap analyses inform the oil spill risk assessment, planning, and mitigation process by showing how conditions such as wind, waves, temperature, visibility, and daylight may impact the ability to contain and recover an oil spill at a given location. Response gap analyses have been performed for: the Strait of Juan de Fuca; the Beaufort, Chukchi, and Barents Seas; Prince William Sound, Alaska; and parts of British Columbia (Nuka Research, 2007; 2008; SL Ross, 2011; Nuka Research 2012; 2013; 20014a; 2014b; DNV, 2014).

The DEIS notes that Grays Harbor experiences challenging weather and navigational conditions, including strong and erratic currents, limited visibility due to fog, rain, or darkness, and hazardous, breaking waves. These conditions have the potential to impede or prevent effective marine oil spill response operations for periods of time, creating the potential that an oil spill occurring during such times could have unmitigated impacts.

### Conclusion

After reviewing the DEIS documents, it is our opinion as practitioners of oil spill risk assessment, planning, and response that the proposed expansion at Westway and Imperium will result in an increase to the risk of oil spills that would adversely impact Grays Harbor. The proposals would increase the volume of vessel traffic and rail car movements, which logically will increase the potential for an oil spill to occur. The proposed expansion projects also introduce the possibility for new types of petroleum products to move by train and marine vessel through the area, creating new risks that do not currently exist. Potential oil spills from these projects span a range of petroleum products with the potential to have significant adverse impacts to wildlife, habitat, and human health and safety. The DEIS does not adequately analyze or describe the potential risks because it segments risks in a way that does not capture the potential for any type of spill to adversely impact the environment. The DEIS does not present a clear and comprehensive evaluation of oil spill risks, because it understates cumulative oil spill risks and lacks an oil spill consequence analysis.

### Response T8-163

As noted previously, and discussed in the Master Response for Environmental Health and Safety and based on the risk assessment in Draft EIS Appendix M, *Risk Assessment Technical Report*, the analysis of risks presented in Draft EIS Chapter 4, *Environmental Health and Safety*, evaluates the likelihood of different spill sizes associated with terminal (onsite) operations, rail transportation, and vessel transportation separately. The risks across these operations are not combined in the Draft EIS because of differing regulatory and design requirements described in Chapter 4, because the cause of an incident involving the facility or rail or vessel transport would likely be different, and because the proposed facility, rail line, and vessel transport corridor are physically separated.

The approach to the risk analysis is to consider potential spill scenarios related to the proposed action. As noted in Draft EIS Chapter 4, *Environmental Health and Safety*, this is because a spill could occur at any location and at any time. Scenarios are based on assumptions about terminal, rail, and

vessel operations and locations where spills could occur more frequently, based on expert opinion, or could result in a worst-case spill.

Because the potential impacts of an incident would vary based on the material spilled, weather, water flows, location and other factors, Section 4.7, *Impacts on Resources*, describes the types of impacts that could be expected in general terms. Section 4.7 also acknowledges resources that could be adversely affected in the event of an oil spill, fire, or explosion in the study area. Nonetheless, mitigation would not completely eliminate the possibility of an incident. Depending on the specific circumstances, the environmental impacts could be significant.

For additional information about the analysis of risks associated with potential oil spills, fires, and explosions, refer to the Master Response for Environmental Health and Safety Analysis and the Master Response for Risk Assessment Methods.

## Comment T8-164

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## **Response T8-164**

Referenced bibliography acknowledged.

## **Comment T8-165**

EXHIBIT2

Report and Comments on Westway and Imperium Draft Environmental Impact Statements

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### **I. INTRODUCTION AND BACKGROUND**

I am a policy analyst, researcher, educator, and consultant with more than three decades of experience assessing the risks associated with transporting hazardous materials. Over the course of

my career, I have advised governmental legislative and regulatory bodies, national chemical and oil worker and rail unions, insurance companies, fire service associations, citizen organizations, and environmental groups on the unique health and safety hazards of shipping hazardous materials by rail, including crude oil. I have testified before both houses of the United States Congress, have presented as an invited lecturer in twelve countries on chemical facility and chemical transportation accident prevention, and have provided testimony and comments on specific projects involving crude-by-rail risks. I have provided specific analyses of risks associated with transporting crude oil by rail in and around cities across the United States, including Albany, New York; Washington, D.C.; and the San Francisco Bay Area. My CV is attached to this report.

I am familiar with much of the legislative and regulatory efforts in North America following Lac Megantic and several other major crude-by-rail accidents, and I have submitted comments to the U.S. Department of Transportation on their ongoing rulemaking on High Hazard Flammable Trains. I have reviewed Draft Environmental Impact Reports and accompanying documentation in other jurisdictions with similar proposed projects for crude oil railcar unloading facilities. For example, I submitted critical comments on an environmental impact report prepared for a crude-by-rail project at the Valero Benicia refinery in California. I have also provided expert written and oral testimony concerning the hazards and safety concerns of a proposal by Shell Refinery in Anacortes, Washington to build a crude-by-rail facility.

In preparation of this report, I have reviewed the relevant sections on dealing with rail safety issues of the Westway Project Draft Environmental Impact Statement ["the DEIS"] August 2015, including:

- Executive Summary
- Chapter 4, Environmental Health and Safety
- Chapter 5, Extended Rail and Vessel Transport
- Chapter 6, Cumulative Impacts
- Appendix M, Risk Assessment Technical Report - serving for both the Westway and Imperium projects

## II. SUMMARY OF DEIS FLAWS

- The DEIS has not Adequately Considered Potential Major CBR Derailment Hazard Events.

The DEIS did not analyze shipper or carrier worst case scenarios, use available public domain models to estimate potential consequences, or summarize recent federal reports of ranges of expected CBR accident consequences. The DEIS makes only a brief and pro forma acknowledgement of significant risks from CBR oil spills and fire/explosion events. Beyond this statement, the DEIS lacks any substantive discussion or focus on the consequences to human health and safety of potentially serious CBR releases, either on the PS&P line or in the extended BNSF rail haul, largely viewing these as “unavoidable and significant adverse impacts” not amenable to mitigation.

### **Response T8-165**

The Master Response for Environmental Health and Safety Analysis addresses the relative risks for a set of release scenarios that could occur as the result of terminal operations and rail and vessel transport associated with the proposed action. The risk assessment in Appendix M, *Risk Assessment Technical Report*, does not predict precise locations or spill sizes where spills might occur. This approach was used to help decision-makers and planners understand the risks of concern to

propose targeted mitigation measures. By extension, the Draft EIS does not predict the specific consequences that would affect individual resource areas or populations along rail and vessels transportation corridors with any single release scenario. Rather, Section 4.7, *Impacts on Resources*, describes the general types of impacts that would be expected if an incident were to occur.

All the release scenarios considered in the risk assessment were developed in accordance with applicable regulatory requirements and based on project-specific information. To that end, worst-case release volumes were considered consistent with WAC 173-182-030 and WAC 480-62-300 as discussed in the Master Response for Environmental Health and Safety Analysis.

Additionally, some risks related to the proposed action would remain even with the implementation of the proposed mitigation measures. As noted in Chapter 4, Sections 4.4.4, 4.5.4, and 4.6.4, no mitigation measures would completely eliminate the possibility of a spill, fire, or explosion, nor would they completely eliminate the adverse consequences of a spill, fire, or explosion. Refer to the Master Response for Geographic Scope of the EIS for additional information about the analysis of impacts associated with rail transportation along the PS&P rail line and beyond.

Draft EIS Chapter 4, *Environmental Health and Safety*, acknowledges that the analysis presented in Appendix M and summarized in Section 4.5, *Environmental Health Risks—Rail Transport*, relied on 2014 Federal Railroad Administration data to determine the appropriate accident rates for rail-related incidents. Refer to the Master Response for Risk Assessment Methods for a discussion of the assumptions, data sources, and methods used in the analysis of risks.

## Comment T8-166

- The DEIS Significantly Underestimates the Likelihood of Significant Human Health and Safety Impacts from CBR Derailments.

The DEIS relies heavily on an unsubstantiated model of Probabilistic Risk Analysis without considering both the well-known multiple uncertainties in these models. Nor does the DEIS analyze or take into account the unique risks posed by crude oil unit trains.

## Response T8-166

Draft EIS Appendix M, *Risk Assessment Technical Report*, explains the methods used in the analysis of risks. As noted in the appendix and discussed in the Master Response for Environmental Health and Safety Analysis, the approach used to analyze risks was based on evaluation of a selected set of scenarios. While the approach used in the Draft EIS is similar to more detailed risk assessments noted in the comment, this approach was not selected with the intent of predicting when or where an incident would occur and the detailed assessment of resulting consequences. As such, it is not a quantitative or probabilistic risk assessment. By extension, the Draft EIS does not predict the specific consequences that would affect individual resource areas or populations along rail and vessels transportation corridors. Rather, Draft EIS Chapter 4, Section 4.7, *Impacts on Resources*, describes the general types of impacts that are expected if an incident were to occur. Final EIS Section 4.7 has been revised to more fully describe the potential impacts on human health. Refer to the Master Response for Risk Assessment Methods for a discussion of the assumptions, data sources, and methods used in the analysis of risks.

## Comment T8-167

- The DEIS Fails to Consider Local Route and Infrastructure Conditions.

The DEIS explicitly declines to discuss even in some “semi-quantitative” way either the local infrastructure conditions along either rail line studied or any release consequence impacts that might be expected from conditions of the infrastructure in specific localities along the studied rail lines.

The DEIS produces no detailed study of characteristics of and vulnerabilities to specific parts of the routes. The DEIS characterizes risk in the abstract, based on accident rates history for the whole PS&P rail line and by national rail accident history. The DEIS takes no look at specific vulnerabilities for fire and explosion damage in specific segments of either of the studied routes [PS&P and BNSF].

### **Response T8-167**

As noted above, Draft EIS Chapter 3, Section 3.15.4.5, *Ongoing Maintenance and Inspections*, describes Federal Railroad Administration (FRA) track and bridge maintenance and inspections requirements and train and rail car inspection requirements. PS&P is required to comply with these regulations under existing conditions and would continue to be required to comply if the proposed action is implemented. Final EIS Section 3.15.4.5 reflects PS&P commitments to additional safety measures with respect to the transport of crude oil, information about the requirements of FRA’s bridge management program, and the most recent results of FRA’s bridge inspection reports. Nonetheless, compliance with existing regulations and implementation of the mitigation described in Chapter 4, Section 4.5.3, *What mitigation measures would reduce impacts related to rail transport?* would not completely eliminate the possibility of an incident. Depending on the specific circumstances, the environmental impacts could be significant.

Because the analysis is not a quantitative risk assessment, it does not include weightings for different factors except where they are explicitly captured in available data—such as the track class for rail operations or the type of waterway for vessel operations.

Draft EIS Chapter 5, *Extended Rail and Vessel Transport*, addresses the potential for impacts from rail transport in the extended study area qualitatively for the reasons described in the Master Response for Geographic Scope of the EIS.

### **Comment T8-168**

- The DEIS Relies on Non-Transparent and Rail Industry Data and Models Likely to be Biased.

In Appendix M, the DEIS relies heavily on rail industry risk models and on a probability study based on industry data by researchers at the University of Illinois Urbana Champagne [Liu et al2014].

Throughout the Appendix M Technical Report, there are repeated instances of its explicit blending of various kinds of data and analyses in unexplained ways, usually with no assumptions provided as to how any weighting of various factors has been made, and with no explicit admission that there is a huge potential for sweeping and unaccountable “engineering judgment” having been exercised, as opposed to relying on defensible research sources and available data in the public domain.

Given the lack of transparency in the DEIS's reports of its probability analysis, it is impossible to discern whether or how the DEIS has weighted some risk factors more heavily than others in assessing the probability of hazardous impact.

## Response T8-168

Draft EIS Chapter 4, *Environmental Health and Safety*, and Appendix M, *Risk Assessment Technical Report*, use the latest data available on relevant accident and failure rates, citing the final values applied. Because the analysis is not a quantitative risk assessment, it does not include weightings for different factors except where they are explicitly captured in available data—such as the track class for rail operations or the type of waterway for vessel operations.

## Comment T8-169

- The DEIS Uses Non-relevant Data.

The DEIS is not clear just what ranges of historical data it used to make estimates of rail accident rates. When it cites FRA data, it does not clarify what the historical time range of that data is, either for PS&P lines or for Class 2 track nationwide. Since FRA's historical accident data is often lauded by federal and industry researchers as a uniquely valuable 30- year database, the DEIS may have used FRA rail accident data based on U.S. train operations from years prior to the sudden recent oil shipper/rail carrier introduction of transcontinental unit train CBR operations around 2012.

## Response T8-169

Draft EIS Appendix M, Section 4.2.2, *Accident Rates*, states that the determination of the chance of derailment or collision (accident rate) is derived from Federal Railroad Administration data finalized through October 2014. Train accident rates were collected from all operations on Class 2 track nationwide, both for mainline operations and for all track including main lines, industry tracks, yards, and sidings. The same data were collected specific to the PS&P rail line. Although PS&P accidents rates through 2014 are roughly ten times the national average, at 2.2E-5 per train mile, with the changes made by PS&P since the accidents in April and May 2014, and assuming the improvements that PS&P has planned prior to implementation of the proposed actions, a long-term rate of 1E-5 per train mile was applied in this analysis. This is still higher than the national average for accidents.

## Comment T8-170

- The DEIS Relies on the Efficacy of Existing and Future Rail Safety Regulations.

The DEIS displays, even in discussing the extended transport risks on BNSF lines, no serious acknowledgment of the kinds of human error and operational failures that might cause CBR disasters along the studied lines. Current regulations on routing, track class, and speed are presumed appropriate, and complacently left un-analyzed: "...the train control system ensures safety by managing rail traffic through signaling systems."

## Response T8-170

As noted in Draft EIS Appendix M, Section 3.2, *Approach and Data*, the selected sources consider all causes of failure, including construction defects, natural hazards, human error, and material failures. Considering the intent of the risk assessment is to inform decision makers and planners, as opposed to final technical designs, these sources were considered appropriate for the Draft EIS. Refer to the Master Response for Risk Assessment Methods for a discussion of the assumptions, data sources, and methods used in the analysis of risks.

## Comment T8-171

The DEIS fails to describe or analyze the existing baseline status of human health and safety and environmental risks and capabilities along the covered rail lines. And the DEIS should have included both railroads' current baseline information not only on CBR accident worst case scenarios, but also on railroads' [admittedly inadequate] insurance coverage, emergency response plans, and [for both high-risk hazmat and CBR cargoes] route analyses and routing decisions.

The DEIS fails to analyze gaps in regulations at federal, state, and local levels which have historically proven to provide inadequate CBR accident prevention and preparedness protection.

## Response T8-171

Draft EIS Chapter 4, *Environmental Health and Safety*, Sections 4.4.5, 4.5.5, and 4.6.5, discuss who would pay for the response and cleanup of an oil spill at the terminal or during rail or vessel transport, respectively. Refer to the Master Response for Liability and Responsibility for Incidents for a discussion of liability and the levels of financial responsibility required by federal and state law and an explanation of how these issues are addressed in the Draft EIS and Final EIS.

Final EIS Chapter 4, *Environmental Health and Safety*, has been updated to better reflect existing local and statewide emergency service response capabilities and resources, updated planning requirements, clarifications about the potential impacts of the proposed action on local emergency response providers, and additional mitigation measures to reduce risks. Nonetheless, mitigation would not completely eliminate the possibility of an incident. Depending on the location, amount spilled, type of crude oil, and environmental conditions, such as the time of year, water flows, and weather conditions, environmental impacts could be significant. Section 4.7, *Impacts on Resources*, describes the types of impacts that could occur in the event of an oil spill, fire, or explosion, and has been revised to more fully describe potential impacts on human health.

Refer to the Master Response for Emergency Response and Planning Gaps Evaluation for additional information. Refer to the Master Response for the Geographic Scope of the EIS for information about the scope and approach to the analysis of impacts in the extended study area, including the BNSF mainline.

## Comment T8-172

The DEIS uncritically relies on presumed safety improvement impacts from assumed future railroad and shipper compliance with the 2015 final federal regulations for oil trains. The DEIS includes no acknowledgement of the significant delays in the deadlines provided for compliance and the lack of relevant CBR experience to underpin confidence that even the incremental operational and tank car changes mandated by the new regulations will yield significant safety gains.

## Response T8-172

As noted in the Master Response for Baseline and No-Action Alternative, the Draft EIS considers the potential for reasonably foreseeable changes that would occur unrelated to the proposed action, including planned infrastructure improvements on the PS&P rail line and regulatory requirements for improved rail tank car design. The specific assumptions relevant to the rail traffic and safety analyses are described in Draft EIS Section 3.15, *Rail Traffic*, and Appendix M, *Risk Assessment Technical Report*.

## Comment T8-173

- The Mitigation Measured Proposed in the DEIS are Inadequate.

The DEIS proposed mitigation measures are skewed towards emergency response versus prevention, and make no enforceable demands on railroads or shippers to expand their capabilities for preventing and responding to derailment impacts which the DEIS considers "unavoidable and significant adverse impacts."

Regarding rail haul safety issues: the DEIS mitigation measures make no demands on railroads or shippers and rely on anticipated safety improvements based on presumed railroad compliance with future federal regulatory deadlines.

## Response T8-173

Draft EIS Chapter 4, Section 4.2.1, *What framework prevents incidents from happening?* states that the existing prevention framework consists primarily of operations implemented by the responsible party (facility, rail, or vessel operators) or design features or standards that are regulated by the appropriate government agency. Final EIS Chapter 4 reflects new consideration of evolving state and federal legislation aimed at improving the safety of crude oil by rail. As noted in Section 4.2.3, *What framework prepares for responses to an incident?* the framework for responding to an incident is well established and coordinated at the national, regional, state, and facility level. Both prevention and emergency response measures require participation and coordination with broader group of stakeholders to be successful.

To the extent feasible within the framework described in the Master Response for Mitigation Framework, the Final EIS has been revised to propose mitigation measures aimed at addressing emergency prevention, preparedness, and response planning gaps. Refer to the Master Response for Mitigation Framework for additional information about special considerations related to the State's authority to set operations or safety standards on the railroad.

Refer to the Master Response for Baseline and No-Action Alternative for additional information on how the Draft EIS considers the potential for reasonably foreseeable changes that would occur unrelated to the proposed action, including planned infrastructure improvements on the PS&P rail line and regulatory requirements for improved rail tank car design. The specific assumptions relevant to the rail traffic and safety analyses are described in Draft EIS Section 3.15, *Rail Traffic*, and Appendix M, *Risk Assessment Technical Report*.

## Comment T8-174

### III. HEALTH AND SAFETY IMPACTS OF SHIPPING HAZARDOUS CRUDE BY RAIL

My discussion throughout focuses on the current widely used CBR unit train practice in rail operations in which already observed derailment/release events have highlighted the increased risks of long and heavy trains and the potential for multi-car releases and huge fire events and explosions, sometimes lasting days. The respected US DOT Emergency Response Guidebook, in Guide Number 128, has long outlined in brief the hazards of flammable railcars [crude oil and ethanol in separate guides because different fire suppression measures are needed] and directed first responders, if even one flammables rail car is involved in a fire, to evacuate at-risk citizens and to back off one-half mile. [Footnote: [http: 1/phmsa.dot.gov/hazmat/library/erg.](http://phmsa.dot.gov/hazmat/library/erg/)]

**The DEIS has not considered the potential major CBR derailment hazard events thoroughly,** only briefly listing some of the major CBR derailments that have aroused great concern, and providing a very brief discussion [p. 4.5-10] of possible fire and explosion releases as causing damages that can vary depending on several factors. The DEIS throughout in general dismisses these releases as low-frequency [cf. e.g., Appendix M, p. 6-2].

### **Response T8-174**

For the reasons noted in the Master Response for Geographic Scope of the EIS, no detailed analysis was completed for the area beyond the PS&P rail line. The results presented in the Draft EIS are not directly comparable with studies that evaluate risks outside this area; for example, on the BNSF main line. However, as discussed in the Master Response for Risk Assessment Methods, data sources used in the risk assessment did consider these types of events.

Final EIS, Chapter 4, *Environmental Health and Safety*, acknowledges that the consequences associated with these events would be potentially significant.

### **Comment T8-175**

**The most important root failure of the DEIS is to significantly underestimate the likelihood of significant human health and safety impacts** from CBR derailments along the studied routes. For example, the DEIS predicts, with a very non-transparent methodology of dubious validity [see Part II of this report for a critique], that "the overall additional chance of an accident per mile per year for 2017 conditions is once per 440 years for loaded [CBR] trains and once per 217 years for the combination of loaded and unloaded trains for Westway." [Appendix M, p. 6-2.]

### **Response T8-175**

Final EIS Section 4.7, *Impacts on Resources*, has been revised to more fully describe potential impacts on human health. The approach to the risk assessment was to assess the likelihood of different spill scenarios occurring rather than predicting specific outcomes that may occur as the result of the proposed action. By extension, the Draft EIS does not predict the specific consequences that would affect individual resource areas or populations along rail and vessels transportation corridors with any single release scenario. Rather, Section 4.7, *Impacts on Resources*, describes the general types of impacts that would be expected if an incident were to occur, including the types of impacts that could affect human health. Refer to the Master Response for Risk Assessment Methods for a discussion of the assumptions, data sources, and methods used in the analysis of risks.

### **Comment T8-176**

The DEIS Table 5 in Appendix M [p. 4-5], based in a non-transparent way on national accident data and industry modeling and with some attention to recent CBR release history, **shows generically, in CBR derailments, vanishingly small calculated probabilities of different CBR release sizes,** e.g., for the five-rail car collision/derailment down to 0.0015 for 2017 operations and 0.00066 for 2037 operations [with better tank car assumed for 2037]. For the "extreme collision/derailment lead[ing] to release equivalent to 15-30 rail cars," the calculated probability is 0.0001 in 2017 operations and 0.00005 for 2037 operations. [30 railcars could release 900,000 gallons.]

## Response T8-176

The commenter is correct that the risk assessment found that large-scale events involving the release of multiple rail cars were generally relatively infrequent. Refer to the Master Response for Risk Assessment Methods for a discussion of the assumptions, data sources, and methods used in the analysis of risks.

## Comment T8-177

The DEIS says this means that, based on national accident rate data, for the proposed Westway project, "larger" five-rail car accidental releases are predicted as extremely unlikely, with the improved tank cars in 2037, once every 11,000 years, and "the most extreme" accidental release would occur only once every 73,000 years in 2017 with the current tank cars and once every 150,000 years in 2037. *[Footnote: Under the proposed actions, the chance of an accident resulting in the various release scenarios ranges from once every 98 (Westway) or 62 (Imperium) years for the smallest release (1,000 gallons) to once every 4,800 (Westway) or 3,000 (Imperium) years for the larger releases (e.g., 150,000 gallons). With the improvements in rail cars, these chances drop to roughly once every 105 (Westway) or 66 (Imperium) years and once every 11,000 (Westway) or 7,000 (Imperium) years, respectively. In addition, a case representative of the most extreme of the recent accidents was modeled. This showed that such an accident might occur within the study area once every 73,000 (Westway) or 46,000 (Imperium) years with the current rail cars, dropping to every 150,000 (Westway) or 93,000 (Imperium) years with the newer rail cars. These are very rough (i.e., higher uncertainty) estimates for the largest spills given the limited data available. [DEIS, Appendix M, p. 4-6].]*

This conflicts markedly with the estimates of the US DOT regulators in their Draft Regulatory Impact Analysis from May 2014 on High Hazard Flammable Trains [which the DEIS fails to discuss], in which they predict that over the next 20 years, absent significant upgrades in the US regulatory system and rail practices, crude oil and ethanol unit train derailments could be 10 per year, with serious releases occurring as often as once every other year costing \$1.2 Billion each, with one giant release event costing up to \$6 Billion. And the regulators concluded that even with future implementation of the proposed regulation's new safety measures [designed mainly to reduce not the frequency of CBR derailments but only their severity], the estimated total Societal Cost of \$16.7 Billion imposed by accidents with the continued transportation of CBR could be reduced by only a fraction, at most by \$2.9 Billion. *[Footnote: US DOT Final Regulatory Impact Analysis, <http://www.regulations.gov/#!documentDetail;D=PHMSA-2012-0082-3442>. Although we analyze the effects of individual requirements separately, we have taken a system wide approach covering all requirement areas. This approach is designed to mitigate damages of rail accidents involving flammable liquids, though some provisions could also prevent accidents. As a result, this analysis shows that expected damages based on the historical safety record could be \$4.1 billion and damages from higher-consequence events could reach \$12.6 billion over a 20-year period in the absence of the rule. [DOT Final RIA Executive Summary, pp. 12-13].]*

## Response T8-177

The regulatory impact analysis cited in the comment applies analysis of risks spanning the entire country. For the reasons noted in the Master Response for Geographic Scope of the EIS and Master Response for Risk Assessment Methods, the analysis of risks focuses on the study area that includes the PS&P rail line from Centralia to the project site and Grays Harbor to 3 nautical miles from the

mouth of the harbor. Therefore, the estimates of potential incidents noted in the comment are not directly comparable to the risks presented in the Draft EIS or Appendix M, *Risk Assessment Technical Report*.

