I. INTRODUCTION

The legislature charged the Energy Facility Site Evaluation Council (EFSEC) with the responsibility to preserve and guard the quality of Washington’s environment during the review of energy facility sitings. RCW 80.50.010. The legislature further highlighted the importance of guarding natural resources by requiring that the Attorney General appoint an independent representative of the public, the Counsel for the Environment, to advocate before EFSEC for the public’s interest in the protection of its ecosystems. The Counsel for the Environment (CFE) has an independent, statutorily created role to represent the public’s broad interest in protecting the quality of the environment. See RCW 80.50.080.

The Vancouver Energy Distribution Terminal (VEDT) project presents unique and unprecedented environmental impacts. In addition to the construction of the terminal, which includes storage tanks and transfer facilities, the ongoing operations include transporting highly flammable and toxic crude oil across the state of Washington by rail. At certain points,
the rail cars carrying this crude oil will travel along the banks of one of Washington’s most
significant and cherished natural resources, the Columbia River. Moreover, this same crude oil
will be transferred from the terminal to tanker ships that will carry the oil from the mouth of
the Columbia River into the Pacific Ocean.

Unlike prior projects recently considered by EFSEC, where the primary environmental
impacts relate to a defined location, the environmental risks of this project’s operation are
multiple and implicate many areas of the state. The risks extend beyond the physical site of the
terminal and past the time of construction. The regular transport of highly flammable and toxic
crude oil across the state and in close proximity to or on the Columbia River presents a
continuing risk of significant environmental impacts and harm.

In order to provide EFSEC with information crucial for evaluating the proposed VEDT
project, CFE has retained and presented highly qualified experts who thoroughly reviewed and
analyzed potential natural resources damages that may result from this project. Their
conclusions have been filed with EFSEC in a detailed report and written direct testimony.
CFE’s expert on natural resource damages, James Holmes, is an environmental scientist who
has worked on such damage assessments since 1991. Most recently, he was a project manager
on the natural resource damage assessment for the Deepwater Horizon Oil Spill in the Gulf of
Mexico. CFE also retained Dr. Eric English to evaluate the loss to commercial and
recreational fishing from a potential oil spill from a tanker grounding. Dr. English holds
advanced degrees in Public Administration and Economics from Cornell University. For the
past 15 years, he has participated in numerous economic valuations of oils spills damages,
including assessing recreational impacts from the Deepwater Horizon oil spill.

In his written direct testimony, Mr. Holmes addresses the continuing nature of damages
to fish, wildlife and their habitats that spring from possible worst-case spill scenarios. The first
scenario involves a tanker ship grounding in the lower Columbia River and releasing crude oil
into the river. The second scenario involves a spill further upstream with a train derailment
that would discharge oil in to the Columbia River near the Bonneville Dam, with oil being mixed with the water as it flows through the dam and downstream. In both cases, Mr. Holmes estimates that the habitats of the river and surrounding area would not be restored to pre-spill conditions for up to 20 years. In addition, Washington would suffer from the loss of multitudes of fish, wildlife and birds. For the tanker spill, restoration costs are calculated to be $171.3 million, while such costs stemming from the train derailment would be $84.9 million.

Dr. English examined potential fishing loss from the first scenario discussed above of a tanker grounded and spilling oil into the lower Columbia River. As noted in his testimony, potential impacts from a resultant oil spill include lost revenue from commercial fishing, decreased expenditures by recreational fishing, and the decline in the value of recreational fishing. These losses ranged from $4.7 to $17.8 million. Dr. English estimated that such a spill would cause those engaged in commercial ventures to be unable to pursue their livelihood for a six month period with an additional six month loss to recreational fishers.

Both experts believe that the monetary values of their damages estimates are low. Indeed, actual costs for restoration based on previous Washington incidents and past major spills outside Washington could be between $232 million and $1.16 billion. However, equally or more troubling than the monetary cost are the foreseeable losses of wildlife, fish and habitats that would result from the operation of the proposed project in a worst case spill scenario. While financial compensation may be touted as mitigation for such losses, the reality is that it could take decades to restore the environment to its pre-spill condition.

