

# WESTWAY AND IMPERIUM DEIS INDEPENDENT REVIEW



Economics | Community Solutions | Land Use | Natural Resources | Regulatory Support

Gig Harbor, Washington | [www.ecologicalecon.com](http://www.ecologicalecon.com)

# TABLE OF CONTENTS

Table of Acronyms _____	ii
Project Background and Purpose _____	3
Introduction _____	4
Purpose of Independent Review _____	4
Summary of Independent review comments _____	5
Findings _____	6
Analytical Methods and Approach _____	6
General Comments _____	6
Review Findings _____	7
Insufficiencies _____	7
Incomplete, Inconsistent logic, errors and omissions _____	18
Climate change _____	24
Environmental Justice _____	24
Mitigation _____	27
About the Independent Review _____	29
Resource Dimensions _____	29

# 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<sup>1</sup>. 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.<sup>2</sup> 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.

---

<sup>1</sup> While all three projects could accommodate a variety of bulk liquids, project proponents state that crude oil would be the predominant liquid.

<sup>2</sup> 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>

# 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:

- 1) Are the appropriate methods employed to fully evaluate the extent of economic and social impacts of the proposed projects?
- 2) Are the reviewed chapters of both DEISs, including the economic impact analysis, internally logical, complete and consistent?
- 3) 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?

- 4) 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?
- 5) Do the DEISs adequately address impacts/effects of construction and routine operations on the QIN's utilization of its treaty resources?
- 6) 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
<b>Significance – High</b>	
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.
<b>Significance – Medium</b>	
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.	<b>The cost-benefit analyses presented in the DEISs are of very limited utility for policymaking.</b>

## 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."<sup>3</sup> We contend that revenue losses due to rail traffic and vessel traffic attributable to both projects should be considered cumulatively as well as individually.
- 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. 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),
- 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),
- Additional training and equipment for first responders (WTC pg. 4.2-8; ITS pg. 4.2-8), and
- 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).

---

<sup>3</sup> DOE. *Frequently Asked Questions about SEPA*. Accessed September 30, 2015. Available at: <http://www.ecy.wa.gov/programs/sea/sepa/faq.htm>.



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.

### **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.<sup>4</sup>

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.<sup>5</sup>

---

<sup>4</sup> 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>.

<sup>5</sup> 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.**<sup>6</sup>

### **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.<sup>7</sup>

### **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

---

<sup>6</sup> 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>

<sup>7</sup> 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).

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.

### **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.<sup>8</sup> The cost for the Pueblo training course is \$1,550 per person, plus travel expenses.<sup>9</sup> 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.<sup>10</sup> Note, such training does not include additional costs for local, multi-agency crude oil emergency training.

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).<sup>11</sup>

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.<sup>12</sup>

---

<sup>8</sup> 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-catastrophic-derailment>.

<sup>9</sup> 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>.

<sup>10</sup> Dickson, A. 2014. Budget woes prompt Hoquiam Fire Department layoffs. Available at <http://thedailyworld.com/news/local/budget-woes-prompt-hoquiam-fire-department-layoffs>.

<sup>11</sup> DOE. 2015. 2014 Marine and Rail Oil Transportation Study. Available at <https://fortress.wa.gov/ecy/publications/documents/1508010.pdf>.

<sup>12</sup> *Ibid.*

### **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.<sup>13</sup>

Given the importance of recreation-based tourism to the region, impacts to the recreation industry should be thoroughly explored.

**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 *“a 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.

---

<sup>13</sup> 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).

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.<sup>14</sup> 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.**

**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.”<sup>15</sup>*

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.

---

<sup>14</sup> City of Aberdeen. 2014. City of Aberdeen, Washington Municipal Code. Available at <http://www.aberdeenwa.gov/government/aberdeen-municipal-code/>.

<sup>15</sup> 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>.

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.**

- 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<sup>16</sup> and FOGH.<sup>17</sup>

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).

---

<sup>16</sup> *Ibid.* P. 8

<sup>17</sup> *Ibid.* P. 8

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 collision 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).**

- 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.<sup>18</sup> 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.

---

<sup>18</sup> *Ibid.* P. 9



**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 Terminal 1 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).<sup>19</sup>

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.”*

---

<sup>19</sup> *Ibid.* P. 8

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 1.

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.

## 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.

In Section 7.12 of both DEIS documents, the title of Appendix O is incorrectly given as *Census Block Group Data*, when it should be *Economic Impact Analysis*.

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 dollar values in Table 7.4 have not been normalized to one year, the 'Percent Change 2004-2012' percentages are incorrect.

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 O, 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.

Table 7-6 of the ITS DEIS should report \$3,274,100.

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 for 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.

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.”*

- 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).

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.

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.

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.

- 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.

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.

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.<sup>20</sup> Were the quality of these services to be interrupted or otherwise impinged

---

<sup>20</sup>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”.

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.

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.

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.

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).

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.

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.

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.

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 onsite 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.

- d. 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.

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.

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.

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.”*

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.

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.”*

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.

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.

## CLIMATE CHANGE

- 8. 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.”*<sup>21</sup> 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 level”* (ITS and WTC pg. S-27). This is a quote from the DEIS, but no significant impacts are discussed in Chapter 6, *Cumulative Impacts*.

## ENVIRONMENTAL JUSTICE

- 9. 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.”*<sup>22</sup>

---

<sup>21</sup> 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).

<sup>22</sup> 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.<sup>23</sup>

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).<sup>24</sup>

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.”<sup>25</sup>

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.”<sup>26</sup>

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].”<sup>27</sup> 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.”<sup>28</sup>

---

<sup>23</sup> *Ibid.* P. 9

<sup>24</sup> 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\\_ceq1297.pdf](http://www3.epa.gov/environmentaljustice/resources/policy/ej_guidance_nepa_ceq1297.pdf)

<sup>25</sup> 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>

<sup>26</sup> Clinton, William J. 1994. Executive Order 12898. 59 Federal Register 7629. Available at <http://www.archives.gov/federal-register/executive-orders/pdf/12898.pdf>.

<sup>27</sup> *Ibid. fn. 24*

<sup>28</sup> *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.”<sup>29</sup>*

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.<sup>30</sup>

In Section 7.2.1 ICF 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 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.<sup>31</sup> The Chehalis Tribe also has a recreational shellfishing 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.

---

<sup>29</sup> *Ibid.* Pp. 8

<sup>30</sup> 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.

<sup>31</sup> This concept is investigated in detail in the discussion insufficiencies on page 6.

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 affects 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.

## MITIGATION

- 10. 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 is statement is not a mitigation measure or an action plan for addressing any one of the specific items identified in Sections 7.2.4. In 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.”

- 11. 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).**

## 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.