Draft EIS, Chapter 4, *Environmental Health and Safety*, also notes that even in consideration of existing and future planned regulatory requirements and the proposed mitigation measures, the possibility of an incident cannot be completely eliminated. Depending on the location, amount spilled, type of crude oil, and environmental conditions, such as the time of year, water flows, and weather conditions, environmental impacts could be significant. Section 4.7, *Impacts on Resources*, describes the types of impacts that could result from an oil spill, fire, or explosion.

## Comment T8-178

- A. The DEIS has also not indicated any Worst Case Scenario ["WCS"] consequences for potential CBR fire and explosion events along the studied rail CBR routes to the unloading facility. in part because the document:
- **Failed to Gather and Analyze** any railroad carrier or oil shipper worst case scenario documents. These are not in the public domain, in part because the railroads have been exempted from the federal laws which would have required them: two post-Bhopal disaster federal Community Right to Know laws and the Comprehensive Emergency Response Plan provision of the Oil Pollution Act of 1990. The WA Fire Chiefs Association has formally asked the CBR railroads for these and other railroad risk documents, as have 29 Minnesota state legislators, the Comptroller of New York State, individual fire chiefs in impacted states, and a handful of new state laws roping CBR railroads within the framework of existing state oil spill prevention regulatory regimes. [Footnote: [Footnote 4: Some examples of media coverage in North America of various groups' requests for the railroads' own risk information:  
<http://blog.seattlepi.com/seattlepolitics/2015/04/07/seattle-rail-tunnel-unsafe-for-first-responders-in-oil-train-fire/>  
[http://www.thestar.com/news/gta/2014/11111/rail\\_carriers\\_keep\\_emergency\\_response\\_plans\\_secret\\_from\\_residents.html](http://www.thestar.com/news/gta/2014/11111/rail_carriers_keep_emergency_response_plans_secret_from_residents.html)  
[http://www.startribune.com/legislators-residents-hold-news-conference-on-oil-train-safety/312198221/.](http://www.startribune.com/legislators-residents-hold-news-conference-on-oil-train-safety/312198221/)]

## Response T8-178

As discussed in the Master Response for Environmental Health and Safety Analysis, the risk assessment does consider a worst-case spill scenario associated with rail transportation as defined by WAC 480-62-300. As further noted in that master response, the approach to the risk assessment is to consider the chance of different spill scenarios occurring rather than to predict the specific outcomes. By extension, the Draft EIS does not predict the specific impacts on individual resource areas or populations along rail and vessels transportation corridors from any single release scenario. Rather, Section 4.7, *Impacts on Resources*, describes the general types of impacts that would be expected if an incident were to occur. Refer to the Master Response for Risk Assessment Methods for a discussion of the assumptions, data sources, and methods used in the analysis of risks.

## Comment T8-179

- Failed to Calculate some expected impact consequences for future CBR railcar releases, even using the DEIS' s own outline of representative derailment releases of different sizes, including

one fairly severe one that is approximately 2/3 of the size of the Lac Megantic disaster. The DEIS could have used one of the state-of-the-art hazard assessment software tools available to professionals, e.g., for those compiling annual industry Risk Management Program documents, for Fire Chiefs in pre-planning, and infrequently for consultants to the 4100 Local Emergency Planning Committees doing community hazard assessments. One of these software tools in the public domain is "CAMEO," Computer Assisted Management of Emergency Operations, developed by the US National Oceanic and Atmospheric Administration, which can indicate and vividly map Offsite Consequence Assessment impacts from hazardous events out to some chosen Level of Concern for fire radiation and blast zone damage. [Footnote: <http://www2.epa.gov/cameo>.]

### Response T8-179

As noted in the response to the prior comment, the approach to the risk assessment is to consider the chance of different spill scenarios occurring rather than to predict the specific outcomes. By extension, the Draft EIS does not predict the specific impacts on individual resource areas or populations along rail and vessel transportation corridors with any single release scenario. Rather, Draft EIS Chapter 4, Section 4.7, *Impacts on Resources*, describes the general types of impacts that would be expected if an incident were to occur.

However, as previously noted, the risk assessment does consider worst-case releases during rail transport consistent with applicable regulatory requirements and as informed by project-specific conditions (e.g., track class and speed limits). Environmental impacts were considered in general. Air modeling would be part of the planning and response actions. Refer to the Master Response for Risk Assessment Methods for a discussion of the assumptions, data sources, and methods used in the analysis of risks.

### Comment T8-180

- Did Not Summarize the discussion in the recent federal regulatory reports associated with the US DOT High Hazard Flammable Train ["IDIFT"], which includes crude and ethanol unit trains, Final Rule, May 8, 2015. Those federal reports, especially the May 2014 Draft Regulatory Impact Analysis, provide significant multi-billion dollar Societal Impacts calculations of disaster impacts over 20 years from potential future HHFT derailments. The US DOT assessment methodology involved attempting to extrapolate the fatality and property damage results of the Lac-Megantic disaster to the overall US rail system, using national average rail side population data that could even under estimate damages in major cities. DOT predictions estimated future damages in CBR derailments up to \$1.2 Billion each and even to \$6 Billion for a major event in some densely populated or environmentally sensitive area. [Footnote: See note 3 above.]

### Response T8-180

For the reasons noted in the Master Response for Geographic Scope of the EIS, no detailed analysis was completed for the area beyond the PS&P rail line. The results presented in the Draft EIS are not directly comparable with studies that evaluate risks outside this area, such as the one referenced in the comment. As discussed in Draft EIS Chapter 5, *Extended Rail and Vessel Transport*, transportation factors outside this study area contain a different set of conditions that can greatly influence the results limiting the utility of direct comparisons. Information on the social costs of incidents has been added to Final EIS Chapter 7.

## Comment T8-181

- Did Not Summarize the estimates of casualties calculated in the recent US Federal Emergency Management Agency's first CBR tabletop exercise in Jersey City, NJ, which provided vivid maps illustrating some fire, explosion and toxic smoke plume impacts in impact zones around the hypothetical CBR derailment site on elevated tracks in a densely populated city. [Footnote: FEMA's NJ CBR exercise slides 27-28 have overlay maps of CBR derailment consequences in Jersey City: [http://www.nj.com/hudson/index.ssf/2015/03/jersey\\_city\\_hosts\\_workshop\\_with\\_fema\\_homel\\_and\\_secu.html](http://www.nj.com/hudson/index.ssf/2015/03/jersey_city_hosts_workshop_with_fema_homel_and_secu.html).]

## Response T8-181

Draft EIS, Chapter 4, *Environmental Health and Safety*, includes a discussion of recent rail-related incidents to provide context for types of consequences that have occurred in other parts of the United States. However, as noted in the Master Response for Risk Assessment Methods, the risk assessment addressed risks specific to the PS&P rail line and the results are not directly comparable to studies that evaluate risks outside this area; for example, on the BNSF main line or in different states. Refer to that master response for additional information about how large-scale rail incidents, including those that have recently occurred, have been factored into the risk assessment.

## Comment T8-182

### IV. CRITIQUE OF THE WESTWAY DEIS'S DISCUSSION OF THE HAZARDOUS IMPACTS OF THIS PROJECT, INCLUDING THE DEIS'S RISK ANALYSIS OF THE PROBABILITIES OF CRUDE BY RAIL ACCIDENTS ALONG THE STUDIED ROUTES

#### A. The overall approach of the DEIS is seriously flawed.

There are gaps in the DEIS's analyses of both the consequences and the probabilities of Crude By Rail ["CBR"] unit train releases along the studied routes [local PS&P and extended BNSF lines]. The DEIS fails to consider multiple important risk factors, and as a result, the DEIS overlooks potentially significant hazardous impacts. [E.g., Appendix M p. 3-2 declines to consider either seismic or tsunami hazards for onsite storage, asserting these have been taken into account in the design of project storage tanks and does not discuss any related rail haul hazards at all.]

To be supportable, any Final EIS would need to discuss CBR risks more broadly, more carefully and transparently, and with less unsubstantiated assertions of certainty than the current probability assessment in **the DEIS Risk Assessment Technical Report Appendix M** ["Appendix M"]. In particular, the FEIS would have to defend the validity and reliability of relying on any specific accident probabilities assessment methodology, given the enormous variety of risk assessment methods available and the well-known significant uncertainties in using such methods.

## Response T8-182

As noted in Draft EIS Appendix M, *Risk Assessment Technical Report*, Section 3.2, *Approach and Data*, the selected sources consider all causes of failure, including construction defects, natural hazards, human error, and material failures. Considering the intent of the risk assessment is to inform decision-makers and planners, as opposed to final technical designs, these sources are considered appropriate for the Draft EIS. As noted in the comment, many uncertainties contribute to both the

actual risks and the analysis of those risks. Refer to the Master Response for Risk Assessment Methods for a discussion of the assumptions, data sources, and methods used in the analysis of risks.

### Comment T8-183

- B. The DEIS's discussion of risk, which relies heavily on Appendix M, the Risk Assessment Technical Report, dated August 2015, is badly skewed in ways that systematically downplay the disaster release risks of the facility.
- In areas where the DEIS risk discussion could have been more certain, in discussing the potential **consequences** of a release, the report is **determinedly vague**: after abstractly outlining a wide range of potential accidental release scenarios, the potential consequences are hardly described at all, and only as potentially “significant” or potentially “quite severe.” The DEIS seems implicitly to have judged that its own assessments that the probabilities of the most serious accidental rail releases are so low that the potential consequences to human health and safety and the environment need not be explored in depth.
  - Where the DEIS risk discussion must be much less certain [because of the greater inherent difficulties in accurate analysis], in discussing **the likelihood** of various hypothetical accidental release scenarios leading to varying levels of consequences, **the report mostly adopts a posture of seeming to offer scientific analysis in a probabilistic risk assessment [“PRA”]**.
  - The DEIS cryptically terms its own methods “semiquantitative” [with no definition or explanation]. It offers only some very brief caveats on how “the resulting estimates are most meaningful when **compared to each other, as opposed to considering them as predicting absolute frequencies or potential impacts.**” And this vague caveat itself conflates relative and absolute types of assessment: “In all cases, the purpose of the risk assessment is to demonstrate the relative likelihoods of different releases and **to estimate potential impacts, not to make precise estimates** of the chance of various impacts occurring in specific locations.” [Appendix M, p. 2-2.]
  - But the DEIS then in its Appendix M and throughout proceeds to charge forward- with little or no regard to characterizing its results as relative- to display repeatedly in text and charts its bold, seemingly precise and absolute estimates of [mainly vanishingly low] likelihoods of accidents along the studied rail lines [though admittedly not in any specific locations, even the most vulnerable]. One exception proves the rule, on the DEIS's discussion of the largest release event, where it cautions uncertainty from lack of data. [Appendix M, p. 4-6.]

### Response T8-183

Draft EIS Appendix M, *Risk Assessment Technical Report*, explains the methods used in the analysis of risks. As noted in the appendix and discussed in the Master Response for Environmental Health and Safety Analysis, the approach used to analyze risks is based on evaluation of a selected set of scenarios. While the approach used in the Draft EIS is similar to more detailed risk assessments noted in the comment, the approach was not selected with intent of predicting when or where an incident would occur and the detailed assessment of resulting consequences. As such, it is not a quantitative or probabilistic risk assessment. By extension, the Draft EIS does not predict the specific impacts on individual resource areas or populations along rail and vessels transportation corridors. Rather, Draft EIS Chapter 4, Section 4.7, *Impacts on Resources*, describes the general types of impacts that are expected if an incident were to occur.

## Comment T8-184

C. The DEIS provides no discussion of two key themes which must be part of any serious PRA

- the impactful certainty of multiple uncertainties in the methodologies involved, and
- the extent of scores if not hundreds of assumptions in the analysis which involve engineering judgment.

**Both of these elements are well known to practitioners as key factors in impacting the results of a PRA.** This DEIS naively evidences no awareness that some of the key data and “engineering judgment” assumptions relied upon in Appendix M may be significantly inadequate or even biased. The DEIS never discusses nor provides any bounds of uncertainty for the various DEIS estimates of risk.

**PRA is a very controversial methodology worldwide**, with no established body of internationally agreed-upon standards guiding its development and use. Used more in Europe than in the US, it has not been adopted nationally or universally in the US except in some scattered uses. For example, some US Department of Transportation agencies recently adopted a kind of PRA- the brand new “Conditional Probability of Release” methodology developed by Professor Chris Barkan's RailTec team of researchers at the University of Illinois Urbana Champagne with significant railroad financial support -in assessing the predicted safety benefits of some key features of DOT's new High-Hazard Flammable Trains regulation, promulgated in May 2015.

**In Europe**, some nations [e.g., UK and Denmark] and provinces have begun relying on PRA in assessing the risks of ultra-hazardous industries, particularly in order to find some seemingly rational and scientific way to underlie decisions in land use planning. But the EU Environment Programme officials have conducted a sobering series **of authoritative overall “benchmark studies” and widely distributed reports between 1992 and 2008 assessing the use of PRA within the European Union.** These studies have been pointedly blunt in **revealing the surprisingly large uncertainties in the methodologies and the unexpected orders of magnitude differences in the results of seven prominent methodologies from different nations and consultant groups. The benchmark studies involved all seven in PRA analyses of the potential disaster risks of a single simple ammonia storage facility [unnamed, but reportedly in Thessalonica].**

[Footnote:<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.202.7445&rep=rep1&type=pdf>. *ASSESSING THE UNCERTAINTIES IN THE PROCESS OF RISK ANALYSIS OF CHEMICAL ESTABLISHMENTS: PART I.* Kurt Lauridsen\*\$, Michalis Christou#, Aniello Amendola+, Frank Markert\*, Igor Kozine\*, Monica Fiori#.] **The project Final EIS should therefore include full and candid discussions on the uncertainties of the PRA estimates in Appendix M.**

## Response T8-184

The comment cites many factors that should be considered in detailed quantitative risk assessments or probabilistic risk assessments. As noted in greater detail in the Master Response for Environmental Health and Safety Analysis, the analysis of risks associated with terminal (onsite), rail, and vessel operations presented in Draft EIS Appendix M, *Risk Assessment Technical Report*, is not a detailed quantitative risk assessment or probabilistic risk assessment. Rather, the analysis focuses on release scenarios and not detailed evaluations of the facilities or operations themselves.

As noted in the comment, many uncertainties contribute to both the actual risks and the analysis of those risks. However, by analyzing a range of release sizes, Draft EIS Chapter 4, *Environmental Health and Safety*, demonstrates that small and medium-sized spills are more likely than large spills, and that some spills, particularly larger events, are unlikely in the study area. The resulting estimates of risks related to the selected release scenarios inform not only the decisions about the proposed action but also the development of proposed mitigation measures.

## Comment T8-185

- D. The DEIS makes only a brief and pro forma acknowledgement of significant risks from CBR oil spills and fire/explosion events.

*“Environmental Health and Safety A large oil spill or related incident involving a fire or explosion would likely result in unavoidable and significant adverse environmental impacts. The likelihood of a large spill or related explosion is low; however, the potential for significant consequences to the environment and human health in the case of a large spill, fire, or explosion is high. The specific impacts would vary based on the location, amount spilled, type of liquid, and weather conditions.” [p. S-35.]*

**Beyond this statement, the DEIS lacks any substantive discussion or focus on the consequences** to human health and safety of potentially serious Crude by Rail [CBR] releases, either on the PS&P line or in the extended BNSF rail haul, largely viewing these as “unavoidable and significant adverse impacts” not amenable to mitigation [pp. S-34, S-35].

## Response T8-185

As discussed in the Master Response for Environmental Health and Safety Analysis, because the approach used in the risk assessment does not predict the specific impacts on individual resource areas or populations along rail and vessels transportation corridors, Draft EIS Chapter 4, Section 4.7, *Impacts on Resources*, describes the general types of impacts that would be expected if an incident were to occur.

The scope of this detailed analysis addresses rail and vessel transportation risks on the PS&P rail line from Centralia to the project site, and in and around Grays Harbor to 3 nautical miles from the mouth. For the reasons noted in the Master Response for Geographic Scope of the EIS, potential impacts, including risks, are qualitatively addressed for rail and vessel transportation corridors outside this area.

## Comment T8-186

The DEIS’s Appendix M Risk Assessment Technical Report focuses [p. 1-1] on a detailed examination and “semi-quantitative” [the term is undefined] estimates of the “likelihood of fire or explosion” from the rail spill scenarios addressed in chapters 3, 4, and 5. **Rather than define Risk in the usual way as a product of Probability times Consequence [R = P x C]**, the DEIS’s approach [outlined in pp. 4-2 fi] is to focus almost exclusively on **a two-part process of only probability analyses**: to estimate the “chance” of a train accident occurring and the “chance” of a railcar[s] subsequently releasing.

The DEIS [in Chapter 4, p. 4.1-5] suggests that fire and explosion potentials are so remote, and also so variable, that they need not be explored thoroughly, but discussed only generally and with “qualitative” categories only. *[Footnote: I Severe environmental impacts. The spill is likely to result in a large amount of oil entering the environment and extensive damage to the human and natural environment. This would include large uncontained spills requiring extensive emergency response and*

*cleanup efforts and a greater potential for the spill circumstances to result in fires or explosions. I Low environmental impacts. The spill could result in a small amount or no oil entering the environment. This would include small spills that would likely be contained and cleaned up relatively easily and would have a low potential for ignition. [p. 4.1-5] [see also 4.5-10]: 4.5.2.2 Fires or Explosions Fire or Explosion Risk A spill could cause a fire or explosion if there is an ignition source and combustible gases are present in a quantity that could ignite. The incident could cause sparking, which could ignite the spill. Explosions are most likely when a spill is ignited and the resulting fire impinges on another tank or rail car. As the material in these adjacent tanks or rail cars heat up, the pressure builds and may eventually burst the container. The extent of the damage depends on the exact configuration of the release and fire compared to the location of the other tanks or rail cars, any fire suppression capabilities, and the timing and nature of response actions. It also depends on the material: Bakken crude oil is more flammable than other heavier crude oils. The flammability of diluted bitumen varies based on the diluent (diluting agent) used. Although fires or explosions can result from spills resulting from events like collisions and derailments, long-term historical data show that most spills do not result in fires or explosions. A fire or explosion would be less likely to occur than a spill while there have been multiple recent derailments of trains on main lines that resulted in fires or explosions, the chance of an extreme derailment is very limited in the study area because of the slow speeds on the PS&P rail line, which are slower than typical mainline speeds. In general, large derailments from high-speed trains lead to releases from multiple rail cars. The energy involved in high-speed derailments and the resulting scatter of rail cars yield the greatest chance of a fire that affects other rail cars and possibly result in an explosion. The risks of fires or explosions at the terminal are presented in Figure 4.5-3. Additional information regarding the risks of fire and explosions during rail transport is provided in Appendix M, Risk Assessment Technical Report.]*

The DEIS did produce a range of release scenarios based on a very brief survey off our of the most recent CBR derailments [p. 4-3], but as abstract categories, with no follow-up discussion of the consequences of the hypothetical releases beyond the vaguest generalities and some brief listing of recent serious CBR derailments. The DEIS states that release probability is low, but “the potential environmental consequences would be significant.” [p. S-19]. The DEIS displayed no maps of blast zones nor fire radiation zones, and briefly dismissed smoke fumes dismissed as not a serious hazard. The DEIS pays no attention at all to any potential “Rivers of Fire” scenario, nor to any discussion of how the volumes of crude oil cargo released is the key factor which has made the railroads' recent introduction of massive CBR unit trains such a hazard. [Footnote: “NTSB chair: Size of release more important than Bakken volatility, “KFGO AM 9 17 15 <http://kfgo.com/news/articles/2015/sep/17/ntsb-chair-no-evidence-that-bakken-oil-is-more-volatile-than-other-crude/FARGO> (KFGO-AM) -The head of the National Transportation Safety Board says the volatility of Bakken crude is not a significant factor in large explosions or fires caused by tanker train derailments. NTSB Chairman Christopher Hart says the biggest contributor is the amount of oil released in an accident; rather than the volatility of the product. “Our accident investigation experience, from the ones that we have looked at, has not indicated that volatility is a significant issue” Hart said in an interview with KFGO News. “The biggest contributor to a large explosion or fire is how much product is released, rather than the volatility of the product.”] The only published academic report on the damages experienced at Lac-Megantic was based on a liquid flow model that tracked the 1.5 million gallon crude oil flows from the derailment site into the town. [Footnote: <http://railtec.illinois.edu/articles/Files/Conference%20Proceedings/2014/JRC2014-3851.pdf>] To my knowledge, there have been no reported examples of classic circular fire radiation or blast zone damage photographs or estimates from the CBR derailments experienced so far in North America.

## Response T8-186

The analysis presented in Draft EIS Appendix M, *Risk Assessment Technical Report*, and summarized in Chapter 4, Section 4.5, *Environmental Health Risks—Rail Transport*, relies on 2014 Federal Railroad Administration data to determine the appropriate accident rates for rail-related incidents. Refer to the Master Response for Risk Assessment Methods for a discussion of the assumptions, data sources, and methods used in the analysis of risks. Based on the approach used for the risk assessment to consider a range of different scenarios, the Draft EIS does not evaluate the specific consequences that could occur for any one scenario.

## Comment T8-187

The DEIS throughout simply concludes that fire and explosion risks, while of low probability compared with oil spill probability, could cause potential impacts that are “significant” [Executive Summary, pp. S-19 ff], even “quite severe” [pp. S-26, S-30]. Expected low frequency here offsets potential severity. Although the DEIS suggests that even a small oil spill could escalate into a larger spill due to a fire or explosion by impacting other rail cars [Appendix M. p. 6-2], it dismisses the potentials for this happening on the PS&P line. Even though this line has had rates of accidents significantly “greater than the national average,” because future accidents are assumed to happen at low speeds, they are expected to be small ones. No one section of the PS&P line is expected to be accident-prone: “The risk of a single event on an annual basis is the same for any portion of the PS&P rail line.” So accident probability results are expressed on a per-mile basis in which a PS&P line community would endure more risk only to the extent that it has more trackside mileage. [Appendix M p. 6-2.]

## Response T8-187

Draft EIS, Appendix M, *Risk Assessment Technical Report*, demonstrates that relatively smaller spills along the PS&P rail line are more likely than larger spills involving a large number of rail cars, and that some, particularly large events (e.g., 15 rail cars or more) are very unlikely in the study area. However, as noted in Final EIS Chapter 4, mitigation would not completely eliminate the possibility of an incident. Depending on the location, amount spilled, type of crude oil, and environmental conditions, such as the time of year, water flows, and weather conditions, environmental impacts could be significant.

## Comment T8-188

A valid FEIS would have to include calculations of the additional threats posed by new traffic in CBR unit trains on the studied rail lines, above and beyond that of existing chemical tank car traffic. Concerning the latter, the Final EIS should at least discuss the potential knock-on effects on CBR traffic of other cargoes [e.g., sometimes non-CBR flammable or explosive rail cargoes may travel or be stored in close proximity to CBR unit trains on nearby sidings or rail yards].

## Response T8-188

As noted in Draft EIS Chapter 4, *Environmental Health and Safety*, the risks associated with the proposed action are new to the study area. Section 4.5, *Environmental Health Risks—Rail Transport*, includes a discussion of the existing risks on the PS&P rail line, which include minimal amounts of hazardous materials. Final EIS Chapter 3, Section 3.15, *Rail Traffic*, reflects revisions to indicate that

PS&P's operating procedures do not include any planned stops between Centralia and the project site. These types of circumstances are more applicable to mainline operations. For the reasons noted in the Master Response for Geographic Scope of the EIS, the analysis of risks focuses on the study area, which includes the PS&P rail line from Centralia to the project site and Grays Harbor to 3 nautical miles from the mouth of the harbor.

## Comment T8-189

Similar to the way the DEIS outlined some representative release scenarios for accidental rail release, it should have outlined for the representative scenarios an estimated range of their consequences and societal costs [as federal regulators have done in their 2014 High Hazard Flammable Train regulatory documents] as would be experienced in a representative sample of localities [town, wetlands, etc.] along the studied rail lines. [US DOT and US FEMA have shown two different ways of accomplishing this assessment of consequences, the US DOT method much less location-specific than FEMA's- see discussion below.]

## Response T8-189

As discussed in the Master Response for Environmental Health and Safety Analysis, because the approach used in the risk assessment does not predict the specific impacts on individual resource areas or populations along rail and vessels transportation corridors, Draft EIS Chapter 4, Section 4.7, *Impacts on Resources*, describes the general types of impacts that would be expected if an incident were to occur. By extension, the potential socioeconomic impacts addressed in Chapter 7, *Economics, Social Policy, and Cost-Benefit Analysis*, are addressed more generally. However, Final EIS Chapter 7 has been revised to include additional information about the range of impacts, including societal costs that could occur in the event of an incident.