II. THE VANCOUVER ENERGY DISTRIBUTION FACILITY PROJECT INVOLVES TRANSPORTATION AND TRANSFER OF CRUDE OIL

The Applicant, Tesoro-Savage, proposes to construct the Vancouver Energy Distribution Facility Terminal (VEDT) at the Port of Vancouver on the Columbia River. The VEDT is proposed as a crude-by-rail uploading and marine loading facility. Order Commencing Agency Adjudication and Setting Intervention Petition Deadline dated...
February 27, 2015, at 1. At full operation, the facility would receive up to 360,000 barrels of crude oil per day. *Id.* The crude oil would be transported to the facility by up to four unit trains; temporarily stored on site at the Port of Vancouver; and then loaded onto marine vessels for delivery to refineries on the west coast of the United States. *Id.* The VEDT construction is primarily focused at a Port of Vancouver terminal site consisting of a rail unloading facility, an oil storage area, and a marine loading facility.

III. **EFSEC’S REGULATORY MANDATE EMPHASIZES THE IMPORTANCE OF ENVIRONMENTAL PROTECTION**

The legislature designed the energy facility siting process to “produce minimal adverse effects on the environment, ecology of the land and its wildlife, and the ecology of state waters and their aquatic life.” RCW 80.50.010. To accomplish this goal, the EFSEC must balance the need for energy facilities with the public’s broad interest in protecting and preserving the environment. *Id.* These environmental interests go beyond just the obvious preservation of species and habitat and extend to “enhanc[ing] the public’s opportunity to enjoy the esthetic and recreational benefits of the air, water and land resources; to promot[ing] air cleanliness; and to pursu[ing] beneficial changes in the environment. RCW 80.50.010(3). EFSEC’s regulations further emphasize the importance of environmental protection in its evaluation by recognizing that the “overriding policy of the council is to avoid or mitigate adverse environmental impacts which may result from the council’s decisions.” WAC 463-47-110(1)(a). EFSEC’s statutory mandate and its own regulations provide that EFSEC’s decision must respect the public’s interest in protecting and preserving the environment and take all practical means to ensure that the siting of an energy facility does not result in the degradation of Washington’s vital natural resources.

IV. **THE VANCOUVER ENERGY DISTRIBUTION TERMINAL PROJECT PRESENTS UNIQUE RISKS TO THE ENVIRONMENT**

The VEDT application is different from prior site certification applications recently considered by EFSEC, especially with regard to the magnitude of environmental concerns
raised in relation to the project. The site certification applications recently reviewed by EFSEC prior to the VEDT, as set forth on EFSEC’s website, dealt primarily with the siting of alternative energy facilities. For example, the last three approvals issued by EFSEC were wind power projects, specifically the Whistling Ridge Energy Project submitted in 2009, the Desert Claim Wind Power Project submitted in 2006, and the Wild Horse Wind Power Project submitted in 2004.

The parties to the Whistling Ridge Energy Project adjudication focused largely on habitat and wildlife impacts involving the construction and operation of the wind terminals on previously undeveloped land, impact on the scenic view, and land use issues. Concerns focused on the immediate location of the project. The Desert Claim Wind Power Project was also a proposed wind-powered energy production facility to be developed on previously undeveloped land. Again the associated environmental issues largely focused on local impacts resulting from the construction and operation of the facility. The Wild Horse Wind Power Project was very similar to the other two projects. The environmental issues in all three projects were far more geographically contained and did not involve the same level of risk of loss of fish, wildlife, or habitat as implicated in the present project. EFSEC also recently reviewed and permitted five natural gas projects with two plants operational. In general, the environmental issues associated with the natural gas projects were geographically contained and did not involve the same level of environment risk as the present project. While concerns and risks regarding the actual construction and operation of the VEDT at the project location should be considered and addressed, a large percentage of the issues involved with the VEDT project are vastly different than those presented by the projects most recently considered by EFSEC.