## Comment T8-190

Finally, the DEIS's own Appendix N provides an example of taking CBR accident consequences more seriously, using modeling and GIS depictions of oil spill movements, for potential oil spill only, into two key localities along the routes: Grays Harbor and the Chehalis River. The DEIS's discussion of its methodology here also usefully provided at least explicit recognition of the consequence models' limitations [resulting in inevitable uncertainties]. *[Footnote: From the DEIS: "Oil Spill Modeling Introduction The purpose of this analysis is to provide perspective on the surface movement and behavior of crude oil spilled into the project environment, specifically into Grays Harbor and the Chehalis River. Such perspective will allow planners and decision makers to understand the range of consequences that could occur after a spill and the potential variation in those consequences based on how much oil is spilled the type of oil spilled the direction of currents at the time of the spill. and the direction and speed of the wind. The resulting modeled trajectories represent possible outcomes, not specific predictions. The information herein illustrates how spilled oil may travel and behave in the marine environment based on the assumptions described below. Spills into Grays Harbor and the Chehalis River were analyzed separately using different modeling tools appropriate for each unique environment. " Movement of Oil in Grays Harbor Methods Trajectory analyses and oil concentration contours for three different release scenarios occurring within Grays Harbor were developed using the General NOAA Oil Modeling Environment (GNOME™) software, Location Files for Grays Harbor, and GNOME Analyst. The GNOME™ User's Manual describes these tools as follows (National Oceanic and Atmospheric Administration 2002: 1, 45). GNOME is a publicly available oil spill trajectory model that simulates oil movement due to winds, currents, tides, and spreading. GNOME was developed by the*

*Hazardous Materials Response Division (HAZMAT) of the National Oceanic and Atmospheric Administration Office (NOAA) of Response and Restoration. Location Files load predeveloped location data, such as an area map with shoreline contours and dominant current patterns. GNOME Analyst converts the 'best guess' plots<sup>1</sup> displayed in GNOME to oil concentration contours, and the 'minimum regret' plots to a bounding contour. 2 The GNOME trajectory analysis was completed to provide a model of how spilled oil for each release scenario varying by release quantity, location, and set of weather and sea state conditions-would move across the water surface and which surface areas could be affected by spilled oil in the selected timeframes (24 and 48 hours after release). The resulting trajectories are not specific predictions, but models that demonstrate how various climatological conditions influence spill outcomes. They depict the movement of oil on the water's surface (spreading) and shoreline oiling without considering how oil in the environment changes in its physical characteristics and chemical composition over time. Those changes are considered weathering, which includes oil evaporation, oil droplet/fragment dispersion in the water column, oil emulsification, and eventually, biodegradation. All of these changes can affect how much oil remains in the environment and how the remaining oil spreads and moves on the water's surface. Numerous environmental factors that affect oil weathering (e.g., water salinity, the presence of microbes, the extent of sun exposure, and sediment concentrations) cannot be fully considered in the GNOME analysis. In the event of an actual spill, wind speed and direction, sea state, and currents could result in the same quantity of spilled oil moving in a different direction or farther away from the source of the release. GNOME Analyst was used to convert the modeled trajectories into an estimate of relative oil density contours (light, medium, and heavy) for the oil remaining at the surface.<sup>3</sup> This output was depicted graphically for the selected scenarios using a geographical information system (GIS) to show the surface location for the modeled oil over the selected timeframes. The properties of the spilled oil were further evaluated using the trajectory mass balance estimates from GNOME and the Automated Data Inquiry for Oil Spills (ADIOS)<sup>4</sup> for a comparison of the behavior of different types of crude oils in the environment. The mass balance estimates and ADIOS output predict how long different types of oil are likely to persist (i.e., weather) in the environment and how their properties change over time. Trajectory Model Limitations GNOME was selected to complete the trajectory analyses because it is a National Oceanic and Atmospheric Administration (NOAA) tool familiar to oil spill contingency planners and responders nationwide.<sup>5</sup> A Grays Harbor Location File was already developed by NOAA for use with GNOME during development of the Geographic Response Plan (GRP) for Grays Harbor, which facilitated implementation of the trajectory modeling. Although GNOME was determined to be best suited for the purposes of this study, there are limitations (beyond those inherent in selecting specific modeled scenario conditions), as with all models. The GNOME model requires selecting the specific type of oil for the modeled trajectories from a predetermined list of pollutants. Bakken crude oil and diluted bitumen, which are the two most likely types of oil under the proposed action, are not included in this list. Therefore, the GNOME model cannot fully reflect how these types of oils would behave or persist in the environment when spilled. The GNOME mass balance output and ADIOS were used to perform additional analysis to account for this, allowing a comparison of the behavior of different types of oil in the environment. [pp. N-1, N-2].] The DEIS [4.5-6] identifies mileages along the studied rail routes of potentially impacted habitats for wildlife, but not for humans in communities.*

## **Response T8-190**

Comment acknowledged.

## Comment T8-191

- E. Even within its intense focus on detailed presentation of [allegedly very low] probabilities of CBR releases. Appendix M uses vague language and dubious methodologies, which it briefly and cryptically describes as mainly valid if used in a comparative way, but the findings of which it then proceeds to display in a way that gives the appearance of scientifically valid absolute conclusions as to frequencies of potential impacts:

[p. 2-1] “**A semi-quantitative risk assessment [undefined]** was conducted for the proposed actions to develop representative frequencies and potential impacts [this did not happen-ed. note] associated with a set of potential scenarios in the study area.” The DEIS provides no discussion, let alone calculation, of uncertainty bounds in this report, nor any admission of the use throughout of engineering judgment in making many- mostly undisclosed- assumptions as to how to utilize the available data, which is as usual unsatisfactory. The European Union Benchmark reports on PRA [mentioned above, and see End Note 1] are all about uncertainty. *[Footnote: Major sources of PRA uncertainties were highlighted in the 2002 EU Benchmark Report: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.202.7900&rep=rep1&type=pdf> Rise-R-1344(EN) Assessment of Uncertainties in Risk Analysis of Chemical Establishments The ASSURANCE project Final summary report Kurt Lauridsen, Igor Kozine, Frank Markert Aniello Amendola, Michalis Christou, Monica Fiori May 2002 • Det Norske Veritas Limited, UK • INERIS, Fr • Health and Safety Executive, Major Hazards Assessment Unit, UK • NCSR DEMOKRIJ'OS Systems Safety and Risk Assessment, GR • TNO, Dept. of Industrial Safety, NL • Universita di Bologna, DICMA, fl' • V1T Automation, FI • The Joint Research Centre, Ispra • Rise National Laboratory, DK Abstract This report summarizes the results obtained in the ASSURANCE project (EU contract number ENV4-CT97-0627). Seven teams have performed risk analyses for the same chemical facility, an ammonia storage. The EC's Joint Research Centre at Ispra and Rise National Laboratory coordinated the exercise and led the comparison of results in order to reveal the causes for differences between the partners' results. The results of the project point to an increased awareness of the potential uncertainties in risk analyses and highlight a number of important sources of such uncertainties. In the hazard identification phase it was revealed that the ranking of hazardous scenarios by probabilistic and deterministic approaches could result in completely different conclusions. On the other hand, despite a large difference infrequency assessments of the same hazardous scenarios, there was good consensus on the ranking among the adherents of the probabilistic approach. Breaking down the modelling of both frequency and consequence assessments into suitably small elements and conducting case studies allowed identifying root causes of uncertainty in the final risk assessments. Large differences were found in both the frequency assessments and in the assessment of consequences. The report gives a qualitative assessment of the importance to the final calculated risk of uncertainties in assumptions made, in the data and the calculation methods used. This assessment can serve as a guide to areas where, in particular, caution must be taken when performing risk analyses• . . . 2 General notes on uncertainty in risk analysis Whereas Quantitative Risk Assessment (QRA) aims at the modelling of stochastic uncertainties associated with the occurrence and circumstances of a major accident, the process itself of carrying out a QRA is linked with several uncertainties. For the implementation of the risk assessment procedure a variety of techniques and models must be used, and uncertainties are introduced due to imperfect knowledge and expert judgement. As QRA is used as input in many decisions related to the control of major accident hazards and the need for accuracy in the results increases, the adequate management of these uncertainties gains increased importance. Risff-R-1344(EN) 5 An important source of differences in risk analysis is introduced by national philosophies underlying the analyst's effort. In addition, the application of different methods and methodologies will*

*contribute to the total uncertainty/variability of the final outcome of a risk analysis. The complexity of establishing a model for the systems derives from the large number of different components, the control equipment used in modern processes and the interactions between all components and equipment, and the human operator. Further, uncertainty is introduced by the physical modelling tools, as they treat, e.g., release and dispersion phenomena, according to the relevant meteorological and environmental conditions. Uncertainty is also connected to dose-consequences relationships. Finally, there is uncertainty resulting from the various judgements of the analysts during a risk analysis. This is an unavoidable part of the process, and depends very much on the background and the operational field of the experts. Other practical constraints (e.g. time and resources) may also result in different degrees of simplifications, which in turn add to the variability of the results. Rise-R-1344(EN) 13 Comparison Overall Scenarios (Outdoors) 1,00E-08 1,00E-07 1,00E-06 1,00E-05 1,00E-04 1,00E-03 J,00E-02 110100 1000 10000100000 N F Partner 3 Partner 1 Partner 2 Partner 5 Partner 4 Partner 7 Figure 4 Discrepancy in societal risk calculations (based on fictitious population data) [http :1/aes.asia.edu.tw/Issues/AES20 11/RoyPK20 11.pdf](http://aes.asia.edu.tw/Issues/AES2011/RoyPK2011.pdf) [http://gnedenko-forum.org/Journal/2008/042008/RA TA\\_4\\_2008-13 .pdf](http://gnedenko-forum.org/Journal/2008/042008/RA_TA_4_2008-13.pdf) 5-page report [http://www.hse.gov.uk/landuseplanninglhseriskanalysis.pdf](http://www.hse.gov.uk/landuseplanning/lhseriskanalysis.pdf) 2004 Final Report.]*

## Response T8-191

As noted in the comment, many uncertainties contribute to both the actual risks and the analysis of those risks, particularly as related to quantitative risk assessments; however, as discussed in the Master Response for Environmental Health and Safety Analysis, the Draft EIS relies on a semi-quantitative scenarios-based approach and does not include a quantitative or probabilistic risk assessment. Therefore, the risk assessment methods do not consider a margin of error to account for the inherent uncertainties in predicting risk. Rather, the Draft EIS attempts to provide context for understanding how best to interpret and apply the results of the study. More specifically, Draft EIS Chapter 4, *Environmental Health and Safety*, and Appendix M, *Risk Assessment Technical Report*, clearly state that the results of the risk assessment are more meaningful when compared to each other, rather than as predictors of the absolute frequencies of potential impacts.

## Comment T8-192

- F. And the DEIS explicitly declines [p. 2-21 to discuss even in some “semi-quantitative” way either the local infrastructure conditions along either rail line studied [beyond mentioning some unexplained speed limitations at certain spots along the PS&P line] or any release consequence impacts that might be expected from conditions of the infrastructure in specific localities along the studied rail lines, neither the PS&P lines nor the “extended” BNSF lines.

The DEIS takes no hard look, for example, at the varying condition of PS&P tracks, curvature, etc. It subsumes all these differences within the federal track Class 2 designation, even though these broad classifications are known to include a wide range of track conditions and related infrastructure. The DEIS briefly noted the causes of recent local rail line accidents, which outline of course suggests existing infrastructure inadequacies on the PS&P. [4.5-3, 4.5-4] The DEIS does not mention signaling on the PS&P line, nor suggests any federal standard for Class 2 tracks. [4.5-3]

The DEIS produces no detailed study of characteristics of [rail line, terrain, accident history] and vulnerabilities to specific parts [tribes, populations, critical infrastructure, except some animal habitats] of the routes. The DEIS characterizes risk in the abstract, based on accident rates history

for the whole PS&P rail line and by national rail accident history. DEIS takes no look at specific vulnerabilities for fire and explosion damage in specific segments of either of the studied routes [PS&P and BNSF]. The DEIS likewise makes no assessments of various track side localities' likely differing potentials for public warning or effective Emergency Response, including evacuation, Shelter in Place, etc.

The DEIS contains no discussion of the many other potential segment-specific infrastructure risk issues associated with the track structures and roadbed present on either PS&P or the extended BNSF lines, such as dangerous curves, washout potentials, trestles or tunnels, etc. It is well-established that local route conditions can pose serious derailment risks. For example, it is clear that specific route characteristics were centrally important in the Lac-Megantic, Quebec crude oil train derailment and fire on July 2, 2013. Although some have dismissively pigeon-holed the cause of the Lac-Megantic accident as “human error,” the disaster was also the result of infrastructure issues involving downhill grades and the presence of curves/switches in the downtown area. Local conditions also influenced the derailment and oil spill in Lynchburg Virginia on April 20, 2014. [Footnote: Footnote 14: “Va. oil train derailment is latest 'wake-up call': expert”, CBS/AP, May 1, 2014, [http://www.pennlive.com/midstate/index.ssf/2014/05/oil\\_tankers\\_fall\\_into\\_james\\_ri.html](http://www.pennlive.com/midstate/index.ssf/2014/05/oil_tankers_fall_into_james_ri.html) (“Grady Cothen, a former Federal Railroad Administration official, said given the recent wet weather in Virginia and the accident's location near a river, it's possible that soft subsoil may have weakened the track, Cothen speculated.”).]

Finally, the example of the 2005 Graniteville SC chlorine rail car collision disaster highlights the importance of “dark territory” rail risks and the differences in safety associated with different levels of train control, some more robust than others. The DEIS mentions [pp. 5- 11, 5-12] the very different train control systems [Track Warrant Control and Centralized Control] used at specific segments of the BNSF routes, but it tellingly fails to discuss any potential differing impacts on CBR safety. [Footnote: Footnote 15: As noted before, the DEIS failed to discuss signaling on the PS&P line.]

1. In assessment of rail risks, this DEIS lack of study of local rail infrastructure conditions and local vulnerabilities collides head-on with what the most sophisticated researchers know about assessing rail risks, including Professor Barkan's RailTec research group at UIUC, on whose research [Liu et al., 2014] [Footnote: <http://www.ncbi.nlm.nih.gov/pubmed/24929785>] *Hazard Mater.* 2014 Jul 15; 276:442-51. doi: 10.1016/j.jhazmat.2014.05.029. Epub 2014 May 22. *Probability analysis of multiple-tank-car release incidents in railway hazardous materials transportation.* Liu X, Saat MR, Barkan CP.] the Appendix M analysis heavily relies. Dr. Barkan's own past work acknowledges the importance of looking at local features when assessing risk. For example, in a 2003 study, Dr. Barkan noted that “[t]he severity of a particular hazardous materials accident” relates to “the particular circumstances and location of the release.” In that same study, Dr. Barkan vividly highlighted the very top risk factors in accident causation on a given stretch of track as including broken rails and welds. [Footnote: Christopher Barkan et al., *Railroad Derailment Factors Affecting Hazardous Materials Transportation Risk, Transportation Research Record 1825, Paper No. 034429 at 67 (2003), available at [http://railtec.illinois.edu/cee/pdf/Barkan\\_et\\_al\\_2003.pdf](http://railtec.illinois.edu/cee/pdf/Barkan_et_al_2003.pdf).*]

## Response T8-192

As noted above, Draft EIS Chapter 3, Section 3.15.4.5, *Ongoing Maintenance and Inspections*, describes Federal Railroad Administration (FRA) track and bridge maintenance and inspections requirements and train and rail car inspection requirements. PS&P is required to comply with these

regulations under existing conditions and would continue to be required to comply if the proposed action is implemented. Final EIS Section 3.15.4.5 reflects PS&P commitments to additional safety measures with respect to the transport of crude oil, information about the requirements of FRA's bridge management program, and the most recent results of FRA's bridge inspection reports. Nonetheless, compliance with existing regulations and implementation of the mitigation described in Chapter 4, Section 4.5.3, *What mitigation measures would reduce impacts related to rail transport?* would not completely eliminate the possibility of an incident. Depending on the specific circumstances, the environmental impacts could be significant.

The detailed approach explained in Appendix M, *Risk Assessment Technical Report*, and discussed in the Master Response for Risk Assessment Methods, evaluates the likelihood of certain incidents occurring and considers all causes of failure, including construction defects, natural hazards, human error, and material failures.

### Comment T8-193

2. And the DEIS ignores such valuable analogous information such as underlay the US FEMA CBR emergency response drill in Jersey City NJ 2015, which featured overlay maps with vivid impact zones maps for fire radiation, blast, and toxic cloud] consequences of a [relatively minor] five-railcar CBR derailment release of 100,000 gallons. FEMA's consultant calculated consequence impact zones from the ensuing fire and explosions, estimating in some instances thousands of casualties and significant damages. [Footnote:  
[http://www.nj.com/hudson/index.ssf/2015/03/jersey\\_city\\_hosts\\_workshop\\_with\\_fema\\_homeland\\_secu.html](http://www.nj.com/hudson/index.ssf/2015/03/jersey_city_hosts_workshop_with_fema_homeland_secu.html). FEMA's NJ CBR exercise slides 27-28 have overlay maps of CBR derailment consequences in Jersey City. <http://www.wsj.com/articles/disaster-plans-for-oil-trains-1428969241>.]

### Response T8-193

Draft EIS, Chapter 4, *Environmental Health and Safety*, includes a discussion of recent rail-related incidents to provide context for types of consequences that have occurred in other parts of the United States. However, as noted in the Master Response for Risk Assessment Methods, the risk assessment addresses risks specific to the PS&P rail line. The results are not directly comparable to studies that evaluate risks outside this area; for example, on the BNSF main line. Refer to that master response for additional information about how large-scale rail incidents, including those that have recently occurred, have been factored into the risk assessment.

### Comment T8-194

3. The DEIS cites previous experienced CBR disasters, but ignores the possible specific local consequences of any of the risks it identifies. The draft EIR's hazardous impacts section contains a brief description of the fallout from major crude-by-rail accidents at Lac-Megantic; Lynchburg, Virginia; Aliceville, Alabama; and Casselton, North Dakota. However, it fails to disclose or analyze the reasonably foreseeable local impact of a comparable accident along the studied rail routes. For example, at Lac-Megantic, 63 tank cars derailed, releasing 1.5 million gallons of crude oil, which then ignited, killing 47 people in a tiny town of 4000. The accident occurred at 1:30 AM on a weekend night, with a few dozen people downtown, celebrating two birthday parties in the MusiCafe. Some cities along the studied PS&P and BNSF routes have populations vastly more dense at various times of day. The DEIS does not try to estimate what the

consequences could be if a similar inferno occurred in even a representative sample of these locations, even if the probability is low.

### Response T8-194

The analysis of potential environmental health and safety impacts looks at the relative risks for a set of release scenarios that could occur as the result of terminal operations and rail and vessel transport associated with the proposed action. As noted in Appendix M, *Risk Assessment Technical Report*, the release scenarios are informed by regulatory requirements to assess the worst-case discharge for terminal, rail, and vessel operations. This approach provides decision-makers and planners with a range of outcomes that could occur related to the proposed action so they can understand the risks of concern and propose targeted mitigation measures. By extension, the Draft EIS does not predict the specific impacts on individual resource areas or populations along rail and vessels transportation corridors with any single release scenario, including mapping potential outcomes. Rather, Draft EIS Chapter 4, Section 4.7, *Impacts on Resources*, describes the general types of impacts that would be expected if an incident were to occur.

### Comment T8-195

- G. The main rail accident probability analysis relied upon by DEIS [Liu, Saat and Barkan 2014] admits that the available probability literature has systematically neglected [cf. "Liu et al2014", p 449] an adequate study of derailment consequences also cites the paucity of research on multi-car releases such as now seen regularly in North American CBR events. *[Footnote: Liu et al2014 op.cit, p 442: Rail transport of hazardous materials differs from highway transport in several respects. Notably, rail transport involves trains of multiple cars, sometimes over 100 in a single train. Some or all of these may be tank cars transporting hazardous materials. By contrast, highway transport generally involves only a single tank trailer. Unlike highway transport, derailment of a hazardous materials train may result in releases from multiple tank cars. In the event of a large, multiple-car release incident, there is the potential for considerable impact on human health, property, and the environment. Furthermore, such releases may be much more challenging for emergency response than a highway incident because of the large quantities involved. Several recent multiple-tank-car release incidents, such as the derailments in Schellebelle, Belgium in May 2013, Lac-Megantic, Canada in July 2013, Aliceville, Alabama in November 2013, and Casselton, North Dakota in December 2013, underscore the importance of multiple-car release incidents.]*

### Response T8-195

As noted in the Master Response for Risk Assessment Methods, the risk assessment uses methods and relies on data sources to consider various factors relevant to influencing risks along the PS&P rail line but, as referred to in the comment, notes limitations and uncertainties related to the analysis. Refer to the master response for additional information about how the risk assessment considers available data and applies relevant factors to the analysis of risks.

### Comment T8-196

**The DEIS throughout makes no explicit mention of railroads' relatively new business plan of transcontinental operation of crude oil unit trains as key new risk, but does mention speed and length of train as key factors in risk of severity. [p. 4.5-3]**

The DEIS does not analyze or take into account the **unique risks that crude oil unit trains pose. CBR unit trains tend to be longer and heavier than traditional shipping trains.** As explained by the United States Department of Transportation, crude oil unit trains:

*are longer, heavier in total, more challenging to control, and can produce considerably higher buff and draft forces which affect train stability. In addition, these trains can be more challenging to slow down or stop, can be more prone to derailments when put in emergency braking, and the loaded tank cars are stiffer and do not react well to track warp which when combined with high buff/draft forces can increase the risk of derailments. [Footnote: Footnote 20: US Dept. of Transportation, Pipeline and Hazardous Materials Safety Administration, Draft Regulatory Impact Analysis for Hazardous Materials: Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains; Notice of Proposed Rulemaking, July 2013 ["Draft RIA"] at 24.]*

Multiple professional organizations as well as regulators have recognized the huge differences in risk between transporting crude oil by unit train and traditional manifest train rail shipment, including the Association of American Railroads' August 2013 Circular OT-55N [Footnote: Footnote 21: AAR requires member railroads to comply on line with OT-55-N: <http://www.pdfFiller.com/46827111-OT-55pdf-AAR-Circular-No-OT-55-N-Various-Fillable-Forms>. Association of American Railroads, Freight Railroads Join U.S. Transportation Secretary Foxx in Announcing Industry Crude By Rail Safety Initiative, Feb. 21, 2014, <https://www.aar.org/newsandevents/Press-Releases/Pages/Freight-RailroadsJoin-U-S-Transportation-Secretary-Foxx-in-Announcing-Industry-Crude-By-RailSafety-Initiative.aspx> file:II/C:/Users/finillar/Downloads/AAR\_Response\_2013-10-21-155952%20(1).pdf.] and the experts in the US National Transportation Safety Board's April 2014 Safety Forum. [Footnote: Footnote 22: US NTSB Safety Forum on Crude Oil and Ethanol Transportation April 22-23, 2014 [http://ntsb.capitolconnection.org/042314/ntsb\\_archive\\_flv.htm](http://ntsb.capitolconnection.org/042314/ntsb_archive_flv.htm).] Various federal safety studies and federal agency directives have also cited unit trains as a key safety concern. In fact, the UIUC RailTec team's prior scholarship suggests that length and other special characteristics of unit trains are important to assessing risk. [Footnote: From the DEIS Appendix M: Data from the RPI-AAR Railroad Tank Car Safety Research and Test Project also provided information on the probabilities of release for rail cars of different designs and the detailed analysis to determine the chance of different numbers of cars derailing and releasing different quantities of the product carried. Liu et al. (2014) provides a recent description of this approach and gives some representative results. For Class I railroads, 24% of derailments involved one car, 50% involved five or fewer cars, and the overall average was about nine cars. As a group, the Class I railroads operate largely on Class 4 or 5 track, with the associated higher speeds. The same article provided an example of an analysis of DOT-111 rail cars versus the enhanced CPC-1232 design. For the scenario that was modeled (a specific configuration and track class, with a mixed cargo train involving 10 cars of concern) the average conditional probability of release from a DOT-111 car was 0.266, while for a CPC-1232 the same probability was 0.064. The change in chance of release per car also changes the number of cars releasing and therefore the relative likelihood of the spills of different sizes. This analysis used a combination of these and other data to determine representative distributions of release sizes for the two types of rail cars addressed in the assessment of the proposed actions, given that a derailment or collision has occurred on the PS&P rail line. [p. 4-4].]

## Response T8-196

As noted in Draft EIS Appendix M, *Risk Assessment Technical Report*, the risk assessment considers data sources and factors unique to the transportation of crude oil by rail when evaluating the risks associated with the proposed action. As summarized in Chapter 4, *Environmental Health and Safety*, risk associated with the no-action alternative are based on existing operations, which do not

currently include crude oil transportation. As noted in Chapter 4, implementation of the proposed action would include new risks specifically related to crude oil in the study area. Refer to the Master Response for Risk Assessment Methods for a discussion of the assumptions, data sources, and methods used in the analysis of risks.

### **Comment T8-197**

Finally, since railroads historically pride themselves on developing their own distinctive cultures, including differing safety cultures and operating rules, adequately predicting the probability of accidental release of crude oil along any given rail line would require an assessment of each carrier's particular operations, behavior, and relative risk of flammable unit trains, especially their accident history and potentials.

### **Response T8-197**

Draft EIS Appendix M, Section 4.2.2, *Accident Rates*, states that the determination of a chance of derailment or collision (i.e., accident rates) is derived from Federal Railroad Administration data through October 2014. Train accident rates were collected from all operations on Class 2 track nationwide, both for mainline operations and for all track including main lines, industry tracks, yards, and sidings. The same data were collected specific to the PS&P rail line. As discussed in the Master Response for Risk Assessment Methods, the selected sources consider all causes of failure, including construction defects, natural hazards, human error, and material failures.

### **Comment T8-198**

- H. The DEIS relies heavily in in PRA analyses on rail industry sources and methodologies and data that cannot be counted on to be unbiased.

In Appendix M Section 4.2.1, the DEIS relies heavily on rail industry risk models and on a probability study based on industry data by researchers at the University of Illinois Urbana Champagne, Liu, et al., 2014 [4-4]. This study's listing UIUC team's sources of support reveal the how heavily the railroad industry has supported its research: it cites support from American Association of Railroads, BNSF, and CN.

### **Response T8-198**

The primary data source for rail accident rates was the Federal Railroad Administration data finalized through October 2014. Refer to the Master Response for Risk Assessment Methods for a discussion of the assumptions, data sources, and methods used in the analysis of risks.

### **Comment T8-199**

And one clear focus of the Liu, et al., 2014 paper [pp. 447-448] was to compare performance of currently massively failing DOT-Ill tank cars to the rail industry's own recently introduced beefed-up version, the AAR standard 1232. Furthermore, Appendix M reports that the Liu, et al., 2014 paper [pp. 4-3 to 4-5] crucially relied on a much older 1996 "detailed hazardous materials rail transportation model develop [sic] by Arthur D. Little for the [American Association of Railroads [AAR], the Railway Progress Institute and the Chemical Manufacturers Association]", and on an AAR research project using the model, and used AAR proprietary "up- to-date statistics", with no further elaboration. [Footnote: Footnote 24: Arthur D. Little, Inc. 1996. *Risk assessment for the transportation*

*of hazardous materials by rail. Supplementary report: railroad accident rate and risk reduction option effectiveness analysis and data. 2nd revision. Arthur D. Little, Inc., Boston, Mass.]*

### Response T8-199

The 1996 model referred to in the comment allows for current accident rate data to be applied and for different configurations of tank cars (such as thicker walls, jackets, fitting protection, and other factors that will be on the new designs required under the May 2015 final rule) to be taken into account. This current information is included in Draft EIS Appendix M, *Risk Assessment Technical Report*. The main reliance on this model is for the evaluation of different numbers of cars derailed and spilling, not for 20-year old source of data.

### Comment T8-200

That 1996 model, despite being based, according to Appendix M, on statistics that showed that overall average [p. 4-4] US derailment was about 9 cars, did not include any “representative scenario” larger than “Five rail cars spilled simultaneously.” And it obviously could not capture data relevant to the obvious recent history of much larger releases with High Hazard Flammable Trains and CBR unit trains [averaging 100-plus cars] in particular, so the DEIS simply injected another example of engineering judgment [Appendix M, p. 4-4]:

*Additionally, an extreme case of 450,000 to 900,000 gallons (10,714 to 21,429 barrels) was added, to put such extreme spills in perspective, even though most [but not all, editorial note] recent extreme spills occurred at much higher speeds than would be experienced on the PS&P rail line.*

This new larger DEIS scenario [about 30 cars total oil contents] still did not match the already experienced July 2013 fatal releases at Lac-Megantic, however, which released 1.5 million gallons from many more cars.

### Response T8-200

As noted in the response to the previous comment, the 1996 model referred to in the comment considered the following factors: data estimates of accidents involving more derailed cars; consideration of more current (or future required) design characteristics; and more current accident rates (Federal Railroad Administration data from 2011 through 2014). In Draft EIS Appendix M, *Risk Assessment Technical Report*, Table 6 and its associated text explain the basis of the accident rate derivation and notes the analysis considered recent Federal Railroad Administration data (through October 2014).

### Comment T8-201

The DEIS outlines clearly enough how **industry data, analyses, and approaches** to risk assessment are key to all the main features of the DEIS work on rail release probabilities and have been used in ways which are not transparent. But the **DEIS is not clear just what ranges of historical data it used [p. 4-5] to make estimates of rail accident rates.**

When it cites FRA data it does not clarify what the historical time range of that data is, either for PS&P lines or for Class 2 track nationwide. Since FRA's historical accident data is often lauded by federal and industry researchers as a uniquely valuable 30-year database, it may well be that the DEIS used FRA rail accident data in large part based on US train operations from prior to the sudden recent introduction of transcontinental unit train CBR operations around 2012, which many

observers would thus conclude are invalid. In fact CBR unit train operations began so recently that some would say that the oft-used rule of researchers' need for at least five years of comparable data does not allow any current firm conclusions on CBR safety.

## Response T8-201

Draft EIS Appendix M, *Risk Assessment Technical Report*, Table 6. *Accident Rates* (per million train miles) for Track Class 2 shows that only 2011 to 2014 data were considered, not older data that would be less relevant to the proposed action.

## Comment T8-202

### I. The DEIS makes invalid uses of data.

**A credible probability analysis depends crucially on a complete, arguably relevant dataset. No analysis of the probability of a crude oil release from a unit train can be based on data from non-comparable events or from railroad operations varying from each other across carriers, across time and across regions.**

Throughout the Appendix M Technical Report, there are repeated instances of its blending of various kinds of data and analyses in unexplained ways, usually with no assumptions [cf., e.g., p. 2-2 of Appendix M] provided as to how any weighting of various factors has been made, and with no explicit admission that there is a huge potential for sweeping and unaccountable “engineering judgment” having been exercised, as opposed to relying on defensible research sources and available data in the public domain. [Footnote: From the DEIS Appendix M: E.g., “This analysis used a combination of these and other data to determine representative distributions of release sizes for the two types of cars addressed in the assessment of the proposed actions, given that a derailment or collision has occurred on the PS&P rail line.” [4-4] The PS&P rail line in the study area covers 59 miles of Track Class 2 lines. All traffic in the study area moves at 25 miles per hour (mph) or less, as per Track Class 2 standards. Several key bridges and areas have lower speed limits: 10 mph over Devonshire Bridge (Wynoochee River) because of bridge condition and 5 mph over the moveable bridges over the Wishkah and Hoquiam Rivers. For conservatism and to match the official designation, this analysis is based on PS&P historical data as well as data for other Class 2 track operations nationwide. [DEIS, Appendix M, p. 4-1].

Furthermore, the DEIS [p. 2-2] characterizes only most vaguely its uses of accident data: combining data on future train trips on the studied rail lines plus FRA historical data “coupled with” numerous studies of accidents and releases. The DEIS provides no details on its data-coupling methods or assumptions here.

## Response T8-202

Draft EIS Chapter 4, *Environmental Health and Safety*, and Appendix M, *Risk Assessment Technical Report*, use the latest data available on rail accident rates from the Federal Railroad Administration. These data include the more recent crude oil train incidents; however, accident rates specific to crude oil trains only are not available. Refer to the Master Response for Risk Assessment Methods for a discussion of the assumptions, data sources, and methods used in the analysis of risks.

## Comment T8-203

Where the DEIS does give details of sources of its calculations of risk, in its calculations of online storage tank failure risks, its use of “historical data along with guidance published by the United Kingdom's Health and Safety Executive” [since such information is presumably not available in the US with our more litigious culture] requires the reader to assume that oil storage technology, materials, standards, history, operating procedures and practices, regulatory regimes, corporate safety cultures, maintenance, human error rates, etc., in the UK industry are closely aligned with those in the US - a big ask. *[Footnote: The HSE data itself is a hodge-podge of data sources, some of which the HSE guidance document authors admittedly see as probably invalid, but the guidance document is apparently crucially needed for ongoing immediate use by HSE inspectors for advice in local/and-use decisions involving high-risk facilities.]*

*The DEIS Appendix M also cites another UK source, a 2014 UK study of onsite oil storage risks which is quite useful, in that it casts doubt on the DEIS reliance on PRA methodologies generally:*

*REVIEW OF FAILURES, CAUSES & CONSEQUENCES IN THE BULK STORAGE INDUSTRY*

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*[http://www.lightningsafety.com/nisi\\_lls/Causes-of-Failures-in-Bulk-Storage.pdf](http://www.lightningsafety.com/nisi_lls/Causes-of-Failures-in-Bulk-Storage.pdf)*

*This study cites the huge 2005 UK Buncefield Oils Storage Depot release and explosion to indicate that such disasters will happen and that current UK safety technology is inadequate. It suggests that the statistical approach [which the authors do not challenge head-on] that predicts very low probability needs to be contrasted with a more pessimistic approach informed by recent failures, including Buncefield which they see as “raising many yet unanswered questions”: ABSTRACT The cataclysmic events, which occurred at the Buncefield Oils Storage Depot in Hertfordshire on Sunday 11th December 2005, resulted in what is widely regarded as the largest explosion in Europe since the Second World War. This event placed the bulk storage industry in the spotlight, raising many yet unanswered questions. Accidents of this nature involving the catastrophic failure of tanks used for the storage of hazardous liquids are rare, and the risk of such incidents occurring is estimated to be low, somewhere in the region of  $5 \times 10^{-6}$  per tank year (Thyer et al 2002). In contrast to this statistical approach, Michels et al (1988) adopted the view that “a tank will fail somewhere sometime”. Causalities of such events vary; the consequences however are ordinarily the same, incurring environmental, financial and infrastructure losses. A review of the various causes of failures aims to highlight the extent of the problems, which have occurred in the bulk storage industry together with the environmental and human impact of such incidents. Through a process of spill modelling the magnitudes of such losses have been identified across a range of scenarios. Recent results have indicated that the losses incurred during less dramatic modes of failure can ultimately be significant. This gives rise to the conclusion that a suitably practicable means of mitigation has to be identified and implemented if the levels of potential risks are to be suitably controlled.]*

## Response T8-203

As noted in the comment, the failure data were published by a United Kingdom source; however, the study considered multiple data sources from the United Kingdom, other parts of Europe, and the United States. Refer to the Master Response for Risk Assessment Methods for a discussion of the assumptions, data sources, and methods used in the analysis of risks.

## Comment T8-204

Given the lack of transparency in the DEIS's reports of its probability analysis, it is impossible to discern whether or how the DEIS has weighted some risk factors more heavily than others in assessing the probability of hazardous impact. The DEIS failed to take into account many factors, described above, that suggest that the proposed crude-by-rail project has significant hazardous impacts. Even among the risk factors it does consider, the DEIS does not discuss or rank which factors are most important, and by how much, in accounting for releases from trains. Diminishing the weight given to the most important risk factors necessarily skews a risk analysis toward underestimating the risks present.

### Response T8-204

The risk assessment does not include weightings for different factors except where they are explicitly captured in available data—such as the track class for rail operations or the type of waterway for vessel operations. Refer to the Master Response for Risk Assessment Methods for a discussion of the assumptions, data sources, and methods used in the analysis of risks.

## Comment T8-205

J. The DEIS's method of calculating risk is not safety conservative.

Despite all the foregoing omissions and oversights in its analysis, the DEIS complacently asserts [by analogy only here, regarding onsite oil storage risks at the project, in Appendix M, p. 3-4] that its estimates are “likely to overestimate the chance of release” from storage tanks.

There is no reason to think this is the case, and in fact, as detailed above, there are many reasons to think the analysis underestimates the potential public safety risks inherent in the project. The short life of the crude-by-rail industry in North America has already seen a number of serious CBR releases. The DEIS makes no effort to suggest that the probability of release derived from its calculations are either higher or lower than experienced real-world release rates regarding CBR derailments.

### Response T8-205

Comment noted.

## Comment T8-206

K. The DEIS adopts a posture of over-reliance on the existing frameworks of federal, state and local laws and regulations that presumably will ensure safety in future CBR unit train operations.

Despite salient recent rail disasters that were caused by failures to adhere to federal regulations, e.g., the fatal 2013 Lac-Megantic and 2015 Amtrak rail events in which speed limits were violated, the DEIS displays, even in discussing the extended transport risks on BNSF lines, no serious facing up to the kinds of human error and operational failures that might cause CBR disasters along the studied lines. Regulations on routing track class and speed are presumed appropriate, and “the train control system ensures safety by managing rail traffic through signaling systems.” (p. 5-11)

## Response T8-206

Although the Draft EIS considers existing regulations, the analysis does not presume that safety would be adequately addressed. Final EIS Chapter 4, Sections 4.4.4, 4.5.4, and 4.6.4, note that no measures can completely eliminate the possibility of a spill, fire, or explosion, nor would they completely eliminate the adverse consequences of a spill, fire, or explosion.

## Comment T8-207

- Federal gaps:** Regarding prevention of and preparation for rail accidents, the DEIS fails to note in Chapter 4 that the recent High Hazard Flammable Trains regulation, promulgated May 8, 2015, will allow many years for phase-in of new safety standards. The DEIS also fails to note that there is ongoing uncertainty regarding whether and/or when the enacted Positive Train Control regulations will be implemented on time and whether/or when the proposed new federal Oil Spill Contingency Plan regulations will be finalized [4.2-3 ff]. The DEIS also fails to assess the effectiveness of all the federal emergency planning elements it describes as in place [pp. 4.2-4f]. The DEIS includes no assessment of the impact on health and safety of existing federal protections that have for decades allowed large swaths of railroad secrecy, and thus a significant grant of unaccountability, on their disaster risk policies, decisions, and outcomes- much less any DEIS assessment of the substantial potential future increment of secrecy for railroads' own risk information which FRA is proposing to grant to railroads in Docket FRA-2009-0038. *[Footnote: FRA's Proposed Rule on freight railroad Risk Reduction Programs is at Docket No. FRA- 2009-0038. FRA was directed by Congress, reacting to several serious US rail accidents, in the Rail Safety Improvement Act of 2008 to impose on freight railroads operating in the US a modern type of Risk Reduction Program regulatory regime. FRA proposed adding a significant new secrecy regime to protect railroad risk data from disclosure in court. <http://www.regulations.gov/#!searchResults;rpp=25;po=0;s=FRA-2009-0038;fp--true;ns=true.>]*

## Response T8-207

Draft EIS Appendix M, *Risk Assessment Technical Report*, explains how requirements for phasing in rail car design improvements are considered in the risk assessment. Further, as required by SEPA, and noted in the Master Response for Purpose and Focus of the EIS, the Draft EIS addresses the potential impacts associated with the proposed action; it does not evaluate the effectiveness of existing regulations, which is outside the scope of the analysis. However, as allowed by SEPA, the Draft EIS does identify broader measures that could be implemented to generally improve safety in the study area. In some cases, recommended measures may be part of ongoing efforts to address existing problems (unrelated to the proposed action) or may be related to existing requirements or regulations in place to protect public resources and safety in general. Final EIS Chapter 4, *Environmental Health and Safety*, has been updated to reflect consideration of evolving state and federal legislation aimed at improving the safety of crude oil by rail.

## Comment T8-208

- State gaps:** The DEIS does not discuss any of the post-Lac-Megantic state-level reports [including those from Washington State agencies] on CBR risks and emergency response and planning which have often revealed large gaps in state and local preparation for serious CBR accidents. The DEIS does assert that state-level improvements may be on the way [seep. 4.5-8], but fails to note that the Washington State legislature must have identified some serious gaps in

state capabilities to necessitate passage of ESHB 1449 in 2015 that authorizes the state Ecology Department to adopt rules requiring PS&P railroad to prepare an oil spill contingency plan. *[Footnote: From the DEIS p. 4.5-8: WA State in 2015 passes bill on ER planning for RRs The Washington State [sic] passed ESHB 1449 in 2015, authorizing Ecology to adopt rules to require PS&P to prepare an oil spill contingency plan. The plan would, among other things, demonstrate that PS&P has the capacity to remove oil and minimize any damage to the environment resulting from a worst-case spill. Prior to adoption of rules. The federal oil spill response plans will be used to meet the state requirement.]*

## Response T8-208

Final EIS Chapter 4, *Environmental Health and Safety*, has been updated to better reflect existing local and statewide emergency service response capabilities and resources, updated planning requirements, clarifications about the potential impacts of the proposed action on local emergency response providers, and additional mitigation measures to reduce risks. Nonetheless, mitigation would not completely eliminate the possibility of an incident. These measures include the provision of additional firefighting equipment, spill response and recovery equipment and other tools, and annual emergency response training opportunities to local jurisdictions. Depending on the location, amount spilled, type of crude oil, and environmental conditions, such as the time of year, water flows, and weather conditions, environmental impacts could be significant. Section 4.7, *Impacts on Resources*, describes the types of impacts that could occur in the event of an oil spill, fire, or explosion. Refer to the Master Response for Emergency Response and Planning Gaps Evaluation.

## Comment T8-209

4. **Local gaps:** The DEIS **does acknowledge significant deficiencies in local capabilities [p. 4.5-8, pp. 4.5-11- 4.5-12]** to respond to a serious CBR derailment event, but as mentioned earlier seems to regard these as inevitable and unlikely to be strengthened significantly enough to reduce CBR risks. The DEIS states “the onus is on the responsible party to respond with appropriate resources” in case of release, but makes little effort to assess the railroad's capabilities to respond in a timely and effective way, and even notes that federal and state authorities are beefing up regulations to demand more robust railroad plans and capabilities obviously currently assessed as inadequate [p. 4.5-8].

## Response T8-209

Final EIS Chapter 4, *Environmental Health and Safety*, has been updated to better reflect existing local and statewide emergency service response capabilities and resources, updated planning requirements, clarifications about the potential impacts of the proposed action on local emergency response providers, and additional mitigation measures to reduce risks. Nonetheless, mitigation would not completely eliminate the possibility of an incident. Depending on the location, amount spilled, type of crude oil, and environmental conditions, such as the time of year, water flows, and weather conditions, environmental impacts could be significant. Section 4.7, *Impacts on Resources*, describes the types of impacts that could occur in the event of an oil spill, fire, or explosion. Refer to the Master Response for Emergency Response and Planning Gaps Evaluation.

## Comment T8-210

- L. The DEIS-proposed mitigations are inadequate, skewed towards emergency response vs. prevention, and make no demand on BNSF for beefing up its capabilities for derailment impacts DEIS considers “unavoidable and significant adverse impacts.”

### Response T8-210

Refer to the Master Response for Geographic Scope of the EIS for an explanation of why Chapter 5, *Extended Rail and Vessel Transport*, addresses potential impacts from rail and vessel transport in the extended study area qualitatively.

## Comment T8-211

### M. Rail Haul Safety Issues

The DEIS mitigations show reliance on:

- Voluntary Improvements based on future federal regulatory compliance and future implementation of prevention-oriented measures from DOT's HHFT regulations.
- Four pages of mandatory future measures [5-51ff] - all emergency response-oriented- by applicant and shippers and SP&P railroad. Carrier must submit ER plan with several types of information and must act to improve ER capabilities.

**This is certainly a long list of apparently needed safety improvements**, perhaps unsurprising for an area that reportedly does not have a single hazmat team along the PS&P routes.

**But in order to offer a way to estimate future desired reductions in risk, the DEIS should have assessed the existing baseline status** of these human health and safety and environmental risks and capabilities along the covered rail lines. And the DEIS should have included both railroads' current baseline information on not only on CBR accident worst case scenarios, but also on railroads' [admittedly inadequate] insurance coverage, emergency response plans, and CBR risk-reduction routing criteria, routing analyses and routing decisions.

### Response T8-211

Draft EIS Chapter 4, *Environmental Health and Safety*, acknowledges that existing risks within the study area do not include those associated with crude oil handling, storage, or transport. Therefore, potential impacts associated with risks of exposure to crude oil, such as could occur from a spill, fire, or explosion are described in Section 4.7, *Impacts on Resources*,

Final EIS Chapter 4 has been updated to reflect consideration of evolving state and federal legislation aimed at improving the safety of crude oil by rail and additional measures have been recommended consistent with the framework identified in the Master Response for Mitigation Framework.

## Comment T8-212

Ample academic work by Glickman and other experts has underscored the significant risk-reduction benefits of protective hazmat rail routing, and such work was cited favorably by US DOT regulators as recently as in their 2014 Draft Regulatory Impact Analysis. But the DEIS accepts the BNSF state-

wide routing decisions without any examination of safety implications and with no comparison of potential alternative BNSF routing decisions. *[Footnote: Explosion Response PHMSA provides guidance for a fire or explosion from a train carrying crude oil (Pipeline and Hazardous Materials Safety Administration 2014), which states that, "in the event of an incident that may involve the release of thousands of gallons of product and ignition of tank cars of crude oil in a unit train, most emergency response organizations will not have the available resources, capabilities, or trained personnel to safely and effectively extinguish a fire or contain a spill of this magnitude (e.g., sufficient firefighting foam concentrate, appliances, equipment, water supplies). Response to unit train derailments of crude oil will require specialized outside resources that may not arrive at the scene for hours; therefore it is critical that responders coordinate their activities with the involved railroad and initiate requests for specialized resources as soon as possible. " As with oil spills, first responders from the local jurisdictions or the railroad emergency response team would provide an initial investigation. The first responders are expected to enact defensive operations until appropriate and adequate resources are on scene. The on-scene coordinator would contact the company responsible for the product for technical support related to an emergency with the oil or chemical (49 CFR 172.604). Rail carriers provide emergency response resources. These may include air monitoring and environment management capabilities, technical specialists, and contractors to assist in managing the consequences of a crude oil train derailment (49 CFR 130.31). Final rules updating the requirements are pending. Capabilities at the local level differ between fire departments. The local fire departments along the PS&P rail line do not have technical hazardous material teams. Air monitoring capabilities vary based on the equipment and personnel trained. Supporting resources may be available from surrounding jurisdictions. Under Revised Code of Washington (RCW) 43.43.961, the Fire Service Resource Mobilization Plan provides personnel, equipment, and other logistical resources from around the state when a fire or other emergency, like a hazardous material release, exceeds the firefighting and hazardous material capacity of local jurisdictions (Washington State Patrol Office of the State Fire Marshal 2014:5). State agencies that share responsibility as primary agencies for a hazardous material response are Ecology and the Washington State Patrol (Washington State Emergency Management Division 2011). If a fire or hazardous material response incident escalates beyond the limits of state resources, additional federal assets can be requested for an incident. Typical emergency actions for responding to a crude oil train derailment resulting in an explosion or fire are as described in Section 4.5.2.1, Oil Spills, Oil Spill Response. Similar actions would be taken for all products proposed to be transported. [pp. 4.5-11, 4.5-12.]*

## Response T8-212

Based on the reasons addressed in the Master Response for Geographic Scope of the EIS, the analysis presented in Draft Appendix M, *Risk Assessment Technical Report*, focuses on the PS&P rail line from Centralia to the project site. Refer to the Master Response for Risk Assessment Methods for a discussion of the assumptions, data sources, and methods used in the analysis of risks.

## Comment T8-213

**The DEIS proposed, in short, virtually no new voluntary or mandatory mitigations on the prevention side** of the PS&P and extended BNSF rail haul risks that go beyond whatever the new federal regulations have already mandated [for implementation phased in over some years].

Before the FEIS is provided, **Applicant could insist on**, e.g., various new prevention-oriented risk reductions: slower speeds than fed regulations for Class 2 track, shorter trains, time of day planning, cargo volatility regulations, **risk-reduction routing** *[Footnote: On CBR routing issues the DEIS simply*

*takes a pass and bows to unregulated and unaccountable BNSF transcontinental CBR route planning, not mentioning any concern regarding the potential ineffectiveness of current minimal and toothless railroad-friendly federal regulations on rail hazmat routing [recently extended to cover HHFTs] to protect either vulnerable cities, sensitive environmental areas or tribal resources along potential CBR routes: Crude Oil Unit Bulk Train Routes: BNSF has not specified a route for crude oil unit trains in Washington State. BNSF has stated that routes will be determined based on operational needs and may vary. Most trains enter and leave Washington State over the BNSF corridor between Sandpoint and Spokane. In some cases, a few trains arrive and/or leave on UP routes from Oregon and California. Currently, BNSF directs westbound loaded unit bulk trains, including crude oil, from Spokane to Vancouver, Washington on the Columbia River Gorge route. In Vancouver, the unit trains are switched to the north-south main line and travel north to Puget Sound and beyond. BNSF directs eastbound empty trains on the Stevens Pass and the Columbia River Gorge... [p. 5-17].], beefed-up signaling systems, shorter times for retrofitting railcars, beefed-up bridges and tunnels, etc.*

### **Response T8-213**

Draft EIS Chapter 4, Section 4.2.1, *What framework prevents incidents from happening?* the existing prevention framework consists primarily of operations implemented by the responsible party (facility, rail, or vessel operators) or design features and standards that are regulated by the appropriate government agency. Prevention and emergency response measures require participation and coordination with broader group of stakeholders to be successful. To the extent feasible within the framework described in the Master Response for Mitigation Framework, the Final EIS has been revised to propose mitigation measures aimed at addressing emergency prevention, preparedness, and response planning gaps. Refer to the Master Response for Mitigation Framework for additional information special considerations related to the State's authority to set operations or safety standards on the railroad.