In contrast to the previous wind power and natural gas projects reviewed by EFSEC, the issues surrounding the proposed VEDT project are focused largely, though not entirely, on the risks and impacts associated with transporting crude oil via rail across Washington State to
the project location and the risks and impacts associated with loading crude oil onto vessels and transporting it along the Columbia River. As noted above, the VEDT project will receive crude oil by rail and then upload the crude oil to tankers for transport on the Columbia River to the Pacific Ocean. The crude oil would be delivered, likely from the Bakken region in North Dakota, to the VEDT facility in “unit trains” composed of up to 120 sole-purpose crude oil tank cars. An average of four unit trains would traverse the State and arrive at the facility per day for a total of almost 3,000 one-way train trips per year. Once a train arrives at the VEDT facility, the oil would be either transferred to storage tanks or transferred directly to marine vessels. The vessels would then travel down the Columbia River and across the open ocean for delivery to west coast refineries. Vessels loaded with crude oil associated with the VEDT will make approximately 365 trips per year along the Columbia River.

The transportation of a volatile substance by rail and vessel through the State of Washington requires that EFSEC’s evaluation of the VEDT project include an understanding of the worst case scenarios in relation to the transportation of crude oil to and from the project location. Are the potential risks and potential harm to the environment and the public, regardless of who is financially responsible or the probability of occurrence, worth the purported benefits? Only by understanding how great the harm can potentially be will EFSEC be able to appropriately evaluate whether the risks and impacts to the environment and public safety of the VEDT project are outweighed by any purported benefits.

V. CFE’S EXPERTS PROVIDE CRUCIAL INFORMATION REGARDING NATURAL RESOURCES INJURIES

CFE submitted the written testimony of two highly qualified experts. The experts evaluated and estimated potential economic impacts to fisheries and potential natural resource damages from a worst-case oil spill involving a tanker grounding in the Columbia River near Vancouver, Washington. The experts also evaluated potential natural resource damages associated with a worst case oil spill involving a train derailment near the Bonneville Dam.
A. The CFE’s Experts Tackle Environmental Issues Not Covered by Other Experts

Given the plethora of expert testimony presented by the various parties, CFE chose to focus on the specific issues of possible natural resource damage to the Columbia River, as well as potential economic impacts to recreational and commercial fishing, should a worst case discharge occur in connection with the VEDT. As mentioned above, EFSEC’s evaluation of this project requires a risk based analysis to properly implement EFSEC’s statutory and regulatory mandates. CFE asserts that an appropriate understanding of the potential significant impacts of a major oil spill on the habitat and wildlife of the Columbia River, as well as on the fishermen relying upon the Columbia River resources, is necessary for EFSEC to properly evaluate the risks associated with the VEDT. CFE’s advocacy for a risk based analysis is bolstered by expert witness testimony submitted by the intervenors establishing that the proposed facility would pose new risks to the environment due to the transport of crude oil through the State and along the Columbia River. See Direct Testimony of Susan Harvey at ¶18-33.

Any defensible risk assessment must evaluate the potential worst case impacts that could occur. EFSEC’s regulations require that its recommendation be based on ensuring minimal environmental impacts and on enhancing the public’s enjoyment of natural resources. WAC 463-47-110(1)(a). Even a low probability event that could cause catastrophic consequences for the State of Washington should be strongly considered in evaluating the risks associated with the VEDT project. Accordingly, CFE has submitted written expert testimony addressing how two worst case scenarios could damage one of Washington’s most unique natural resources, the Columbia River, and as well as testimony regarding potential impacts to commercial and recreational fishing.
B. The CFE Retained Well Qualified Experts in the Field of Natural Resource Damages

CFE’s expert witnesses include James V. Holmes of Abt Associates and Dr. Eric English of Bear Peak Economics. Mr. Holmes is an environmental scientist with significant experience in natural resource damage assessments (NRDAs), contaminant fate and transport analyses, surface and groundwater assessments, ecological effects assessments, and natural resource planning. See Ex. 1501-000001-ENV. Mr. Holmes has a BA in Environmental Biology and a MS in Earth Sciences and currently works as the co-leader of the environmental science and NRDA practice in the Environment and Natural Resources Division at Abt Associates. *Id.*

Mr. Holmes has provided natural resource damage analysis for at least a dozen environmental incidents including serving as a project manager evaluating the Deepwater Horizon oil spill in the Gulf of Mexico. *Id.* Mr. Holmes has co-authored publications involving oil slick morphology and oil slicks in the Gulf of Mexico and given presentations regarding the quantification of NRDA’s throughout the United States. *Id.* Mr. Holmes additionally provided expert witness services for a variety of proceedings involving NRDAs. *Id.*