### **Comment T8-214**

Without any analysis, DEIS Appendix M in Section 4.1 dismisses any potential accidents in switching operations, only briefly citing as a rationale the relatively low speeds in those operations. With unit train operations, there will be by design little or no switching along all the routes, but in the case of shipment of smaller quantities of CBR cargoes in manifest trains some switching could occur at various points along the line.

### **Response T8-214**

Draft EIS, Appendix M, *Risk Assessment Technical Report*, acknowledges that accidents could also occur during switching; however, the speeds are typically so low that the chance of a puncture and release is much lower than during transport. If a release were to occur during switching, it would most likely be a relatively slow release from one rail car. Therefore, release scenarios during switching activities are not considered further in this analysis except as otherwise built into the accident rates.

### **Comment T8-215**

Quinault Indian Nation Comments on Westway and Imperium DEISs

EXHIBIT 3

## WESTWAY AND IMPERIUM DEIS INDEPENDENT REVIEW

### Resource Dimensions

Economics I Community Solutions I Land Use I Natural Resources I Regulatory Support Gig Harbor,  
Washington I [www.ecologicaecon.com](http://www.ecologicaecon.com)

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### TABLE OF ACRONYMS

CEQ	Council on Environmental Quality
DEIS	Draft Environmental Impact Statement
DOE	Department of Ecology, Washington State
EO	Executive Order
FOGH	Friends of Grays Harbor
GHRT	Grays Harbor Rail Terminal, LLC
ICF	ICF International
IMPLAN	Impact Analysis for Planning
ITS	Imperium Terminal Services, LLC
NEPA	National Environmental Policy Act
PGH	Port of Grays Harbor
QIN	Quinault Indian Nation
SEPA	Washington State Environmental Policy Act
SOW	Scope of Work
U&A	Usual & Accustomed
WTC	Westway Terminal Company LLC

### PROJECT BACKGROUND AND PURPOSE

The Port of Grays Harbor (PGH), on Washington State's Olympic Peninsula, is a shipping hub that facilitates the transportation of a diverse cargo mix to domestic and international ports. Grays Harbor is also an important ecosystem that supports commercial fishing, tourism, and rich tribal

culture. Two PGH tenants are proposing expansion of their existing storage and transport capabilities and a third is proposing construction of a new storage facility at the port.

Westway Terminal Company LLC (WTC) is proposing expansion of its storage capabilities to accept crude oil from the Bakken Oil Field and the Alberta tar sands. *[Footnote: While all three projects could accommodate a variety of bulk liquids, project proponents state that crude oil would be the predominant liquid.]* The proposed project would add five storage tanks with a total capacity of 42 million gallons of crude oil. A maximum of 806.4 million gallons of crude oil would be unloaded from 458 unit trains, stored, and transferred to 238 large ocean-going tank vessels.

Imperium Terminal Services LLC (ITS) also proposes expanding its existing bulk liquid storage terminal. *[Footnote: Renewable Energy Group, Inc. headquartered in Ames, Iowa acquired substantially all ITS assets in August 2015, including its 100-million gallon biodiesel refinery and terminal operations at the Port of Grays Harbor. Renewable Energy Group Closes Acquisition of Imperium Renewables. Available at <http://www.businesswire.com/news/home/20150819006255/en/Renewable-Energy-Group-Closes-Acquisition-Imperium-Renewables>.]* ITS would add nine storage tanks with a total capacity of 30.2 million gallons of crude oil. A maximum of 1.26 billion gallons would be unloaded from 730 unit trains, stored, and transferred to 400 tank vessels.

Grays Harbor Rail Terminal, LLC (GHRT) is proposing a new bulk liquid storage facility. The new facility would accommodate the receipt of 45,000 barrels per day of crude oil. An average of 365 unit trains would deliver oil. The oil would be loaded onto a maximum of 120 tank vessels per year.

Following completed expansion projects the total throughput for Westway and Imperium would be 2.07 billion gallons of crude oil per year. 1,188 unit trains would be unloaded for transfer to 638 large tank vessels.

## INTRODUCTION

In September 2015 the Quinault Indian Nation (QIN) retained Resource Dimensions of Gig Harbor, Washington to conduct an independent external peer review of Draft Environmental Impact Statements (DEISs) published August 31, 2015 for the proposed WTC and ITS projects at the PGH in Hoquiam, Washington.

The sections of the Westway DEIS reviewed by Resource Dimensions were:

- Section 3.12, Tribal Resources (for reference only)
- Chapter 7, Economics, Social Policy, and Cost-Benefit Analysis
- Appendix O, Economic Impact Analysis
- Appendix P, Census Block Group Data

The sections of the Imperium DEIS reviewed by Resource Dimensions were:

- Section 3.12, Tribal Resources (for reference only)
- Chapter 7, Economics, Social Policy, and Cost-Benefit Analysis
- Appendix O, Economic Impact Analysis
- Appendix P, Census Block Group Data

ICF International (ICF) prepared the DEISs for both project proponents. ECONorthwest, an Oregon-based economics consulting firm, prepared the economic impact analysis incorporated as Appendix O in both DEISs in October 2014. This study was a joint effort by the project proponents.

**PURPOSE OF INDEPENDENT REVIEW**

Generally, the purpose of this independent peer review is to assess the quality and credibility of the DEIS decision documents prepared for the WTC and ITS projects. Specifically, the review addresses the DEISs' accuracy, completeness, consistency, and technical soundness of methods and analyses used to assess economic, social, and cultural impacts. Further, we have addressed environmental impacts to the extent that they have accompanying socio-economic impacts.

In conducting the review of the DEISs the following questions are considered:

5. Are the appropriate methods employed to fully evaluate the extent of economic and social impacts of the proposed projects?
6. Are the reviewed chapters of both DEISs, including the economic impact analysis, internally logical, complete and consistent?
7. Does the analysis of proposed alternatives, in both DEISs, address the impacts of the proposed actions on the local and regional economy specifically for those businesses, fisheries and resulting jobs negatively impacted in the event of a crude oil spill incident?
8. Do the DEISs meet the standard for addressing the potential for project activities to have disproportionately high or adverse human health or environmental effects on minority and/or low-income populations, and Indian tribes in accordance with Executive Order 12898?
9. Do the DEISs adequately address impacts/effects of construction and routine operations on the QIN's utilization of its treaty resources?
10. Do the DEISs appropriately address mitigation measures for potential damage to these treaty resources?

**SUMMARY OF INDEPENDENT REVIEW COMMENTS**

Table 1 provides a summary outline of comments pertinent to findings of the independent DEIS review. Comments are discussed in order following the summary table.

**Table 1. Summary of Independent Review Findings**

Issue #	Summary of Review Comments
	Significance—High
1.	DEISs fail to include a cumulative impact analysis as a component of the economic impact analysis.
2.	Limited scope of economic impact analysis creates a misleading picture of total economic impacts.
3.	Limited usefulness of the cost benefit analysis conducted.
4.	Failure to employ appropriate methods to determine monetary or quantitative estimates for certain impacts.

5. No attempt to quantify economic impacts or negative externalities of an oil spill.
  6. DEISs fail to adequately address impacts of proposed projects on the QIN's use of treaty resources.
  7. Numerous inconsistencies, omissions and errors occur throughout both DEIS documents.
  8. Limited usefulness of discussion of climate change.
  9. Delineation of area with social impacts does not include mention of any Indian tribes present in the area affected by the proposed projects.
  10. It is unclear if the proposed mitigation plan will compensate for impacts on environmental resources and/or treaty reserved rights to such resources.
  11. The feasibility of the mitigation required to compensate for the impacts on fisheries resources is not demonstrated.
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Significance—Medium

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12. The cumulative impacts analysis does not consider the value of ecosystem services that have diminished over time.
  13. No attempt at quantifying social impacts was made in either DEIS.
  14. There are flaws in the reasoning and methods used to analyze impacts to low income and/or minority populations.
  15. The cost-benefit analysis is limited to the city of Hoquiam; the city of Aberdeen has similar requirements for cost-benefit analysis in their city code.
  16. Impacts to recreation are understated and no attempt to quantify economic impacts is made.
  17. There is contradiction between the economic impact analysis and Sections 7.1.4.2 of both DEISs.
  18. The cost-benefit analyses presented in the DEISs are of very limited utility for policymaking.
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## **FINDINGS**

### **ANALYTICAL METHODS AND APPROACH**

#### **GENERAL COMMENTS**

Review of pertinent sections (Economics, Social Policy and Cost-Benefit Analysis) of WTC and ITS DEIS documents reveals the use of identical analytical methods to evaluate the extent of economic and social impacts of the proposed projects.

Sections 7.1, Economics, of both DEISs present information reported in Appendix O, Economic Impact Analysis. The analytical approach used to conduct the economic impact analysis by the project proponents' consultant (ECONorthwest) is regional economic analysis, carried out using the Impact Analysis for Planning Model (IMPLAN). IMPLAN is commonly used to estimate economic

impacts of a proposed project, event, or a natural or environmental change, or to calculate economic contributions of specific industries. The analytical method and the usefulness and limitations of IMPLAN are reasonably presented. **We find that regional economic impact analysis using the IMPLAN modeling system is a suitable approach to evaluating the extent of economic impacts of the proposed actions.**

Independent review findings are presented below, in the order outlined in Table 1.

## REVIEW FINDINGS

### Insufficiencies

1. **Failure to include a cumulative impact analysis.** Applicants fail to include a cumulative impact analysis as a component of the economic impact analysis. WAC 197-11-792(2)(c)(iii) states that impacts of the proposed actions may also be cumulative. Further, the Washington State Department of Ecology's (DOE's) Frequently Asked Questions about SEPA page states: "The EIS should look at how the impacts of the proposal will contribute toward the total impact of development in the region over time." [Footnote: DOE. *Frequently Asked Questions about SEPA*. Accessed September 30, 2015. Available at: <http://www.ecy.wa.gov/programs/sea/sepa/faq.htm>.] We contend that revenue losses due to rail traffic and vessel traffic attributable to both projects should be considered cumulatively as well as individually.

### Response T8-215

Responses to the summary points (1 through 18) are addressed in the responses to comments in the body of this letter.

Refer to the Master Response for Economics, Social Policy, and Cost-Benefit Analyses for information about the scope of the analysis in Chapter 7, *Economics, Social Policy, and Cost-Benefit Analysis*.

### Comment T8-216

2. **Limited scope of economic impact analysis.** Section 7.1, Economics, includes only positive economic benefits of proposed actions, such as tax revenues and jobs created. This creates a misleading picture of total economic impacts.

### Response T8-216

Draft EIS, Section 7.1, *Economics*, provides the regional economic context for the proposed action and identifies the employment, income, and economic output. Draft EIS Section 7.3, *Cost-Benefit Analysis*, provides an analysis of the costs and benefits of the proposed action, relevant to the City of Hoquiam. Because the potential impacts of an incident would vary based on the material spilled, weather, water flows, location and other factors, Draft EIS Chapter 7, Section 7.3.4.2, *Potential Costs Related to Environmental Health and Safety Concerns*, describes the range of associated costs that could be expected in general terms. Final EIS Section 7.3.4.2 has been updated to provide additional information about economic and social costs of oil spills.

Refer to the Master Response for Economics, Social Policy, and Cost-Benefit Analyses for additional information about the scope of the analysis in Chapter 7, *Economics, Social Policy, and Cost-Benefit Analysis*.

## Comment T8-217

There are other economic impacts, discussed below, that should be examined to give decision-makers an accurate understanding of potential impacts of the WTC and ITS projects on local economies.

WAC 197-11-440(6)(a) states that the affected environment, significant impacts, and mitigation measures section of an EIS shall “analyze significant impacts of alternatives including the proposed action.”

Other adverse impacts identified by applicants have economic consequences:

- Vessel interruptions to treaty and commercial fishers (WTC pg. 3.12-20; ITS pg. 3.12-19),

## Response T8-217

Refer to the Master Response for Economics, Social Policy, and Cost-Benefit Analyses for information about the scope of the analysis in Chapter 7, *Economics, Social Policy, and Cost-Benefit Analysis*.

## Comment T8-218

- Delays and compromised access to the Olympic Gateway Plaza (WTC pg. 3.15-27; ITS pg. 3.15-27),
- Presence of ecosystem services that could be damaged by rail and vessel traffic (WTC pg. 3.3-16; ITS pg. 3.3-16),

## Response T8-218

Refer to the Master Response for Economics, Social Policy, and Cost-Benefit Analyses for information about the scope of the analysis in Chapter 7, *Economics, Social Policy, and Cost-Benefit Analysis*.

## Comment T8-219

- Additional training and equipment for first responders (WTC pg. 4.2-8; ITS pg. 4.2-8), and

## Response T8-219

Draft EIS Chapter 7, Section 7.3.4.2, *Potential Costs Related to Environmental Health and Safety Concerns*, discusses costs for training or equipment needed to better prepare local responders to handle the increased risk of oil spills or hazardous material releases.

## Comment T8-220

- Disrupted recreation activities (WTC pg. 3.10-15; ITS pg. 10-15).

Related to rail and vessel operations, both DEIS documents state that vehicle traffic and safety with regard to access into the Olympic Gateway Plaza and the industrial area near the project sites would substantially worsen, and that the “adverse impacts would likely remain unavoidable and significant” (pages 7-22).

In the subsequent Vessel section, both DEISs state, “increased vessel traffic would disrupt commercial fishing and tribal fishing that occurs along the navigation channel. Transiting vessels related to the proposed action would limit the timing, duration, and physical area that could be fished. Proposed mitigation providing advance notice of incoming vessels related to the proposed action could help reduce potential conflicts, but would still likely result in some disturbances.”

While each applicant DEIS identifies such adverse impacts relative to proposed actions, neither addresses the impacts on the local and regional economy, let alone specifically for those businesses, fisheries and resulting jobs positively or negatively impacted in the event of an oil spill.

The economic contributions of commercial fishing, tribal and non-tribal, on the region's economy cannot be understated. We summarize below from recently completed studies.

### **Response T8-220**

Refer to the Master Response for Economics, Social Policy, and Cost-Benefit Analyses for information about the scope of the analysis in Chapter 7, *Economics, Social Policy, and Cost-Benefit Analysis*.

### **Comment T8-221**

#### **Commercial Fishing**

The QIN has registered many concerns about how the proposed action could interfere with treaty fishing activities. The DEISs discuss some of these impacts (see ITS and WTC Section 3.12.5), but do not consider possible economic impacts. Quinault treaty fishing activities represent not only subsistence and cultural values, but an important revenue source for tribal commercial fishers. Quinault fishing activities have the following economic impacts (direct, indirect, and induced) on the Grays Harbor County economy:

- 355.5 jobs,
- \$12.3 million in personal income,
- \$28.8 million in business revenue, and
- \$9.67 million in local purchases. [Footnote: *Resource Dimensions. 2015. Economic Impacts of Crude Oil Transport on the Quinault Indian Nation and the Local Economy. Available at <http://earthjustice.org/sites/default/files/files/Letter%20Maia%20Bellon%20at%20Ecology%20re%20Economic%20Report%20Attachment.pdf>.]*

Resource Dimensions estimates that at the low end of the scale (minor disruptions in business activities), rail and vessel traffic could cost tribal members 5% of their annual income due to rail delays and 2.9% of their income from disrupted fishing activities.

Non-treaty commercial fishing and aquaculture activities in the county have additional economic impacts (direct, indirect, and induced) on Grays Harbor County's economy:

- 1,099.6 jobs,
- \$37 million in personal income,

- \$81.5 million in business revenue,
- \$37.2 million in local purchases, and
- \$4.2 million in tax revenue. *[Footnote: Resource Dimensions. 2015. Economic Impacts of Crude Oil Transport on the Grays Harbor Economy. Available at [http://www.fogh.org/pdf/FOGH\\_Economic\\_Impacts\\_Crude\\_Oil\\_Transport.pdf](http://www.fogh.org/pdf/FOGH_Economic_Impacts_Crude_Oil_Transport.pdf).]*

The magnitude of these business activities indicates that economic damages from fisheries disruptions could be substantial. **Additional study is warranted. Analysis of alternatives does not capture potential impacts on the local and regional economy.**

As the applicants state that significant adverse impacts to businesses in Aberdeen and Hoquiam would occur as a result of rail operations, and adverse impacts to commercial and tribal fishers would occur as a result of vessel operations, **Resource Dimensions contends that the applicants have failed to quantify potential revenue losses resulting from the proposed actions. Further, the applicants have failed to fulfill the standard of Hoquiam Municipal Code 11.10.160 to quantify economic impacts.** *[Footnote: Hoquiam City Code. Chapter 11.10 State Environmental Policy Act. Article IV. Environmental Impact Statement (EIS) §11.10.160 Additional elements to be covered in an EIS. "The following additional elements are part of the environment for the purpose of EIS content, but do not add to the criteria for threshold determinations or perform any other function or purpose under this chapter: (1) Economy; (2) Social policy analysis; (3) Cost-benefit analysis. (Ord. 84-23 § 2, 1984)." Current as of Ordinance 14-20, Nov.17, 2014. Available at: <http://cityofhoquiam.com/code/Hoquiam11/Hoquiam1110.html#11.10.160>.]*

## Response T8-221

Refer to the Master Response for Economics, Social Policy, and Cost-Benefit Analyses for information about the scope of the analysis in Chapter 7, *Economics, Social Policy, and Cost-Benefit Analysis*.

## Comment T8-222

### Disrupted Business Activities

The DEISs mention in several places that access to the Olympic Gateway Plaza will suffer because of increased rail traffic and associated delays and blockages at crossings in the area. The narrative of Section 3.15 says that crossings to the Olympic Gateway Plaza (without re-routing) would be blocked by about an hour more every day. The feasibility of re-routing is not studied in the DEIS (it is suggested that crossings at the east end of the plaza would be blocked for less time than west end crossings, but analysis of total time lost- some blocked crossing time plus re-route time - is not included).

Using reported numbers (Table 3.15-11), access to the Olympic Gateway Plaza would be blocked by up to 16.1 hours every week. Olympic Gateway Plaza businesses could lose revenue as customers substitute other businesses to avoid delays. Additional losses could be accrued if merchandise delivery is disrupted. A report by the National Cooperative Highway Research Program classifies costs of rail crossing delays (due to accidents) and outlines methods for calculating supply chain and business disruption losses. *[Footnote: National Cooperative Highway Research Program. 2013.*

*Comprehensive Costs of Highway-Rail Grade Crossing Crashes. Available at [http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp\\_rpt\\_755.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_755.pdf)]*

## **Response T8-222**

Refer to the Master Response for Economics, Social Policy, and Cost-Benefit Analyses for information about the scope of the analysis in Chapter 7, *Economics, Social Policy, and Cost-Benefit Analysis*.

## **Comment T8-223**

### **Lost Ecosystem Services**

Chapter 3 provides information on possible environmental damage from the proposed actions. Chapter 7, however, does not estimate possible economic consequences of environmental damage. Substantial costs may be associated with the restoration of or loss of ecosystem services.

The project proponents made no attempt to quantify non-market values for ecosystem services in the economic impact analysis or in the cost-benefit analysis. They should have looked at degraded values of ecosystem services, from the individual projects and from the cumulative impacts of projects.

Another useful analysis the project proponents could have conducted was an ecosystem service valuation. Resource Dimensions conducted an ecosystem service valuation for the Friends of Grays Harbor (FOGH) that evaluated the loss of value provided by lost or damaged ecosystem services in the PGH area due to an oil spill. Such an analysis could inform area residents about how much they might need to pay to replace lost or damaged services provided by nature.

## **Response T8-223**

Refer to the Master Response for Economics, Social Policy, and Cost-Benefit Analyses for information about the scope of the analysis in Chapter 7, *Economics, Social Policy, and Cost-Benefit Analysis*.

## **Comment T8-224**

### **Specialized Training and Equipment for First Responders**

Grays Harbor County first responders require additional training to safely respond to a rail or vessel accident involving crude oil. According to a recent article, several major cities, including Sacramento, CA, New Orleans, LA, and Milwaukee, WI, have sent firefighters to specialized crude-by-rail training hosted by the Security and Emergency Response Training Center in Pueblo, CO. [Footnote: Hislop, M. 2015. *Oil trains: How American cities are preparing for 'catastrophic derailment'*. Available at <http://theamericanenergynews.com/energy-news/oil-trains-how-american-cities-are-preparing-for-catastrophicderailment>.] The cost for the Pueblo training course is \$1,550 per person, plus travel expenses. [Footnote: Security and Emergency Response Training Center. 2015. *Crude by rail emergency response*. Available at <http://sertc.org/courses/crude-by-rail-emergency-response-cbr/s/>.] It is unlikely that local fire departments could afford that or similar training (Hoquiam laid off four firefighters in 2014 due to budget shortfalls), creating a dangerous situation for citizens and first responders. [Footnote: Dickson, A. 2014. *Budget woes prompt Hoquiam Fire Department layoffs*.

Available at <http://thedailyworld.com/news/local/budget-woes-prompt-hoquiam-fire-department-layoffs>.] Note, such training does not include additional costs for local, multi-agency crude oil emergency training.

### **Response T8-224**

Costs that may be incurred by the City of Hoquiam for emergency response training are discussed in Final EIS Chapter 7, Section 7.3.4.2, *Potential Costs Related to Environmental Health and Safety*, consistent with the approach discussed in the Master Response for Economics, Social Policy, and Cost-Benefit Analyses.

### **Comment T8-225**

Additionally, specialized equipment is needed to safely respond to crude-by-rail accidents. The DOE Report on Marine and Rail Oil Transportation estimated that \$4.6 million is needed to provide specialized crude-by-rail equipment to Washington fire departments (cost does not include equipment-specific training). [Footnote: DOE. 2015. *2014 Marine and Rail Oil Transportation Study*. Available at <https://fortress.wa.gov/ecy/publications/documents/1508010.pdf>.]

The state spent \$1.45 million (from a grant) to place crude oil emergency equipment caches across the state and train first responders on use. There is a cache located near Grays Harbor. The caches, however, were tailored to 2006 risks, before existing and proposed increases in crude oil transport. The grant did not provide funding for ongoing training and equipment updates. As a result, first responders have stated that they feel unprepared and untrained to safely respond to a crude-by-rail emergency. [Footnote: *Ibid.*]

### **Response T8-225**

Costs that may be incurred by the City of Hoquiam for emergency response training are discussed in Final EIS Chapter 7, Section 7.3.4.2, *Potential Costs Related to Environmental Health and Safety*, consistent with the approach discussed in the Master Response for Economics, Social Policy, and Cost-Benefit Analyses.

### **Comment T8-226**

#### **Disrupted Recreation Activities**

ITS and WTC Sections 3.10, Recreation, state that recreation impacts are possible, but will likely be low. The DEISs provide a limited analysis of recreation impacts; only direct impacts caused by rail and vessel traffic are considered.

Resource Dimensions estimates that tourism and recreation in Grays Harbor County has the following economic impacts:

- 2,651 jobs,
- \$91.1 million in personal income,
- \$245.8 million in business revenue,
- \$106 million in local purchases, and

- \$28 million in state and local taxes. [Footnote: *Resource Dimensions. 2015. Economic Impacts of Crude Oil Transport on the Grays Harbor Economy. Available at [http://www.fogh.org/pdf/FOGH\\_Economic\\_Impacts\\_Crude\\_Oil\\_Transport.pdf](http://www.fogh.org/pdf/FOGH_Economic_Impacts_Crude_Oil_Transport.pdf).]*

Given the importance of recreation-based tourism to the region, impacts to the recreation industry should be thoroughly explored.

### Response T8-226

The Draft EIS Chapter 3, Section 3.10, *Recreation*, analysis of potential impacts on recreation from the construction and routine operation of the proposed action finds the potential for impacts to be low.

The approach to the risk analysis is to consider potential spill scenarios related to the proposed action. As noted in Draft EIS Chapter 4, *Environmental Health and Safety*, this is because a spill could occur at any location and at any time. Because the potential impacts of an incident would vary based on the material spilled, weather, water flows, location and other factors, Draft EIS Chapter 7, Section 7.3.4.2, *Potential Costs Related to Environmental Health and Safety Concerns*, describes the range of associated costs that could be expected in general terms. This includes information on derailments and other accidents involving trains carrying crude oil and information on a crude oil spill during marine transport. Final EIS Section 7.3.4.2 has been updated to provide additional information about economic and social costs of oil spills.

Refer to the Master Response for Economics, Social Policy, and Cost-Benefit Analyses for additional information about the scope of the analysis in Chapter 7, *Economics, Social Policy, and Cost-Benefit Analysis*.

### Comment T8-227

3. **Cost benefit analysis, as conducted, is of limited use.** WAC 197-11-726 states that a “Cost-benefit analysis means a quantified comparison of costs and benefits generally expressed in monetary or numerical terms.” Sections 7.3, Cost-Benefit Analysis, for both projects reported the results of cost-benefit analyses. WAC 197-11-450 states that no cost-benefit analysis is not required by SEPA.... For purposes of complying with SEPA, the weighing of the merits and drawbacks of the various [environmentally different] alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations.” Yet, a cost-benefit analysis has purportedly conducted. As such, the analysis cannot be misleading and must be done adequately to provide a quantified comparison of costs and benefits associated with project alternatives.

A cost-benefit analysis is a common tool used by policymakers to evaluate proposed policies and actions. Cost-benefit analysis is at root an attempt to identify and express, in dollars, all of the effects of proposed policies or projects. For example, a particular project can result in positive impacts, or benefits, for some people, and at the same time negative impacts, or costs, for others. Thus, assessing who are the gainers and losers from a project or changed policy- that is, who bears the costs and who reaps the benefits, and to what extent- is the essence of cost-benefit analysis.

Sections 7.3, Cost-Benefit Analysis, state that the scope of the analysis is limited to potential costs and benefits to the residents of Hoquiam. The proposed projects and their associated operations affect many more populations than only the residents of Hoquiam. While this is the prerogative of the applicants, we contend that the limited scope obviates the usefulness of the discussion in that it

lacks a robust accounting of costs and benefits of either proposed project.

For example, the city of Aberdeen has requirements similar to the city of Hoquiam for analyzing economic and social impacts for projects with significant environmental impacts. *[Footnote: [Footnote 14: City of Aberdeen. 2014. City of Aberdeen, Washington Municipal Code. Available at <http://www.aberdeenwa.gov/government/aberdeen-municipal-code/>.] Costs to Aberdeen from rail traffic will likely be substantial. 17,845 vehicles are predicted at the Port Industrial Road crossing in 2017. Just for WTC, predicted delays increase from 14 minutes to 39 minutes daily, or an additional 152 hours/year (WTC pg. 3.15-17). If only 1% of crossing users are delayed for the full duration of the blocked crossing, residents would accrue \$262,000 to \$439,000 per year in delay costs just at one crossing (using delay values from Section 7.3).*

The DEISs state that It is often not possible to “ascribe a monetary value to all relevant impacts because some impacts are difficult to quantify, and other impacts, even if they can be quantified, are difficult to express in monetary terms.” As the DEIS documents present and discuss impacts that cannot be monetized only on a qualitative basis, and further only consider costs and benefits to Hoquiam residents, we contend that the cost-benefit analyses presented in the DEISs are of very limited utility for policymaking.

With respect to those sections addressing social impacts of both DEISs we find that qualitative social impact analysis is a reasonable evaluative approach in the lack of specific guidance or an industry standard as to how social impacts should be assessed. Yet, it should be noted that no attempt at quantifying social impacts was made in either DEIS.

### **Response T8-227**

Refer to the Master Response Economics, Social Policy, and Cost-Benefit Analyses.

### **Comment T8-228**

4. Failure to employ appropriate methods to provide monetary estimates for certain impacts. The City of Hoquiam Scope of Work (SOW) instructs ICF to do the following:

*“To provide monetary estimates for the impacts of the proposed projects, the Contractor will use a benefit transfer method called value transfer, which involves taking values estimated from other studies, or averages of a range of values from other studies, and adapting them to match the new context to which the values will be applied.” [Footnote: City of Hoquiam. 2014. Scope of Work Westway and Imperium Renewables Expansion Projects EISs. Available at <http://cityofhoquiam.com/wp-content/uploads/2014/06/Westway-and-Imperium-Renewables-Expansion-Projects-EIS-Scope-of-Work.pdf>.]*

While the SOW acknowledges that not all impacts can be monetized and therefore must be discussed qualitatively, the DEISs do not use benefit transfer to monetize any impacts. Some of the reasons given for not monetizing impacts are the very issues that the benefit transfer method is designed to accommodate. For example, page 7-39 of the DEISs include a discussion of possible reductions in property values caused by increased rail traffic. Paragraph 2 lists two difficulties in applying quantitative values from previous studies to the proposed action: 1) distances from rail lines in previous studies are less than in the study area and 2), other studies involve a larger increase in rail

traffic. Benefit transfer methods are designed to statistically account for just such differences. Benefit transfer could also be used to monetize potential costs related to environmental health and safety concerns (Section 7.3.4.2). Numerous studies have monetized damages from crude oil spills.

Even where attempts are made to monetize costs (e.g., Section 7.3.4.1 Potential Costs Related to Increased Vehicle Traffic and Safety, ITS and WTC pg. 7-35), the analysis does not include meaningful summaries or cost totals. For example, the DEISs include values for traffic accidents and time lost in traffic. The analysis, however, does not estimate a range of potential costs based on Hoquiam traffic patterns and populations. Instead, both DEIS documents have the following statement:

*It is not possible to estimate how much commuting time would increase for these residents because it is not possible to know what specific roads would be taken or what share Hoquiam residents would represent of the vehicles on roads affected by delays during commuting times" (ITS and WTC pg. 7-35).*

A thorough traffic analysis to precisely monetize traffic delay or accident costs is indeed outside the scope of the DEISs. A range of possible costs, however, would be more illustrative than the cost per hour of delayed traffic. For example, the cost of 5% of Hoquiam residents delayed by trains for one hour every week (likely a conservative estimate of potential impacts) would be between \$219,000 and \$367,000 annually (using costs from ITS pg. 7-35). If 50% of Hoquiam residents are delayed for one hour every week the cost would be between \$2.2 million and \$3.7 million annually. If 5% of Hoquiam residents are delayed by 15 minutes every day, the annual cost would be between \$384,000 and \$642,000. If 50% of Hoquiam residents were delayed by 15 minutes every day, the annual cost would be between \$3.8 million and \$6.4 million.

These numbers demonstrate the magnitude of possible costs for Hoquiam residents and illustrate that totaled ranges are more meaningful comparisons to total benefits (such as tax revenues and wages) presented in Section 7.3.3 (ITS and WTC pg. 7-31).

The failure to appropriately use benefit transfer methods to quantify certain impacts that can be monetized render the DEISs of little value in providing a clear understanding of the magnitude of possible impacts to area residents or for use in policymaking.

## **Response T8-228**

As noted in the comment, the scope of work indicated that the benefit transfer method would be used when sufficient information was available. However, the ability to successfully conduct benefit transfer is dependent on a number of factors, and care must be taken in conducting benefit transfers to avoid errors and bias in the resulting values. To conduct a meaningful benefit-transfer analysis, the potential impacts must be characterized at a sufficient level of detail and there must be applicable sources of other studies where similar costs were calculated.

In relation to impacts on property values, studies commonly use hedonic pricing methods to estimate the impact of rail lines (and other potential dis-amenities) on property values. Hedonic pricing studies use data on real estate transactions to isolate the value of environmental attributes of properties by comparing prices of comparable properties with and without these amenities. Hedonic pricing studies are very sensitive to the geographic location where the study takes place. Therefore, if studies evaluating costs in similar geographic areas are not readily available, it can be problematic to use them as a source data for benefit transfers. For example, property owners in one

housing market often value housing characteristics in inherently different ways than property owners in other markets. This sensitivity of hedonic pricing functions to the particular real estate market for which they were estimated greatly complicates the process of using hedonic pricing studies as source data for benefit transfers. Due to the potential for errors from conducting benefit transfers using hedonic pricing studies, the analysis instead presents information on the range of potential impacts on property values from rail lines based on a review of other studies.

In regard to the use of benefit transfer to monetize other health and safety concerns, as noted previously, the approach (refer to Master Response for Environmental Health and Safety Analysis) used in the analysis of risks of spills, fires, and explosions evaluated the potential impacts of different spill scenarios. It is challenging to use benefit transfer in this case because the potential health and safety impacts of the proposed project vary greatly depending on the specific circumstances of each incident. In the absence of being able to use benefit transfer to monetize the specific project impacts, the Final EIS includes information on impacts that have resulted from previous spills involving rail cars and spills in marine environments as presented in Chapter 7, Section 7.3.4.2.

In response to the suggestion that ranges should be given for potential costs of traffic delays, the analysis does provide a range for the total potential costs of traffic delays. These are based on the uncertainties around the traffic delays that would result from the proposed action (as discussed in Section 3.16, *Vehicle Traffic and Safety*) and the uncertainties around the traffic delays that would be experienced by residents of the City of Hoquiam. This distinction is important because of the bounds drawn around the cost-benefit analysis by the SEPA policies of the City of Hoquiam.

For additional information about the requirement for, scope of, and analysis of costs, refer to Master Response for the Economics, Social Policy, and Cost-Benefit Analyses.

## Comment T8-229

5. Economic impact analysis does not quantify the economic impacts or include quantification of negative externalities associated with a potential oil spill. The risks of hazardous materials releases to the environment from rail, vessel, or onsite operations attributable to the proposed projects are discussed in Chapter 4 of both DEISs. Crude oil spills are one type of hazardous material release that may have significant adverse effects on the environment. Yet, neither DEIS addresses the economic impacts for those businesses, fisheries and resulting jobs impacted positively or negatively in the event of an oil spill. As with previous comments, we find that the failure to address the economic impacts associated with a potential oil spill provides an incomplete picture of possible economic impacts, which prove the DEISs flawed and of little value in policymaking.

Resource Dimensions quantified potential economic impacts from an oil spill attributable to rail and vessel operations of the proposed projects in separate reports for the QIN [*Footnote: Ibid. P. 8*] and FOGH [*Footnote: Ibid. P. 8*]

Treaty fisheries-based activities (fishing, processing, and fisheries management) would suffer the following losses:

- 105.6 to 151.7 jobs,
- \$12.9 to \$17.1 million in personal income,
- \$24.2 to \$40.7 million in business revenue, and

- \$8.1 to \$12.6 million in local purchases.

Additional losses would affect non-treaty commercial fishers:

- 366.6 to 494.6 jobs,
- \$42.8 to \$56.3 million in personal income,
- \$83.8 to \$112.9 million in business revenue,
- \$42.3 to 54.8 million in local purchases, and
- \$4.4 to \$6 million in tax revenue.

Tribal businesses would lose the following:

- 12.5 to 77.7 jobs,
- \$1.9 to \$11.1 million in personal income,
- \$4.8 to \$29.8 million in business revenue, and
- \$2.3 to \$10.9 million in local purchases.

County businesses serving tourists and recreationists would lose an additional:

- 480.2 to 616.8 jobs,
- \$55.8 to \$72.2 million in personal income,
- \$151.2 to \$196 million in business revenue,
- \$63.9 to \$83.6 million in local purchases, and
- \$16.5 to \$21.8 million in tax revenue.

The DEISs analyze train, tank, and vessel spill risk for minor to major spills. Stated spill risk (for ITS) ranges from once every 5 years (a small vessel loading spill) to once every 6,300 years (a large rail spill). However, stated oil spill risk is inconsistent throughout the documents. Some places state that spill risk will increase (e.g., ITS pg. 5-28, pg. 7-27, and throughout Chapter 4), in other places the DEISs state that the risk of a large oil spill is low, and many other places state that the risk of any oil spill is low (e.g., ITS pgs. 3.5-23, 4.5-16, 6-64, 7-14, 7-23, 7-27, and 7-28).

The statement that the risk of an oil spill is low is contradicted by the graphs in Chapter 4. The following spill scenarios have graph indicators in the likely range:

- Small spill during rail unloading,
- Small vessel loading spill,
- Medium vessel loading spill,
- Small to medium spill during rail transport,
- Large spill from vessel collision, and
- Large spill from vessel allision at the mouth of Grays Harbor.

All of the spills listed above, except a small spill during rail unloading and small to medium spills during rail transport, are likely to reach water.

The stated oil spill risk for large incidents, such as spills from a vessel that would have high environmental and economic damages (such as those listed above), is low (while the graphs show otherwise). The study fails to enumerate, however, that while the risk may be low (if one considers once every 74 years low), the risk is substantially increased under the proposed action. The risk of a large spill from a vessel collision goes from once every 2,100 years to once every 74 years. That means that the risk of a large spill is almost 30 times more likely under the proposed action. The risk of a large spill from vessel grounding goes from once every 7,900 years to once every 270 (although there seems to be an error in the risk bullets on ITS pg. 4.6-5). The risk of a vessel-grounding spill is also almost 30 times more likely.

The risk analysis also fails to acknowledge the cumulative increase in the risk of a large crude oil spill in the study area - a combined risk from the presence of crude oil being transported by rail, stored, and loaded onto vessels. The risk of a spill in any one of those three places would be higher than any individually stated risk.

As an oil spill is a potentially significant impact of the proposed actions of both applicants, we find that the applicants have not fulfilled the standard of WAC 197-11-440(6)(c)(ii).

### **Response T8-229**

As noted previously, the risks are not combined for the reasons discussed in the Master Response for Environmental Health and Safety. For the reasons discussed in the Master Response for Risk Assessment Methods, the figures depicting risks presented in Draft EIS Chapter 4, *Environmental Health and Safety*, have been removed from the Final EIS.

As noted previously, the approach to the risk analysis is to consider potential spill scenarios related to the proposed action. As noted in Draft EIS Chapter 4, *Environmental Health and Safety*, this is because a spill could occur at any location and at any time. Because the potential impacts of an incident would vary based on the material spilled, weather, water flows, location and other factors, Draft EIS Chapter 7, Section 7.3.4.2, *Potential Costs Related to Environmental Health and Safety Concerns*, describes the range of associated costs that could be expected in general terms. Final EIS Section 7.3.4.2 has been updated to provide additional information about economic and social costs of oil spills.

Refer to the Master Response for Economics, Social Policy, and Cost-Benefit Analyses for additional information about the scope of the analysis in Chapter 7, *Economics, Social Policy, and Cost-Benefit Analysis*.

### **Comment T8-230**

- 6. The DEISs fail to adequately address impacts of proposed projects on the QIN's use of treaty resources.** Sections 7.2, Social Policy, of both DEISs have been prepared in accordance with Hoquiam Municipal Code §11.10.160, to describe the principal features of the environment that would be affected by the alternatives, including the proposals under consideration, and to describe and discuss significant impacts that will narrow the range or degree of beneficial uses of the environment. [Footnote: *Ibid.* P. 9.] Review of Sections 7.2 focused on determining whether the applicants fulfilled these regulatory obligations with respect to assessing the impacts or adverse effects of construction and routine operations on the QIN's use of its treaty resources.

**We find that neither applicant identified impacts or adverse effects relative to construction of the proposed projects on the QIN's treaty resources.**

WTC and ITS both identify that onsite operations would “reduce access to fishing areas immediately adjacent to the dock as result of increased frequency of vessels docked at the Terminal1 berth.” These fishing areas are known to be used by QIN treaty commercial fishers.

**However, both DEISs fail to state that increased rail traffic associated with the proposed operations could interrupt or delay QIN access to fishing areas located east of the mouth of the Chehalis River.** These fishing areas are known to the applicants and are described in Sections 3.12.4.3. The potential for economic losses to QIN treaty commercial fishers resulting from interrupted or delays access to fishing areas or fish buyers is described in Resource Dimensions (2015). [Footnote: *Ibid.* P. 8.]

Both DEISs state that “increased vessel traffic would disrupt commercial fishing and tribal fishing that occurs along the navigation channel. Transiting vessels related to the proposed action would limit the timing, duration, and physical area that could be fished. Proposed mitigation providing advance notice of incoming vessels related to the proposed action could help reduce potential conflicts, but would still likely result in some disturbances” (ITS and WTC pg. 7-22).

We find this to be a reasonable statement; however, as described previously **contend that the applicants should have made an effort to quantify the economic losses anticipated as a result of these disruptions.**

Both DEISs state that if because of onsite operations “. . . crude oil entered the environment, environmental degradation could occur that could adversely affect humans and the natural environment” (ITS and WTC pg. 7-23). Further, they state, “no mitigation measures would eliminate the possibility of a large spill or explosion, nor would they eliminate the adverse consequences of a large spill or explosion. Additionally, the perception of increased risks and concerns over the potential for environmental damage may also cause some individuals concern they would otherwise not have related to these risks.”

We contend that these statements are reasonable; however they are blanket statements that do not address impacts or effects of the abilities of QIN members to utilize their treaty resources. **Nor have the applicants quantified the potential economic losses to QIN fishers that could result from these events.**

Regarding rail operations, both DEISs state that, “depending on the location of the [oil spill] incident and the specifics of the outcome....such an event could result in extensive environmental damage” (ITS and WTC pg. 7-24). Further they state, “no mitigation measures would eliminate the possibly of a large spill, fire, or explosion, nor would they eliminate the adverse consequences of a large spill, fire, or explosion.”

As with the discussion of onsite operations, **the applicants do not quantify the potential economic losses to QIN fishers that could result from a large spill, fire or explosion due to rail operations.**

With regard to vessel operations, both DEISs state, “increased tank vessel traffic along the navigation channel under the proposed action would result in some conflict with commercial fishing, tribal fishing and recreational vessels” (ITS and WTC pg. 7-25). **Note that the applicants do not quantify the potential economic losses to QIN fishers that could result from these conflicts.**

Further, both DEISs state, “Increased vessel traffic related to the proposed action could also affect local communities as the result of increased risks of incidents (i.e. vessel collision) and associated spill compared to the no-action alternative....Depending on the location of the incident and specifics of the outcome. . . . such an event could result in extensive environmental damage” (ITS and WTC pg. 7-25). The DEISs again note that, “no mitigation measures would eliminate the possibility of a large spill, fire or explosion.”

**The applicants do not quantify the potential economic losses to Treaty commercial and subsistence fishers or grass gatherers and weavers that could result from a large spill, fire or explosion resulting from increased vessel traffic.**

In the Minority and Low-Income Populations subsection, the applicants acknowledge that “any event that might adversely affect fisheries or natural resources within [Grays Harbor] would cause impacts on tribal resources; namely the Quinault Indian Nation's Usual & Accustomed Fishing Rights and the Chehalis Tribe recreational shellfish area” (ITS and WTC pg. 7-26). However, such impacts are not described in detail in the context of areas proximate to onsite operations. As previously stated it is known that QIN fishers frequently fish the waters near Terminal!.

With respect to the effects of rail operations on minority and low-income populations and Indian tribes, both DEISs state that depending on the location of a release of hazardous materials into the environment, there is the potential for minority and low-income populations to be adversely affected. **However, specific impacts to QIN members or treaty resources are not described.** Further, the specific census block groups that may be affected are not identified.

Finally, with respect to the effects of vessel operations on minority and low-income populations and Indian tribes, both DEISs state that there is “potential for conflicts with tribal access to usual and accustomed fishing areas....The potential adverse impacts on tribal resources related to access to usual and accustomed fishing areas, would be unavoidable and significant” (ITS and WTC pg. 7- 27).

In the case of vessel collisions or the release of hazardous materials, the DEISs note that significant environmental impacts could occur, and that “depending on the specific location of the event, there is the potential for low-income populations to be disproportionately affected” (ITS and WTC pg. 7- 27). However, as noted previously, **the applicants do not quantify the potential economic losses to QIN fishers or weavers that could result from a large spill, fire or explosion resulting from increased vessel traffic or hazardous materials releases into the environment.** Further, the specific census block groups of low-income populations that may be affected from these events are not identified.

## **Response T8-230**

Refer to Response to Comment T8-29 regarding determination of impacts on treaty rights. Draft EIS Chapter 3, Section 3.16, *Vehicle Traffic*, indicates increased vehicle delay along the PS&P rail line is

generally minimal and that alternative means of access exist for the majority of areas along the rail line.

For information about the purpose and analysis of economic impacts, refer to the Master Response for the Economics, Social Policy, and Cost-Benefit Analyses.

## Comment T8-231

### INCOMPLETE, INCONSISTENT LOGIC, ERRORS AND OMISSIONS

7. Numerous inconsistencies, omissions and errors occur throughout both DEIS documents. Listed below, by DEIS section and subsections, are those identified through our independent review.
  - a) **Section 7.1, Economics.** Sections 7.1.3 of both DEISs, What are the economic conditions in the study area?, describe the regional economic conditions that could be affected by construction and routine operation of the proposed projects. Other useful topics omitted are historic and projected populations of the study area, as population growth is discussed in Section 7.2; business patterns of Grays Harbor County, an element of economic impact modeling; and recent and projected job growth in Grays Harbor County, which is also an element of economic impact modeling.

### Response T8-231

Refer to the Master Response for the Economics, Social Policy, and Cost-Benefit Analyses.

## Comment T8-232

In Section 7.12 of both DEIS documents, the title of Appendix 0 is incorrectly given as *Census Block Group Data*, when it should be *Economic Impact Analysis*.

### Response T8-232

The Final EIS has been updated to correct the reference to the *Economic Impact Analysis*.

## Comment T8-233

In Table 7.2 of both DEISs, it is unclear if the dollar values have been normalized to one year, or if they are reported for each year without adjusting for inflation. This is also true for the dollar values presented in Table 7.4. If the dollars values in Table 7.4 have not been normalized to one year, the 'Percent Change 2004-2012' percentages are incorrect.

### Response T8-233

Final EIS Table 7.2 has been revised to reflect that annual per capita personal income for years 2003 to 2012 is reported in current dollars and not adjusted for inflation.

## Comment T8-234

Sections 7.12 of both DEISs state . . .the ratio of the total effect to the direct effect is called a multiplier.... Further in Table 7.5 of the WTC DEIS, note (a) mentions "The employment multiplier (ratio of the total effect to the direct effect). . ." This explanation of multiplier analysis is contrary to that presented on page 35 of Appendix 0, where the discussion of multiplier estimation is

appropriate. We assume that the correct application is used in the economic impact analysis. However, this inconsistency suggests that the presentation of multipliers in Tables 7-5 of both DEISs and discussion of multiplier analysis is inaccurate.

### **Response T8-234**

Appendix O, *Economic Impact Analysis*, considers a variety of economic multipliers consistent with the employment multiplier as a representation of the number of jobs affected due to a change in the base industry, as discussed in Draft EIS Chapter 7, Section 7.1.2, *How were impacts on economic conditions evaluated?* Both definitions of a multiplier effect are correct and appropriate, and the multiplier effects are correctly analyzed in the study.

### **Comment T8-235**

Table 7-6 of the ITS DEIS should report \$3,274,100.

### **Response T8-235**

Comments specific to the REG (formerly Imperium Terminal Services) Expansion Project Draft EIS would be addressed in responses to comments in the Final EIS for that project.

### **Comment T8-236**

The economic impacts from construction are discussed in Section 7.1.4.2 of both DEISs. However, only Phase 1 economic impacts are presented for each proposed project. Phase 2 economic impacts associated with proposed project construction should also be presented. The only mention that Phase 2 economic Impacts were estimated is found in the last sentence of the 'Construction' subsection. For example, the bottom of page 7-6 in the WTC DEIS states: *"As mentioned above, construction of Phase 2 is estimated to cost an additional \$20.4 million. The economic impacts associated with Phase 2 construction would be similar to but slightly less than described far Phase 1."*

Page 7-7, paragraph three of the ITS DEIS states: *"One-third of this spending (\$4.5 million) would be attributed to the applicant, and the remaining two-thirds (\$8.0 million) would be attributed to the rail and vessel transport operators."* These two figures sum to only \$12.5 million, not \$18.4 million as suggested in the preceding sentence.

### **Response T8-236**

As indicated in Draft EIS Chapter 7, Section 7.1.4.2, *Proposed Action*, the economic impacts associated with Phase 2 construction would be similar to but slightly less than described for Phase 1. Further elaboration in the Draft EIS is not required. Full Phase 2 economic impacts are available in Appendix O, *Economic Impact Analysis*.

### **Comment T8-237**

Page 7-7, paragraph four of both DEISs state: *"Essentially, all business taxes and net business income related to onsite operations and income earned by rail and vessel operators would leave Grays Harbor County and would not result in regional employment or income."* This statement is in conflict with the presentation in Appendix O, *Economic Impact Analysis*, where it is reported that business taxes and much of the net business income related to onsite operations would not leave Grays Harbor County.

For example, the 'Geography' subsection of Appendix O (page 9) states: *“Operating supplies, such as utilities and maintenance services, are most likely going to be locally sourced. The same is true for labor because a terminal offers long-term employment. Workers overwhelmingly will reside close by.”*

### **Response T8-237**

Draft EIS, Chapter 7, Section 7.1.3, *What are the economic conditions in the study area?* and Appendix O, *Economic Impact Analysis*, discuss regional economic conditions as well as historic and projected population, business patterns, and job growth in Grays Harbor County. Table 7-6 reports estimated tax revenues from Phase 1 construction in 2013 dollars, consisting of property tax, sales tax, and business and occupation tax. Property, sales, and business and occupation tax total to \$2,655,700 and are consistent with results presented in Appendix O. Revenues are approximated in the IMPLAN model using data provided at the time of analysis and may change as the proposed action evolves. Appendix O also contains information about the geographic distribution of proposed action benefits as discussed in Chapter 7, *Economics, Social Policy, and Cost-Benefit Analysis*. Benefits to rail and vessel operations are likely to accrue outside of Grays Harbor County, although some employment and associated income and tax revenue is likely to remain in the community directly surrounding the project site. The economic impact analysis is unable to predict the precise number of jobs that will go to local residents but does expect some level of employment and income gains in the region at full buildout.

### **Comment T8-238**

- b) **Sections 7.2, Social Policy.** Section 7.2.2.2, *Impact Analysis* (pages 7-9 of both DEISs) defines four social policy elements included in the evaluation of impacts of the proposed actions on the natural and built environments. The definition of the 'community welfare' element explains *“the evaluation of impacts on community welfare considered how impacts of the proposed action described in Chapter 3 could affect human health and welfare. However, economic welfare, an important and significant component of both human and community welfare was not considered in the social impact analyses.”* We contend that the omission of economic welfare precludes conducting accurate analyses of the *“significant impacts of alternatives including the proposed action”* as set forth in WAC 197-11-440(6)(a).