Dr. English is an economist focusing on environmental and natural resource economics and natural resource damages policy and strategy and holds a PhD in Economics from Cornell University. See Ex. 1502-000001-ENV. Dr. English’s professional background includes serving as the National Oceanic and Atmospheric Administration’s lead economist for damage assessments on the Atlantic coast. *Id.*

Dr. English evaluated impacts to recreation from the 2010 Deepwater Horizon oil spill; impacts to fishing and boating following the 2006 Citgo refinery oil spill in Louisiana; impacts following the 2004 Athos I oil spill on the Delaware River near Philadelphia; impacts to marine recreation in the San Francisco Bay Area from the 2007 Cosco Busan oil spill; and
impacts to recreational shell fishing, beach use, and boating following the 2003 Bouchard 120 oil spill in Buzzards Bay, Massachusetts, among other professional work. *Id.* Dr. English also authored or coauthored published work regarding, among other things, the assessment and restoration of environmental damage following marine oil spills. *Id.*

No party objected to the qualifications of either Mr. Holmes or Dr. English as an expert witness in this proceeding.

C. The CFE Experts Demonstrate the Significant Environmental Risks Associated with the VEDT Project

Mr. Holmes’ written testimony addresses an evaluation of natural resource impacts to the Columbia River associated with two hypothetical scenarios: a tanker grounding in the Columbia River near Vancouver, Washington, and a train derailment near the Bonneville Dam. Holmes Pre-filed Direct Testimony at ¶3. The evaluations of these impacts were limited in scope to impacts to the Columbia River. *Id* at ¶4. The evaluation did not include potential impacts in the Pacific Ocean or the Pacific coastline. *Id.* In addition, the evaluation did not evaluate how the public or Indian Tribes would value the potential losses to natural resources in either hypothetical scenario. *Id*.

Due to these limitations in scope, Mr. Holmes testifies that the estimates of potential natural resource injuries and damages in both scenarios are likely underestimated in his report. *Id.*

1. Scenario #1: Tanker Grounding in Lower Columbia River

The first worst case discharge scenario evaluated by Mr. Holmes consists of a tanker grounding near the City of Vancouver during the springtime that results in a spill of about eight million gallons of Bakken crude oil into the Columbia River. Mr. Holmes estimates that oil from such a spill would travel from Vancouver to Longview in one day and then would likely travel from Longview to the mouth of the Columbia during the next four days. Such a spill

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1 The Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes and Bands of the Yakama Nation, and the Columbia River Inter-Tribal Fish Commission have submitted expert testimony regarding potential impacts to tribal interests, including potential impacts to tribal fisheries as a result of the VEDT project.
would result in birds, fish, and wildlife being exposed to oil including oil slicks on the river surface; stranded oil along the banks of the river and in the floodplain and a toxic element (polycyclic aromatic hydrocarbons or PAHs) in the water column. *Id.* at ¶5.

The analyzed spill could expose an estimated 65,000 to 130,000 adult salmon in the Columbia River and at least an estimated 1.4 million to 1.6 million juvenile salmon to the oil in the river. *Id.* at ¶20-21. Mr. Holmes testifies that such oil exposure would adversely affect fish including increased mortality and reduced physiological fitness that could adversely affect successful migration to spawning grounds. *Id.* at ¶8. Oil exposure would also likely negatively impact numerous other fish species, including shad and sturgeon. *Id.* at ¶22. Mr. Holmes estimates that mortality rates could range from between 25 to 75 percent. Ex. 1503-000095-ENV.

Such a spill could also potentially expose thousands of birds to oil. Holmes Direct at ¶22. Mr. Holmes indicates that the literature suggests that most birds exposed to oil in such a situation are impaired and may die. *Id.* at ¶6. Bird mortality is estimated between 30,000 to 65,000 waterfowl deaths, between five and 25 bald eagle deaths, and further songbird deaths of an unquantifiable number. Ex. 1502-000066-ENV. In addition, oiled bird eggs rarely produce offspring and oiled feathers affect flight behavior which could negatively impact hunting and migration success and increase predation. Holmes Direct at ¶6. Sea lions and seals are also likely to be exposed, and data suggests that oil exposure results in adverse health effects on marine mammals. *Id.* at ¶22.