### **Response T8-238**

Refer to the Master Response for the Economics, Social Policy, and Cost-Benefit Analyses.

### **Comment T8-239**

The last sentence of Section 7.2.2.2, *Impact Analysis* (pages 7-9 in both DEISs) states *“low-income populations include those living below poverty.”* The measure of 'below poverty', however, is not described in either document. Further, the definition of 'poverty' used is also not addressed. Given the data used for these sections is the United States Census Bureau's 2009-2013 American Community Survey, we assume that the Census Bureau's definition of poverty is used by ICF, and that 'living below poverty' means living below the poverty line as defined by the Census Bureau for 2013. This is problematic because the 'poverty line' varies year-to-year, based on national estimates. Thus, these analyses can over- or underestimate percentages of populations for individual census block groups and lead to the over- or understatement of project impacts.

### Response T8-239

Draft EIS Chapter 7, Section 7.2.2.2, *Impact Analysis*, considers a population to be low-income if the percentage of low-income individuals in any given census block group was greater than the percentage of that population at the county level (the study area spans three counties; the census block groups were evaluated against the county in which they were located). This provides for a conservative analysis. For this analysis, low-income populations include those living below the annual statistical poverty thresholds established by the U.S. Bureau of the Census.

### Comment T8-240

Pages 7-24 in both documents state that the possibilities and adverse consequences of large fires, spills or explosions attributable to rail operations “*could shape the perception that the communities in the study area are unsafe, unhealthy or undesirable. These perceptions could affect community welfare whether or not there is a measurable impact on community resources or a substantial increase in risks related to the proposed action.*” However, the applicant's DEIS documents do not explain how or in what ways community welfare may be adversely affected from this. For example, risk avoidance behavior may adversely affect community livability and economic development, which in turn have economic repercussions.

### Response T8-240

Refer to the Master Response for the Economics, Social Policy, and Cost-Benefit Analyses.

### Comment T8-241

Pages 7-26 of both DEISs discuss adverse impacts to minority and low-income populations from noise and vibration created by rail operations. Sections 7.3.4.3, Potential Impacts on Property Values, of both DEISs consider the impacts on property values resulting from increased rail operations. Housing attributes considered in the references ICF presents included increased ambient noise and vibration due to rail traffic.

Though the applicants acknowledge several disproportionate adverse effects on minority and low-income populations due to rail operations, they do not mention whether the property values of these populations are likely be disproportionately adversely affected as well.

### Response T8-241

Final EIS Chapter 7, Section 7.2.4.2., *Proposed Action*, has been revised to disclose that potential impacts related to property value declines could disproportionately affect low income and minority communities.

### Comment T8-242

- c) **Sections 7.3, Cost-Benefit Analysis.** Sections 7.3.2.2, *Impact Analysis*, fail to address two significant limitations of these cost-benefit analyses. First, social acceptance of a decision based on cost-benefit analysis typically depends on general consensus that the baseline created for the analysis is accurate. In these cases, no vetting has occurred to ensure the accuracy of baseline information and avoidance of bias. Second, robust cost-benefit analyses identify a range of policy alternatives, and opportunity costs for each alternative are

estimated under various scenarios. In this case, the respective DEISs evaluate only one scenario and no alternatives are assessed.

### **Response T8-242**

Refer to the Master Response for the Economics, Social Policy, and Cost-Benefit Analyses.

### **Comment T8-243**

Pages 7-29 of both DEIS documents state that *“the cost-benefit analysis considers costs that may accrue to the City of Hoquiam related to preparing for the potential consequences [of an environmental outcome such as a hazardous materials release] rather than costs that may be incurred related to cleanup activities and related degradation.”* We find this a serious limitation of these analyses, as the costs associated with preparing for potential consequences will pale in comparison to costs incurred for cleanup activities and the related degradation. Various scenarios and alternatives could be constructed to estimate any of these costs.

### **Response T8-243**

Refer to the Master Response for the Economics, Social Policy, and Cost-Benefit Analyses.

### **Comment T8-244**

Pages 7-30 of both DEISs state, *“in general these impacts would be low either before or after implementation of the recommended mitigation. Because the proposed action would have low impacts on most resources, there would be no measurable benefits or costs to the residents of Hoquiam from those impacts and they are not discussed further in this analysis.”* These statements are a shortsighted and curt dismissal of the value of non-market services (ecosystem services). Hoquiam residents enjoy various ecosystem services provided by the affected area. *[Footnote: Pages 7-30: “Costs and benefits to the residents of Hoquiam would also result to the extent that the proposed action would affect employment and income, leisure, and non-market values”.]* Were the quality of these services to be interrupted or otherwise impinged upon for any duration, Hoquiam residents would ultimately pay a cost to replace them. No matter the magnitude of the costs, they should be included in these cost-benefit analyses.

### **Response T8-244**

Refer to the Master Response for the Economics, Social Policy, and Cost-Benefit Analyses.

### **Comment T8-245**

Sections 7.3.3 of both DEISs, What are the benefits of the proposed action?, describe the “. . . beneficial impacts of the proposed action that could occur in the study area.” The calculations of benefits lack consideration of uncertainty. For example, what are the effects on proposed project-related benefits if commodity prices increase or decrease? Again, no alternatives are included in the cost-benefit analyses, severely limiting their utility.

### **Response T8-245**

Refer to the Master Response for the Economics, Social Policy, and Cost-Benefit Analyses.

## Comment T8-246

In Sections 7.3.3.2, *Fiscal Revenues to the City of Hoquiam*, of both DEISs, sales and use taxes generated by the proposed projects are discussed. These discussions terminate with the conclusions that “it is not possible to estimate sales and use taxes collected by the City of Hoquiam from construction and operation of the proposed action.” Yet, it appears that the DEIS consultants did exactly that in Section 5 of its economic impact analysis (Appendix O, page 31). We contend that sales and use tax estimates can and should be deconstructed and analyzed by taxing jurisdiction, as it seems the totals are aggregates of taxes estimated in the analyzed jurisdictions.

## Response T8-246

As indicated in Draft EIS Chapter 7, Section 7.3.3.2, *Fiscal Revenues to the City of Hoquiam*, “There is no information on the extent to which service and input providers, during construction or operations, would be located in Hoquiam, or the extent to which earnings associated with construction and operations of the proposed action would be spent in Hoquiam.” The table on page 31 of Appendix O, *Economic Impact Analysis*, presents the fiscal impact analysis using county-level tax rates, not local sale/use tax rates.

## Comment T8-247

In Sections 7.3.3.2, *Fiscal Revenues to the City of Hoquiam*, of both DEISs, business and occupation taxes generated by the proposed projects are discussed. The DEISs state, “there is not enough information to estimate the business and occupation tax collections by the City of Hoquiam that would be associated with the proposed action. This would require estimating the extent to which construction and operations service and input providers would be located in Hoquiam, as well as the location of establishments where proposed action-related earnings would be spent.” In a robust cost-benefit analysis that examines various alternatives, these estimates would be conducted. Further, the locations of establishments where proposed action-related earnings would be spent can be back-calculated using the IMPLAN model and/or estimated using business establishment data provided by the U.S. Census Bureau (current as of mid-2014).

## Response T8-247

The purpose of the economic impact analysis, which was conducted using the IMPLAN model, is to assess the economic impacts of the proposed action in the relevant regions within which the impacts will occur. For construction, it was determined that the impacts would largely take place within Washington State given the construction labor pool. For operations, it was determined that the impacts would largely take place within the Grays Harbor County region. Running the IMPLAN model requires acquiring data at various geographic scales, from the state and county level down to the level of individual zip codes, and there are practical limitations to acquiring multiple sets of data and rerunning the model across various levels of geographic specificity. This analysis concluded that, because the impacts of both phases of the proposed action would be realized at the state and county levels, these geographic scales are the appropriate scale for the analysis of the economic impacts.

## **Comment T8-248**

Chapter 7 of each DEIS mentions that commercial fishing, tribal fishing and sport fishing could be adversely affected by increased vessel traffic. Thus, tax revenues generated by businesses selling goods and services to these industries would be expected to decrease.

### **Response T8-248**

Refer to the Master Response for the Economics, Social Policy, and Cost-Benefit Analyses.

## **Comment T8-249**

Subsequent sections of both DEISs addressing utilities tax collections, state “Because the increase in demand for utilities associated with the proposed action was determined to be minor . . . the increase in utility tax collections to the City of Hoquiam would be expected to be minor as well.” This is an oversimplification; just because the increase in demand is assumed to be minor, the actual total value of utility tax collections could be large.

### **Response T8-249**

The analysis assumes that utility tax collection would likely rise or fall proportionate to the increase in utility usage for these clients and, therefore, minor increases in utility usage would result in minor increases in tax collection.

## **Comment T8-250**

Sections 7.3.4.1, Potential Costs Related to Increased Vehicle Traffic and Safety of both DEISs discuss the opportunity costs of time lost due to traffic delays to motorists. Yet, the total opportunity costs are not estimated. The DEISs assert that, “It is not possible to estimate how much commuting time would increase for [Hoquiam] residents because it is not possible to know what specific roads would be taken or what share Hoquiam residents would represent of the vehicles on roads affected by delays during commuting times.” It is possible to estimate these figures using a detailed traffic study, which should be required by the subject DEISs given the transportation implications of the proposed WTC and ITS projects. Once these figures have been determined, estimating the value of time lost in traffic delays is possible and a straightforward calculation.

### **Response T8-250**

Refer to the Master Response for the Economics, Social Policy, and Cost-Benefit Analyses.

## **Comment T8-251**

Sections 7.3.4.2, Potential Costs Related to Environmental Health and Safety Concerns, in both DEIS documents fail to estimate the costs for environmental, health and safety preparedness and response by first responders or response contractors. The DEISs state that, “There is currently not enough information on the extent of training or equipment needed to quantify these costs.” We contend that there are certain knowns surrounding the costs associated with training and equipment, and that the costs should be reported to Hoquiam residents as it is in part their health and safety at stake. Some estimates can reasonably be made with respect to understanding these costs, yet none are reported in either DEIS document.

Sections 7.3.4.3, Potential Impacts on Property Values, of both DEISs discuss costs associated with potential impacts of the proposed projects on Hoquiam property values. Both DEISs conclude that “Although previous hedonic pricing studies suggest that there could be impacts on property values from construction and on site operations of the proposed action, the impacts on property values that could be directly attributed to the proposed action are negligible. Because the project site is located in an already industrialized area, any negative impacts on nearby properties from construction or onsite operations would already have been realized and would not be a result of the proposed action.” This is a flawed and unsubstantiated premise that suggests that the Hoquiam residential property market is static. Further, the applicants should have investigated the potential for decreased property tax revenue resulting from decreased property values.

### **Response T8-251**

The approach to the risk analysis is to consider potential spill scenarios related to the proposed action. As noted in Draft EIS Chapter 4, *Environmental Health and Safety*, this is because a spill could occur at any location and at any time. Because the potential impacts of an incident would vary based on the material spilled, weather, water flows, location and other factors, Draft EIS Chapter 7, Section 7.3.4.3, *Potential Impacts on Property Values*, acknowledges the potential for property values to be adversely affected due to the perception of increased risks and presents representative information about how this perception can adversely affect values.

### **Comment T8-252**

Appendix O, Economic Impact Analysis. As a general comment, the consultant did not thoroughly cite its sources for this report. For example, the authors did not cite the dates they received data from the applicants. The first paragraph of the Executive Summary notes that this October 2014 effort is an update of an analysis originally completed on September 5, 2013. However, the report does not cite the date(s) that WTC and ITS provided construction and operations cost information required to conduct the analysis, nor the timeliness of this information. This problem obfuscates the reliability of estimated economic impacts reported within the DEISs.

### **Response T8-252**

Table 1 of Draft EIS Appendix O, *Economic Impact Analysis* (Appendix P in the Final EIS), indicates that construction cost information related to the proposed action was provided in September 2014 by the applicant. Table 9 indicates that operational spending and employment data were provided in September 2014. Construction and operation costs in Appendix O are presented in inflation-adjusted 2013 dollars, which provides consistent data points for the analysis regardless of when the data were received.

### **Comment T8-253**

There is contradiction between the economic impact analysis and Sections 7.1.4.2 of both DEISs. The 'Geography' section of economic Impact analysis (page 9) states: “Many of the businesses that would supply the development of the Westway and ITS Renewables facilities are based inside the state. Thus, Washington was chosen for the construction impact analysis.”

However, both DEISs contend that the majority of non-labor spending on construction will be out of state. For example, the ITS DEIS states on page 7-6, second paragraph, that “Of the \$36.4 million to

go to nonlabor spending, it is estimated approximately \$12.9 million (35%) would be spent on construction commodities such as materials, supplies, equipment and services in Washington. The remaining \$23.5 million (65%) would be spent out of state.” likewise the WTC DEIS reports (in the second paragraph of page 7-6) that 48% of nonlabor spending will be spent in Washington and the remaining 52% out of state. As we don't know the appropriate delineation of spending, this calls into question the veracity of both documents. Further, if the percentages reported in the DEIS are representative, these proposed projects are less beneficial for Washington residents and businesses.

### **Response T8-253**

Draft EIS Chapter 7 and the Economic Impact Analysis are consistent in their description of construction spending that would occur in Washington State and outside Washington State: approximately 48% of the non-labor spending related to the proposed action would occur in Washington State.

### **Comment T8-254**

In the 'Key Assumptions' section (page 12) the reference for conversations with railroad officials should be provided to facilitate the understanding of the timeliness of the information on railroad jobs. This information should also be cited in the second paragraph of page 24.

Also in the 'Key Assumptions' section the complete reference for the “2013 Local and Regional Economic Impact of the Port of Longview” should be provided. It is not clear in this document how the direct economic output of each vessel call was calculated, or that each vessel call would employ the full time equivalent of 0.45 workers. This information should also be presented in the first paragraph of page 24.

### **Response T8-254**

The reference for the information on railroad jobs is:

Seil, Donald. Genesee & Wyoming, Inc. August 19, 2013—Email to Matt Steuerwalt at Strategies360 regarding PS&P job growth.

The full reference for the 2013 Local and Regional Economic Impact of the Port of Longview is:

Martin Associates. 2013. The Local and Regional Economic Impacts of the Port of Longview. Prepared for the Port of Longview. Available:  
[http://www.portoflongview.com/Portals/0/Documents/Document-Library/Miscellaneous/\\_6.2013%20Port%20of%20Longview%20Economic%20Impact%20Analysis.pdf](http://www.portoflongview.com/Portals/0/Documents/Document-Library/Miscellaneous/_6.2013%20Port%20of%20Longview%20Economic%20Impact%20Analysis.pdf). Accessed July 7, 2016.

### **Comment T8-255**

The first paragraph of page 15 states, “Wages, salaries, and benefits earned by all those on the construction projects will total \$32.9 million and, of that \$31.5 million would go to workers residing in Washington.” However, Table 2 reflects that wages, salaries and benefits earned by all those working on the construction projects will total \$30.4 million and, of that \$29.0 million would go to workers residing in Washington. As the correct estimates are unknown, discussion and consideration of this information is fraught with uncertainty.

There is also a conflict between the data presented in Table 2 and the description in the second paragraph on page 15. Table 2 reflects that WTC will spend \$37.2 million on Washington State labor and materials, while the first sentence of the second paragraph states, “Westway will invest . . . \$39.7 million (\$16.1 million in labor and \$21.1 million in materials) of that would be spent on Washington state labor and suppliers.”

### **Response T8-255**

The text in the first paragraph of page 15 should be consistent with Table 2 and should read, “Wages, salaries, and benefits earned by all those on the construction projects will total \$30.4 million and, of that \$29.0 million would go to workers residing in Washington.” The text in the second paragraph of page 15 should be \$37.2 million, consistent with the sum of the \$16.1 million and \$21.1 million provided in the parenthetical and Table 2.

### **Comment T8-256**

The second sentence of the last paragraph of page 16 should reflect that the direct outputs of construction and labor are shown on both Tables 3 (WTC) and 4 (ITS), not just on Table 3.

### **Response T8-256**

Comment acknowledged.

### **Comment T8-257**

Table 3 indicates 480 total jobs due to full-build out of the WTC project, whereas the second sentence of the second paragraph of page 17 reflects that labor income reported in Table 3 “would be earned by the FYE of 480 workers.”

### **Response T8-257**

As discussed on page 8, jobs are measured in full-year equivalents (FYE). The 483 total jobs presented in Table 3 are 483 FYE jobs, consistent with the text on page 17.

### **Comment T8-258**

The second sentence of the paragraph on page 19 states: “\$26.1 million of the \$63.9 million in materials, equipment, other purchased goods, and services would be from Washington businesses and governments.” However, Table 6 indicates that the costs of these goods and services are anticipated to be \$63.6 million.

### **Response T8-258**

The text in the second sentence should indicate a total of \$63.6 million, consistent with Table 6.

### **Comment T8-259**

References for the Washington combined trended investment tables and the 2013 Grays Harbor County tax rates should be presented on page 31.

The title of Table 16 states that the values are reported in millions of 2013 dollars; however, the values presented in Table 16 must be actual values.

### **Response T8-259**

The Economic Impact Analysis was prepared by ECONorthwest on behalf of the Applicants and is not being updated as part of the Final EIS. These clarifications would not change the conclusions of the analysis.

### **Comment T8-260**

#### **CLIMATE CHANGE**

11. The discussion of climate change is of limited usefulness. DOE's guidance on climate change analysis in State Environmental Policy Act (SEPA) documents includes the following statement: "For projects with ongoing operations that include transporting products from outside the state, such as a port, a more thorough and perhaps more defensible analysis would include the transportation emissions from the source location outside of Washington to the final destination if either is known and the extent to which either is known." [Footnote: DOE. 2011. *Guidance for Ecology Including Greenhouse Gas Emissions in SEPA Reviews*. Available at [http://www.ecy.wa.gov/climatechange/docs/sepa/20110603\\_SEPA\\_GHGinternalguidance.pdf](http://www.ecy.wa.gov/climatechange/docs/sepa/20110603_SEPA_GHGinternalguidance.pdf).] The DEISs include a limited discussion of the proposed projects' impact on climate change that certainly does not meet the above criteria for a defensible analysis. Therefore, by DOE's own guidance, the climate change discussion is not defensible because it does not include analysis of total greenhouse gas emissions from crude oil sources to receiving ports and refineries.

The DEISs discuss only limited, localized climate change impacts. The DEISs state "The largest contribution of GHG emissions would result from rail transport and represents an increase of approximately 7.8% in the statewide rail emissions of GHGs. Overall GHG emissions related to operation of the proposed action represent about a 0.11% increase in statewide GHG emissions" (WTC and ITS pg. 6-10). The conclusion that a 0.11% statewide increase in GHG emissions is insignificant is not supported by evidence- the state is currently trying to cut GHG emissions so any the proposed projects hurt state mandates for GHG reductions. Also, DEIS summaries state the following: "Greenhouse gas emissions from the cumulative projects contribute to climate change at the global/eve/" (ITS and WTC pg. S-27). This is a quote from the DEIS, but no significant impacts are discussed in Chapter 6, Cumulative Impacts.

### **Response T8-260**

Final EIS Chapter 3, Section 3.2, *Air*, and Chapter 6, Section 6.5.1.2, *Cumulative Impacts*, reflect emission estimates for offsite transport oil crude oil from its likely source to its furthest likely destination. Refer to the Master Response for Crude Oil Extraction, Transport, and Combustion for more information on the potential sources of crude oil and the potential for the proposed action to drive production at those sources.

The greenhouse gas emissions referenced by the commenter are related to the cumulative projects, not the proposed action alone. Net greenhouse gas emissions related to proposed action estimated in Final EIS Chapter 3, Section 3.2, *Air*, represent approximately 0.036% of 2011 statewide greenhouse gas emissions. Refer to the Master Response for Mitigation Framework for more information about how applicant mitigation measures are identified in the EIS.

The Final EIS *Summary* has been revised to be consistent with the text in Chapter 6, *Cumulative Impacts*, in stating that greenhouse gas emissions from the cumulative projects would contribute to global greenhouse gas emissions, which contribute to climate change.

## Comment T8-261

### ENVIRONMENTAL JUSTICE

12. Delineation of the affected area does not include mention of any Indian tribes present in the area affected by the proposed projects. Environmental justice is defined by the United States Environmental Protection Agency as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.” [Footnote: U.S. Environmental Protection Agency. 2015. *Environmental Justice. What is Environmental Justice. Available at <http://www.epa.gov/environmentaljustice/>.*]

SEPA does not require in an Environmental Impact Statement an assessment of environmental justice effects of a proposed action. However, Section 7.2, Social Policy, of the WTC and ITS DEISs were included per City of Hoquiam Municipal Code requirements. [Footnote: *Ibid.* P. 9.]

The National Environmental Policy Act (NEPA) does require an analysis of environmental justice impacts for actions by Federal agencies. To guide our evaluation of the methodological soundness and appropriateness of the analyses in Sections 7.2, we consulted two sources: Executive Order (EO) 12898 and the Environmental Justice. Guidance Under the National Environmental Policy Act composed by the Council on Environmental Quality (CEQ, 1997). [Footnote: Council on Environmental Quality (CEQ). 1997. *Environmental Justice: Guidance Under the National Environmental Policy Act. Available at [http://www3.epa.gov/environmentaljustice/resources/policy/ej\\_guidance\\_nepa\\_ce1297.pdf](http://www3.epa.gov/environmentaljustice/resources/policy/ej_guidance_nepa_ce1297.pdf).*]

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, was issued by President Clinton on February 11, 1994. This Order “directs federal agencies to identify and address the disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations, to the greatest extent practicable and permitted by law.” [Footnote: U.S. Environmental Protection Agency. 1994. *Summary of Executive Order 12898 - Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. Available at <http://www2.epa.gov/laws-regulations/summary-executive-order-12898-federal-actions-address-environmental-justice>.*]

Section 3-302 of EO 12898 directs Federal agencies to “collect, maintain, and analyze information assessing and comparing environmental and human health risks borne by populations identified by race, national origin, or income. To the extent practical and appropriate, Federal agencies shall use this information to determine whether their programs, policies, and activities have disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.” [Footnote: Clinton, William J. 1994. *Executive Order 12898. 59 Federal Register 7629. Available at <http://www.archives.gov/federal-register/executive-orders/pdf/12898.pdf>.*]

CEQ (1997) states that in the memorandum accompanying transmission of EO 12898, President Clinton directed Federal agencies to “analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by [NEPA]”. [Footnote: *Ibid. fn. 24.*] It further states that “Environmental justice concerns may arise from impacts on the natural and physical environment, such as human health or ecological impacts on minority populations, low-income populations, and Indian tribes, or from related social or economic impacts.” [Footnote: *Ibid. P. 8.*]

CEQ (1997) sets forth that:

*“the question of whether agency action raises environmental justice issues is highly sensitive to the history or circumstances of a particular community or population, the particular type of environmental or human health impact, and the nature of the proposed action itself. There is not a standard formula for how environmental justice issues should be identified or addressed. However, the following six principles provide general guidance.*

*Agencies should consider the composition of the affected area, to determine whether minority populations, low-income populations, or Indian tribes are present in the area affected by the proposed action, and if so whether there may be disproportionately high and adverse human health or environmental effects on minority populations, low-income populations, or Indian tribes.”* [Footnote: *Ibid. Pp. 8.*]

In Sections 7.2 ICF evaluated four elements of community and social structure that could be beneficially or adversely affected by the proposed projects: community cohesion, community welfare, population growth, and minority and low-income communities. Existing conditions relative to these elements were first described, followed by likely impacts to these elements resulting from the no-action alternative or from construction or routine operations of the proposed actions. We find this to be a reasonable approach to elucidating potential beneficial or adverse effects of the proposed actions. [Footnote: There is no brightline of what constitutes a disproportionately high and adverse human health or environmental effect. However, it is known that some of the adverse effects of transportation projects include disruption in community cohesion, safety issues, greater exposures to hazardous materials, increased levels of noise and vibration, and increased water and air pollution. ICF captured the breadth of potential adverse effects in the four elements it assessed.]

In Section 7.2.11CF defined the study area for social policy as “the communities surrounding the project site that could be affected by construction and routine operation of the proposed action,” and the “communities that could be affected during routine rail transport along the Puget Sound & Pacific Railroad (PS&P) rail line and vessel transport through Grays Harbor.”

We contend that this is an inappropriate delineation of the composition of the affected area, as it does not include mention of any Indian tribes present in the area affected by the proposed projects. For example, the U&A Fishing Area of the QIN includes Grays Harbor. QIN members working in Grays Harbor will potentially be adversely affected by the proposed projects. [Footnote: This concept is investigated in detail in the discussion of insufficiencies on page 6.] The Chehalis Tribe also has a recreational shell fishing area present in the affected area.

We find the information sources used in this impact analysis to be sound and appropriate. ICF

explains in Sections 7.2.2.2 that “Impacts of the proposed action on social policy elements were evaluated qualitatively.” We find qualitative evaluation to be a reasonable approach for this impact analysis due to the lack of specific guidance or an industry standard.

ICF defines a population as a minority or low-income population “. . . if the percentage of minority or low-income individuals in any given census block group was greater than the percentage of that population at the county level.” Again, we consider this a reasonable approach due to the lack of specific guidance or an industry standard.

ICF further defines minority populations to “include all racial groups other than white” and low-income populations to “include those living below poverty”. These definitions are reasonable; however, the definition of what constitutes 'living below poverty' is not explained. ICF should have stated that what constitutes a low-income population is the percent of the total population living below the federal poverty line in a given year, and then defined the year of the data, as the value of the poverty line varies year-to-year. All data is taken from the same data set (i.e. United States Census Bureau, 2009-2013 American Community Survey), thus we know that the data is normalized and the problem is limited to provision of an accurate definition.

As the proposed projects are in close proximity, propose to use the same rail system, and have very similar construction and routine operation characteristics affecting the same communities, the same analytical design is appropriate for both DEISs.

We find Sections 7.2.3, What are the existing conditions related to social policy in the study area?, of both documents appropriate with respect to describing adverse effects on minority and low-income populations in the affected area. The collected for this analysis is from the 2009-2013 American Community Survey, published by the United States Census Bureau in 2014. This is the most appropriate and recent data set for use. By extension we find that the data tables presented in Appendix P, Census Block Group Data, of both DEISs, which use data collected from this source are appropriate for these populations.

However, no specific information was provided on Indian tribes present in the affected area in Section 7.2.3, and no information was provided on Indian tribes present in the affected area in Appendix P.

Regarding the potential impacts on the four elements of social policy, we find the conclusions of Sections 7.2.4.1, No-Action Alternative, to be reasonable in both DEISs.

We find the conclusions of Sections 7.2.4.2, Proposed Action, to be reasonable in both DEISs regarding potential disproportionate adverse human health or environmental effects to minority and low-income populations and Indian tribes during project construction and routine operations. No disproportionately beneficial effects on minority or low-income populations or Indian tribes were identified; we concur with this finding.

## **Response T8-261**

Tribes with the potential to be affected by the proposed action are discussed in Draft EIS Chapter 3, Section 3.12, *Tribal Resources*. This section includes an analysis of potential impacts from construction and routine operations on tribal resources. Chapter 6, *Cumulative Impacts*, describes

potential cumulative impacts on tribal resources. Draft EIS Chapter 4, Section 4.7, *Impacts on Resources*, presents information about the potential impacts on tribal resources that could occur as the result of increased risks of incidents involving the spill of crude oil.

## Comment T8-262

### Mitigation

It is unclear if the proposed mitigation plan will compensate for impacts on environmental resources and/or treaty reserved rights to such resources. Section 7.2.5.1, Applicant Mitigation, of both DEISs describe the mitigating actions the project proponents intend to enact. With respect to applicant mitigation of adverse effects on treaty resources, both DEISs state only to the extent that: "The applicant will appoint a tribal liaison to assist in addressing issues of concerns to federally recognized tribes; develop cooperative solutions to tribal concerns; be available for tribal meetings; and conduct periodic outreach. The applicant will provide the name, telephone number, and email address of the tribal liaison to officials of each tribe that wish to be notified."

This statement is not a mitigation measure or an action plan for addressing any one of the specific items identified in Sections 7.2.4.1n neither DEIS is a single mitigation measure offered to avoid potential damage to the QIN's treaty resources.

Section 3.12, Tribal Resources, offers three proposed mitigation measures in Sections 3.12. They include coordination to possibly adjust docking schedules, notification of vessel transits, and discussion of additional mitigation measures. Coordination, notification, and discussion are also not mitigation measures. Without outlining specific mitigation measures for every possible impact, it must be assumed that impacts will likely occur. Mitigation measures in other sections of the DEIS are specific and thorough. Lack of explanation of ambiguity in tribal mitigation measures makes them even more suspect.

Thus, we contend that the applicants have failed the requirement of WAC 197-11-440(6)(c)(iii), which states "clearly indicate those mitigation measures (not described in the previous section as part of the proposal or alternatives), if any, that could be implemented or might be required, as well as those, if any, that agencies or applicants are committed to implement."

Feasibility of the mitigation required to compensate for the impacts on fisheries resources is not demonstrated. As above in subsection Mitigation, Section 3.12.7.1, Applicant Mitigation, of both DEISs pronounce three proposed actions to mitigate for potential impacts on tribal fishing. Again, we contend that coordination, notification, and discussion are not mitigation measures.

Sections 3.12.8, Would the proposed action have unavoidable and significant adverse impacts on tribal resources?, of both DEISs state, "Implementation of the mitigation measures described above would reduce but may not completely eliminate impacts on tribal resources. More specifically, vessels related to the proposed action would travel through usual and accustomed fishing areas in Grays Harbor. Under current and future conditions, increased vessel traffic could restrict access to tribal fishing areas in the navigation channel and adjacent to Terminal 1." It is acknowledged by the project proponents that these conflicts are "...most likely to occur for fishing related to harvest of salmon, steelhead, and sturgeon." Further, recognizing that "NO mitigation measures would

completely eliminate the possibility of impacts to fishing resources because of vessel operations related to the proposed action.”

Neither DEIS provides specific mitigation measures required to address the compensation for potential damages on fisheries resources and specifically those impacting Treaty commercial and subsistence fishers. As previously noted in this review, mitigation measures in other sections of the DEIS documents are specific and thorough.

Thus, we again find that the applicants have failed the requirement of WAC 197-11-440(6)(c)(iii).

## **Response T8-262**

Draft EIS Chapter 3, Section 3.12.5.2, *Proposed Action*, acknowledges that vessel activity related to routine operation of the proposed action could affect the ability of the Quinault Indian Nation to access tribal fisheries in Grays Harbor. The Draft EIS does not make a determination of significance related to tribal resources or treaty rights. Section 3.12.8, *Would the proposed action have unavoidable and significant adverse impacts on tribal resources?* states that because factors besides vessel operations affect fishing opportunities, such as the number of fishers, fish distribution, timing, and duration of fish windows, the extent to which vessel operations related to the proposed action would affect tribal fishing is difficult to quantify. Therefore, the proposed mitigation is intended to ensure a means of coordination to address tribal concerns.

## **Comment T8-263**

### **ABOUT THE INDEPENDENT REVIEW**

#### **Resource Dimensions**

Resource Dimensions is a multidisciplinary economic and policy consulting firm specializing in integrated analyses and the development of sustainable solutions. Drawing on extensive industry knowledge, distinguished professionals, and innovative analytics, we work with our clients to develop solutions to complex natural resource, land use, conservation, community development, transportation, and energy issues. Resource Dimensions' approach is strengthened by its diverse range of expertise and interdisciplinary team of partners and associates from the fields of economics, planning, law, land conservation, agriculture, natural resource management, geography, forestry, ecology, sociology, biology and public policy.

Serving major corporations, governments, tribes, non-profit, private, and international organizations for over three decades, Resource Dimensions has broad experience in assessing the economic and socioeconomic consequences of a wide variety of projects and policy implications, and developing creative community-based solutions. Our analyses are informed by an understanding of the local, regional and national economy as well as attitudes, beliefs and values-the human/social dimensions. Thinking innovatively as we work to solve a range of complex issues, we lead the field in the use and expansion of methodologies to assess economic and social impacts at the state, regional and local levels. Since 1985, we have completed over 800 projects across the United States and seven other countries.

The independent review was led by Resource Dimensions principal, Dr. Julie Ann Gustanski, LLM, AICP. She holds a PhD in Economics, an MS in Regional Planning and LLM in Planning Law from the

University of Edinburgh (UK), an MEM in Economics, Natural Resource Management and Public Policy from Duke University, and a BS in Legal Studies and Environmental Policy from the University of Minnesota. Dr. Gustanski has more than 30 years of experience in natural resource and applied economic analyses, regional economic modeling, policy and regulatory analysis, and social and economic impact analysis as it relates to a variety of water, land use and natural resource management issues. She has conducted over 300 social and economic impact studies and has been involved with over 50 EA/EIS and other compliance studies for various state and federal agencies.

Supporting Resource Dimensions team members include David A. Scarsella, MS and Anna Scofield, MS, who were selected for their expertise and familiarity with the range of issues involved.

### **Response T8-263**

Comment acknowledged.

### **Comment T8-264**

EXHIBIT4

Technical Review of Draft Environmental Impact Statements for the Proposed Westway and Imperium Terminal Services Expansion Projects

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Date: 15 November 2015

#### **Introduction**

At your request, I conducted a technical review of Draft Environmental Impact Statements (DEISs) for the proposed Westway and Imperium Terminal Services expansion projects located at the Port of Grays Harbor in Grays Harbor County, Washington. By way of introduction, I am an Associate Professor of Civil and Environmental Engineering at the University of Washington, where I teach and conduct research on geologic hazards. *[Footnote: Appendix I provides a more detailed professional biography and an abbreviated curriculum vitae for Dr. Joseph Wartman.]* I first reviewed the terminal expansion projects in 2013 and prepared an expert report on geologic hazards and risk mitigation for the facilities. *[Footnote: A copy of Dr. Joseph Wartman's 2013 expert report is included as Appendix II.]* The terminal expansion projects involve construction and operation of industrial facilities to contain and transport heavy crude oil, which will be shipped to the port using Puget Sound & Pacific Railroad (PS&P) train lines, stored on-site in large tanks, and then transferred to ships. Additional details about the Westway and Imperium terminals are contained in their respective DEISs.

My technical review focused mainly on two sections of the DEISs: (1) Chapter 3, which addresses affected environment, impact, and mitigation, and (2) Appendix C, which describes tsunami impact modeling and analysis. Although the Westway and Imperium terminals are independent projects,

they are similar facilities located in close proximity to each other. The major technical aspects of Chapter 3 and Appendix C for each respective DEIS are virtually identical, and therefore my review comments below address both projects.

### **Seismic Hazards**

The Affected Environment, Impact, and Mitigation section of the DEISs (Chapter 3) largely focuses on earthquake potential and associated secondary seismic effects including strong ground shaking, soil liquefaction, coseismic tectonic subsidence, and tsunamis. The emphasis on earthquake hazards is appropriate since the project sites (and associated PS&P rail line) are located in a high seismicity region with the strong likelihood of a large earthquake (i.e., Magnitude 6 or greater) during operation of the facility. The DEISs note that over a 50-year period (i.e., the typical design life of an engineered facility), there is a 2% chance that an earthquake will cause ground shaking at the site in excess of peak ground acceleration (PGA) = 0.7g; this is expected to result in moderate to heavy structural damage to the facility. This statement reflects information most recently provided by the U.S. Geological Survey; the current scientific knowledge about seismicity in the region continues to develop rapidly. However, not discussed in the DEISs is the more likely case of only moderate shaking (PGA = 0.3 g or greater), which can likewise cause significant structural damage to port facilities (there is about a 10% chance of PGA exceeding 0.3g during a 50-year design life of the facility). [Footnote: USGS Seismic Hazard Curve Application, <http://geohazards.usgs.gov/hazardtool/application.php>.] For example, during the 1995 Great Hanshin, Japan earthquake, local ground shaking of PGA = 0.31g caused major damage to the port of Kobe, a modern industrial harbor facility. Included among the many effects at the port of this earthquake were damage to quay walls, breakwaters, pile-supported structures, and industrial equipment such as large cranes. [Footnote: Werner, S. and Dickenson, S. (1996) *Hyogo-Ken Nanbu Earthquake of January 17, 1995: A Post-Earthquake Reconnaissance of Port Facilities*, ASCE Press.]

### **Response T8-264**

Draft EIS Chapter 3, Section 3.1, *Earth*, considers the impacts related to a large earthquake. Smaller events are considered by inclusion in the consideration of the larger and more intense seismic event. Refer to the Master Response for Earthquake Probabilities for an explanation of the basis for the earthquake probability assumptions in the Draft EIS.

### **Comment T8-265**

Owing to the high seismicity of the region and geologic conditions at the sites, the terminal projects are subject to soil liquefaction, a secondary earthquake-related hazard that is common in coastal settings. Soil liquefaction can cause granular soils (such as those that underlie the project sites) to soften and lose strength in an earthquake. The Washington State Department of Natural Resources has designated the Port of Grays Harbor and the surrounding area as a zone of high liquefaction hazard. [Footnote: *Earthquake-induced landslide and liquefaction susceptibility and initiation potential maps for tsunami inundation zones in Aberdeen, Hoquiam, and Cosmopolis, Grays Harbor County, Washington, for a M9+ Cascadia subduction zone event, (2013) by S. L. Slaughter et al. Wash. State Dept. of Nat. Res. Invest. 36.*] The consequences of soil liquefaction at port facilities has been well documented during many earthquakes over the past several decades during events in the United States, Japan, Peru, Chile, and Mexico, among other countries. These consequences have resulted in significant damage to buildings, tanks, retaining structures, and utilities. [Footnote:

*Werner et al. (1998) Experiences form Past Earthquakes (Chapter 2), in Seismic Guidelines for Ports, ASCE Press.]*

### **Response T8-265**

Refer to the Master Response for Seismic Risk and Design Requirements for an explanation of how seismic-related risks such as liquefaction at the project site would be addressed.

### **Comment T8-266**

Due to their setting in the Pacific Northwest, the terminal sites are also susceptible to coseismal subsidence and tsunamis, which are coseismal hazards unique to subduction earthquakes. Coseismal subsidence is a regional-scale tectonic phenomenon whereby the ground surface subsides, or reduces in elevation, which makes land in the region area more susceptible to tsunamis and flooding. Tsunamis pose what is perhaps the most significant subduction earthquake-related threat to the sites. Moreover, they could strike with only 20 minutes notice, leaving little time for shutdown of an industrial facility. The Washington State Department of Natural Resources has designated Port of Grays Harbor as a tsunami inundation zone [Footnote: *Walsh et al. (2000) Tsunami hazard map of the southern Washington coast—Modeled tsunami inundation from a Cascadia subduction zone earthquake: Washington Division of Geology and Earth Resources Geologic Map GM-49*] and site-specific modeling and analysis conducted for the DEISs (Appendix C) further supports this zonation. Tsunami damage to storage tanks at ports has been observed after at least several earthquakes over the past decades and is well described in a recent report on damage to storage tanks during the 2011 Tohoku, Japan Earthquake. [Footnote: *Hatayamaa (2015) Damage to Oil Storage Tanks from the 2011 Mw 9.0 Tohoku-Oki Tsunami, Earthquake Spectra.*] This report describes several modes of tsunami induced tank failure including damage to tank bodies, plumbing and mechanical equipment, containment structures, and foundations. The report also notes that of the 418 tanks located in the Tohoku tsunami inundation zone, 157 were moved and destroyed by the wave forces.

### **Response T8-266**

The tsunami risk analysis in Draft EIS Appendix C, *Tsunami Impact Modeling and Analysis*, describes assumptions regarding tide levels, coseismic subsidence, and sea level rise that may occur following a Cascadia Subduction Zone L1 9.0 Mw earthquake and subsequent tsunami. Refer to the Master Response for Seismic Risk and Design Requirements for a description of the earthquake source model and hydrodynamic modeling method used in the site-specific tsunami analysis conducted for the project site and presented in Appendix C.

### **Comment T8-267**

#### **Landslide Hazards**

The DEISs describe landslide hazards associated with the project, which mainly pertain the PS&P rail lines. However, the description in the DEISs is limited to precipitation-induced landslides that occur only under non-seismic conditions. The DEISs do not recognize that even moderate magnitude earthquakes (i.e., Magnitude 5 and above) are capable of simultaneously triggering many coseismic landslides across wide region. [Footnote: *Keefer (1984) Landslides caused by earthquakes, Bull. of the Geol. Soc. of America.*] In many past earthquakes, coseismic landslides have been observed to disproportionately affect transportation corridors, such as the PS&P rail line, which typically include

over steepened, artificial cuts. The consequences of coseismic landsliding will vary based on the size and travel velocity of landslide debris, among other factors, but could reasonably be expected to include derailment of rail cars [Footnote: *The 2013 derailment of an Amtrak train near Everett serves as a recent local example of landslide-caused train event*] used to transport oil to the terminal sites.

### **Response T8-267**

Draft EIS Chapter 3, Section 3.1.4.3, *Geologic Hazards, Landslides and Slope Instability*, acknowledges earthquake-triggered landslides and states that earthquake-induced landslides also occur primarily during saturated conditions.

### **Comment T8-268**

#### **Mitigation**

The DEISs highlight proposed mitigation actions that will attempt to address some of the liquefaction hazards at the projects. These include use of pile foundations for tanks and removal of “soft, loose” (and thus highly liquefiable) soil that may be assumed to extend to relatively deep depths at the site. While pile lengths are specified, more specific details of the planned soil removal (e.g. depth, spatial extent) are not presented and this precludes any assessment of the potential effectiveness of these mitigation actions at this time. Additionally, it appears that pile foundations will only be used for foundation support of storage tanks, leaving other critical infrastructure (e.g., above- and below-ground piping, mechanical equipment, etc.) and facility safety elements (e.g., secondary spill containment berms) vulnerable to damage from soil liquefaction.

To help mitigate the tsunami hazard, the DEISs state that earthen protection berms will be constructed around the facility to counter tectonic and liquefaction-induced subsidence, and to impede incoming tsunami waves. However, project-specific analysis of this mitigation action (Appendix C) indicates that tsunami waves may still be expected to overtop the protection berm, allowing the facility to be impacted by waves. As noted above, events such as the Tohoku Earthquake have shown that tsunamis in many cases can induce significant damage to storage tanks and associated industrial equipment, resulting in release of hazard materials and fires following an earthquake. [Footnote: *For example, see summary of case studies presented in: Hatayamaa (2015) Damage to Oil Storage Tanks from the 2011 Mw 9.0 Tohoku-Oki Tsunami, Earthquake Spectra.*]

### **Response T8-268**

The proposed facility would have spill containment that surrounds the area of the storage tanks. This spill containment is not considered a berm for tsunami waves. The natural topography of the site is slightly higher near the shoreline. However, this higher ground is not a constructed berm. An earthen berm is mentioned as a potential improvement to reduce the risk of tsunami at the project site in Draft EIS Appendix C, *Tsunami Impact Modeling and Analysis*. However, the adjacent parcels and community do not intend to raise the entire length of shoreline to create a contiguous line of high elevation to reduce the potential of overtopping by tsunami. As standalone mitigation at the project site, this is not a practicable measure.

Refer to the Master Response for Seismic Risk and Design Requirements for information on how existing regulations and applicant mitigation would reduce liquefaction and tsunami risks at the project site.

## Comment T8-269

### Summary

I concur with the Draft Environmental Impact Statements findings that seismic hazards (and their associated secondary effects) pose threats to the proposed Westway and Imperium Terminal Services expansion projects. While I also agree that potentially high levels of ground shaking (PGA of 0.7g or greater) may result in heavy damage to the facility, I believe that the more likely case of even lower intensity earthquake motions (PGA = 0.3g or greater) may cause significant damage. In addition to strong ground shaking, secondary earthquake hazards such as soil liquefaction, subsidence, and tsunamis pose significant threats to the facility that may result in release of hazardous materials, among other adverse consequences. Seismic mitigation actions have been proposed for the facility; however, their full details are not disclosed in the DEISs. Nevertheless, no mitigation measures are capable of fully mitigating the geologic hazards and associated risks posed to the facilities.

### Response T8-269

Draft EIS Chapter 3, Section 3.1.8, *Would the proposed action have significant and unavoidable adverse impacts on earth resources and conditions?* discusses potential unavoidable and significant adverse environmental impacts at or near the project site were a tsunami to occur and the facility was not constructed to withstand it. Refer to the Master Response for Seismic Risk and Design Requirements.

## T9, Shoalwater Bay Indian Tribe, Douglas Davis

### Comment T9-1

November 18, 2015

SHOALWATER BAY INDIAN TRIBE P.O. Box 130 · Tokeland, Washington 98590-0130 Telephone (360) 267-6766 · Fax (360) 267-6778

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Westway and Imperium Terminal Services Expansion Projects EISs c/o ICF International 710 Second Ave., Suite 550 Seattle, WA 98104

Thank you for the opportunity to comment on the EISs for the Westway and Imperium Expansion Projects. After reviewing the two documents it appears that permitting these projects presents problems that neither the proponents nor the State of Washington is currently able to address. The three major problems relate to inadequate regulations, preparedness and geographical scope of environmental impacts.

These projects would facilitate an increase in crude oil transport within the state of Washington and along its coast resulting in an increased frequency in potential spills. From a regulatory standpoint, the State of Washington is not prepared to deal with an increase in crude oil transport. "The Chapter 173-180 WAC has not been updated for facility spill prevention standards since 1994" (*Washington State Marine & Oil Transportation Study Preliminary Findings & Recommendations*, October 1, 2014). This regulation was developed before crude by rail was a common practice. "The current regulatory response planning for Grays Harbor will require enhancements in the event that all three proposed

crude by rail facilities - Imperium, Westway, and Grays Harbor Terminal LLC - be permitted. Current response equipment would likely be insufficient for spills from the facilities and/or the associated tank vessel traffic” (Washington State Marine & Oil Transportation Study Preliminary Findings & Recommendations, October 1, 2014). The State has never established a level of financial responsibility for facilities handling crude oil. Who will take on the financial responsibility if it is not required of the oil handlers?

### **Response T9-1**

Draft EIS Chapter 4, *Environmental Health and Safety*, Sections 4.4.5, 4.5.5, and 4.6.5, discuss who would pay for the response and cleanup of an oil spill at the terminal or during rail or vessel transport, respectively. Refer to the Master Response for Liability and Responsibility for Incidents for a discussion of liability and the levels of financial responsibility required by federal and state law and an explanation of how these issues are addressed in the Draft EIS and Final EIS.

Final EIS Chapter 4, *Environmental Health and Safety*, has been updated to better reflect existing local and statewide emergency service response capabilities and resources, updated planning requirements, clarifications about the potential impacts of the proposed action on local emergency response providers, and additional mitigation measures to reduce risks. These measures include the provision of additional firefighting equipment, spill response and recovery equipment and other tools, and annual emergency response training opportunities to local jurisdictions. Nonetheless, mitigation would not completely eliminate the possibility of an incident. Depending on the location, amount spilled, type of crude oil, and environmental conditions, such as the time of year, water flows, and weather conditions, environmental impacts could be significant. Section 4.7, *Impacts on Resources*, describes the types of impacts that could occur in the event of an oil spill, fire, or explosion. Refer to the Master Response for Emergency Response and Planning Gaps Evaluation.

### **Comment T9-2**

Regarding environmental impacts, geographic scope of these EISs is restricted to Grays Harbor. This indicates that there is an assumption that if a spill occurs it will happen only in Grays Harbor and will be successfully contained there as well. First responders likely lack the equipment and training to sufficiently respond to the increased likelihood of a spill. Furthermore, GRPs in some areas, such as Pacific County, have not been updated in years. There is no established vessel traffic system within Grays Harbor and prevention measures such as the requirement of escort tugs in Grays Harbor are lacking practice (Washington State Marine & Oil Transportation Study Preliminary Findings & Recommendations, October 1, 2014).

### **Response T9-2**

Draft EIS Appendix N, *Oil Spill Modeling*, acknowledges the limitations of the model to depict the movement of oil outside Grays Harbor. The appendix and Chapter 4, *Environmental Health and Safety*, state that depending on the circumstance of an incident, it is possible for oil to move outside the harbor and up or down the coast. Attachment A in Appendix M provides information about two historical vessel incidents, including the Nestucca spill referenced in the comment. For more information about the limitations of the model, refer to the Master Response for Oil Spill Modeling Methods.

The analysis of risks presented in Draft EIS Chapter 4, *Environmental Health and Safety*, considers the effectiveness of existing regulations and identifies additional mitigation measures to reduce

risks during vessel transport. Final EIS Chapter 5, *Extended Rail and Vessel Transport*, reflects additional information characterizing potential risks related to vessel transport in the extended study area under existing conditions, the no-action alternative, and the proposed action and acknowledges the need for updated and consistent geographic response planning. Chapters 4 and 5 of the Final EIS reflect updated information about ongoing efforts to address existing safety concerns within the extended study area. These efforts would also help to reduce any risks related to the proposed action.

Nonetheless, mitigation would not completely eliminate the possibility of an incident. Depending on the location, amount spilled, type of crude oil, and environmental conditions, such as the time of year, water flows, and weather conditions, environmental impacts could be significant.

Refer to the Master Response for Geographic Scope of the EIS for an explanation of why Chapter 5 addresses potential impacts from rail and vessel transport in the extended study area qualitatively.

### **Comment T9-3**

The Shoalwater Bay Tribe gives top priority to the protection of its natural resources. Only when the State of Washington can adequately regulate the transport of crude oil within the State and along its coastline and that crude oil handlers can demonstrate sufficient preparedness and willingness to respond and accept financial responsibility for worst case spill scenarios will the Shoalwater Bay Tribe not oppose such projects as the Westway and Imperium expansions.

Sincerely,

### **Response T9-3**

Comment acknowledged.