Mr. Holmes’ testimony further estimates potential damage compensation for the impacts of oil exposure to natural resources. The testimony is clear that a worst-case oil spill described in scenario #1 would have substantial ecological impacts to the Columbia River. Ex. 1503-000063-ENV. Mr. Holmes estimated damages to natural resources focus largely on the cost to restore the injured river habitat and the cost to restore injured floodplain wetland habitat. Ex. 1503-000067-ENV. The testimony estimates that an oil spill of the magnitude
described in scenario #1 could result in significant injuries to river habitat with an estimated cost of $114.4 million. *Id.*

The spill detailed in scenario #1 would cause injury to riverbank and floodplain habitat. Ex1503-000073-ENV. Four wildlife refuges are located between Vancouver and the mouth of the Columbia. Ex-1503-000008-ENV. Oil from the spill would become stranded in such habitats. *Id.* Mr. Holmes calculated that over 16,000 acres of wetland habitat and over 91,000 acres of river habitat likely would be oiled as a result of such a spill. *Id.* at 000009.

Mr. Holmes estimates the cost to restore riverbank and floodplain habitats at $56.9 million. *Id.* The report estimates a timeline of between nine and 20 years for the habitats to return to pre-spill conditions depending on the habitat and timing of the restoration work. *Id.*

As previously stated, these figures likely underestimate the total extent of damages. In addition, Mr. Holmes provides a possible range in damages of between $455 million and $1.16 billion based on actual damages resulting from past major spills and $232 million in damages extrapolated from past incidents in the Columbia River. Ex. 1503-000076-ENV.

2. **Scenario #2: Train Derailment Upstream of the Bonneville Dam**

Mr. Holmes’ testimony also evaluates a worst-case discharge scenario involving a train derailment immediately upstream of the Bonneville Dam resulting in a spill of 840,000 gallons of Bakken crude oil. *Holmes Direct* at ¶29. In this scenario, Mr. Holmes assumed that most of the oil would go through the dam spillway and mix with the water column. *Id.* This mixing could expose aquatic species including sturgeon and adult/juvenile salmon to highly elevated toxicity levels. *Id.* Mr. Holmes estimates that such a spill could result in approximately 140 river miles of oil exposure. Ex. 1503-000010-ENV. Mr. Holmes further estimates that 16,687 acres of wetland habitat and 110,316 acres of river habitat would be oiled as a result of this scenario. Ex. 1503-000011-ENV.

Mr. Holmes indicates several differences between scenario #2 and scenario #1 in regard to impacts. Ex. 1503-000082-ENV. These differences include the mixing of the oil into the
water column and the likely related significant increase in toxicity. Further, the area immediately below the dam contains several more wildlife refuges with valuable habitat than Scenario #1. *Id.* Mr. Holmes estimates that between 1,500 and 9,000 adult salmon and between 20,250 and 220,000 juvenile salmon could die due to oil exposure. The oil mixing into the water column will also likely expose valuable protected sturgeon spawning habitat to injury. *Ex.1503-000086-ENV.* Mr. Holmes further indicates that bird deaths will also be highly likely in the event of a Scenario #2 spill. *Id.*

Mr. Holmes estimates that over 16,500 acres of wetland habitat, primarily in the estuary, and over 110,000 acres of river habitat would be oiled as a result of such a spill. *Ex. 1503-000011-ENV.* The potentially impacted area includes 850 acres designated as protected white sturgeon spawning habitat. *Id.*

As a result of this scenario, Mr. Holmes estimates the cost to restore river habitat at $54.5 million. *Ex. 1503-000011-ENV.* The estimated cost to restore floodplain wetland habitat is $30.4 million. *Ex. 1503-000012-ENV.* These habitats could take between nine and 20 years to return to pre-spill conditions depending on the habitat and the timing of restoration work. *Ex. 1503-000089-90-ENV.* In addition, Mr. Holmes estimates a possible range in damages of between $48 million and $122 million based on a benchmark of damages per barrel spilled from other major oil incidents, including the 1989 *Exxon Valdez* disaster off the Alaska coast and $24 million in damages extrapolated from past incidents in the Columbia River. *Ex. 1503-000093-ENV.* CFE emphasizes that the dollar amounts provided in Mr. Holmes’ testimony and report are not intended to reflect the total amount of actual ecological and environmental harm that is likely to occur as a result of an oil spill.

Regardless of the financial ability of a responsible party to pay for the cost of restoration, the testimony shows that the consequences of a worst-case oil spill will negatively affect Columbia River habitats for years after the date of the spill and cause significant harm to Washington’s natural resources. The dollar amounts cannot, and are not intended to, cure the
observable and/or measurable adverse changes to the public’s natural resources nor the impairment to natural resource access that will occur while restoration is occurring.

3. Potential Economic Impacts to Commercial and Recreational Fishing

Dr. English’s testimony focuses on the economic impacts to commercial and recreational fishing from the tanker spill. Direct Expert Testimony of English at ¶3. Dr. English estimates that a spill in the Lower Columbia River of the size described in scenario #1 would likely result in at least a six month long closure of the entire lower river to commercial and recreational fishing and a decline in anglers for a period thereafter. *Id.* at ¶4.

Such a closure is likely to result in three different types of economic fishing losses. All three are detailed below:

- Economic losses to commercial fishermen = $4.7 million. This estimate represents lost revenue to commercial fishermen. The total losses will likely be higher but cannot be estimated due to numerous factors that are difficult to quantify.

- Decline in the value of recreational fishing = $17.8 million. This is a monetary quantification of the loss of enjoyment by recreational anglers whose preferred fishing opportunities are degraded or eliminated by the spill and includes the lost value from angler trips that are canceled.

- Decline in expenditures by recreational anglers = $14.4 million. This is a measure of the potential disruption to local economic activity, with the most direct impacts on local business, like bait shops and marinas.

*Id.* at ¶6-8.

Similar to Mr. Holmes testimony, the economic impacts described in Dr. English’s testimony do not include any impacts from oil leaving the mouth of the Columbia River and entering the Pacific Ocean. *Id.* at 9. As such, the economic impacts are likely conservative.

*Id.*

Dr. English’s testimony reveals that a major oil spill in the Columbia River would likely cause significant economic harm to the commercial and recreational fishing industry. A six-month closure along with decline in anglers for a period of time thereafter could devastate the industry.
VI. OTHER ISSUES OF CONCERN FOR THE CFE

While the expert testimony submitted by CFE focuses on impacts to the Columbia River as a result of two worst-case discharge scenarios, CFE is also concerned about the various other environmental and safety concerns raised by the other parties. CFE urges EFSEC to seriously consider and weigh any direct, indirect, or cumulative impacts the VEDT project may have on the environment including, but not limited to, water and air quality. Further, while CFE’s statutory mandate is to represent the people’s interest in the quality of the environment, CFE is also greatly concerned about the numerous public safety issues raised by the parties including train and vessel safety risks involving the transport of the volatile Bakken crude oil. CFE urges EFSEC to thoroughly evaluate public safety risks and weigh the potential dangers to the public caused directly or indirectly by the VEDT project.

VII. CONCLUSION

The Attorney General’s Counsel for the Environment plays a critical statutory role in representing the public’s interest in the environment regarding the development of energy facilities. The VEDT project is unique to EFSEC and the State of Washington. The potential environmental impacts detailed in the CFE’s experts’ report and testimony, and the environmental risks and impacts set forth in testimony submitted by the other parties to the adjudication, demonstrate the significant and unprecedented impacts to the environment that may occur as a result of the VEDT project. CFE strongly urges EFSEC to consider CFE’s expert testimony in evaluating the potential risk of the VEDT project to the State of Washington’s environment, and especially to the Columbia River environs. The risks associated with the VEDT project are significant to the people and the environment of the State of Washington. As shown by the recent oil train incident in Mosier, Oregon, consideration of the risks associated with the transportation of crude oil through the state is crucial to EFSEC’s
evaluation. Human error piloting a vessel in the Columbia River or one broken bolt on a track
could lead to a significant environmental and public safety disaster.

DATED this 20th day of June, 2016.

ROBERT W. FERGUSON
Attorney General

MATTHEW KERNUTT, WSBA# 35702
Assistant Attorney General
Counsel for the Environment