

ATTACHMENT 2



June 13, 2016

VIA HAND DELIVERY

ICF International
710 Second Avenue, Suite 550
Seattle, WA 98104

RE: Columbia Riverkeeper, et al. Comments on Draft Environmental Impact Statement for Millennium Bulk Terminals Longview

To Whom It May Concern:

On April 29, 2016, Co-leads Cowlitz County and Washington Department of Ecology issued the draft Environmental Impact Statement (“DEIS”) prepared under the State Environmental Policy Act (“SEPA”) for the proposed Millennium Bulk Terminals Longview (“MBT”) coal export project. Columbia Riverkeeper, Friends of the Columbia Gorge, Sierra Club, Washington Environmental Council, Climate Solutions, Oregon Physicians for Social Responsibility, Washington Physicians for Social Responsibility, and RESources for Sustainable Communities (collectively, the “Coalition”) have reviewed the document and supporting materials closely and submit the following comments. These comments expressly incorporate the expert reports attached to this letter, as well as the exhibits cited herein, copies of which are provided on CD attached to this comment letter.

In light of the major and unavoidable consequences for the people of Longview, rail-line communities, and the Columbia River identified in the DEIS, the MBT project must be denied. SEPA and associated laws provide a more than adequate basis for denying the requested permits for MBT’s proposal. Despite some significant shortcomings, detailed below, the DEIS confirms that MBT’s operation would threaten public safety, degrade public health, and compromise some of the most important salmon habitat in the continental United States. Even more significantly, although the DEIS significantly understates the project’s potential impact on greenhouse gas (“GHG”) emissions, it confirms that MBT would be among the state’s worst sources of carbon pollution, and would trigger changes in global coal markets that result in substantial increases in coal consumption. The DEIS reveals many significant impacts and risks that, individually and collectively, provide a basis for the Co-leads to deny the project.

At the same time, several elements of the analysis in the DEIS are inadequate, incomplete, or incorrect. In other words, the impacts and risks of chief concern to the public are likely far greater than what are disclosed in the DEIS. Those shortcomings are particularly of concern in sections addressing GHGs, public health, and coal dust pollution. This comment letter explores those shortcomings.

The DEIS must be revised to address its fundamental deficiencies. **Correction of the DEIS's flaws will lead to an even firmer conclusion that this project presents significant, adverse environmental and public health harms and risks that cannot be mitigated.** SEPA itself grants the authority to deny this project on any one of several bases, including GHG emissions, risk of rail accidents, traffic, pollution, human health, and impacts to tribal fishing, among others. The co-lead agencies, and other permitting entities, can use that authority, as well as separate authority from other applicable statutes and regulations, to deny or recommend rejection of this terminal.

I. SEPA PROVIDES THE CO-LEADS WITH AUTHORITY TO DENY THE PERMITS FOR THIS PROJECT

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

But SEPA is more than a purely "procedural" statute that encourages informed and politically accountable decision-making. In enacting SEPA, the state legislature gave decision-makers the affirmative authority to condition or even deny projects where environmental impacts are serious, cannot be mitigated, or collide with local rules or policies. This authority, like all government authority, is not boundless: the denial of a project must be made on the basis of policies adopted by the relevant government body in light of significant adverse impacts that cannot be reasonably mitigated. This authority has been exercised relatively sparingly. Indeed, in some cases, decision-makers are unaware that they even have it, and incorrectly believe that as long as proposals comply with all applicable development codes, then agencies have no choice but to approve the project. To the contrary, SEPA, in and of itself, contains the authority to condition or deny environmentally harmful projects.¹

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

¹ Ex. 1, "The Power to Say 'No': SEPA's Substantive Authority and Controversial Fossil Fuel Projects," J. Hasselman, *Environmental & Land Use Law*, Env'l and Land Use Law Sec. of WSBA, Vol. 41, No. 2, Aug. 2015.

the environment. WAC 197-11-330. Significance means a “reasonable likelihood of more than a moderate adverse impact on environmental quality.” WAC 197-11-794.

Under SEPA’s governing regulations, a SEPA document must fully evaluate all of the direct, indirect, and cumulative effects of projects. WAC 197-11-060(2)(c). While SEPA itself does not define direct, indirect, and cumulative impacts, NEPA does, and these definitions have been borrowed for use in interpreting SEPA.² Indirect impacts are “caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.” 40 C.F.R. § 1508.8(b). Cumulative impacts include “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” 40 C.F.R. § 1508.7; WAC 197-11-060(4)(e) (requiring consideration of cumulative effects in determining whether significance threshold has been crossed); WAC 197-11-330(3)(c) (“Several marginal impacts when considered together may result in a significant adverse impact.”). Also important in the context of fossil fuel transportation are impacts with a low likelihood but high consequences, like spills from rail or marine transportation. WAC 197-11-794 (“An impact may be significant if its chance of occurrence is not great, but the resulting environmental impact would be severe if it occurred.”). Importantly, the regulations specifically direct that an “agency shall not limit its consideration of a proposal’s impacts only to those aspects within its jurisdiction, including local or state boundaries.” WAC 197-11-060(4)(b).

The requirement to study indirect impacts associated with fossil fuel terminals is equally clear under SEPA’s federal analogue, NEPA. For example, in *Mid-States Coalition for Progress v. Surface Transp. Bd.*, 345 F.3d 520 (8th Cir. 2003), the Eight Circuit Court of Appeals agreed that an EIS for a rail project was required to study the potential increased long-term demand for coal that could arise if the project was built. Similarly, in *Border Plant Working Group v. Department of Energy*, 260 F. Supp. 2d 997 (S.D. Cal. 2003), a court invalidated an EIS for power transmission lines because the decision-maker failed to consider the impacts of the operation of the Mexican power plants linked to the lines.³ Recent EISs for controversial projects like the Tongue River Railroad and the Keystone XL evaluate potential market impacts on fossil fuel production and consumption.

The purpose of SEPA is not to generate this information for its own sake. Rather, the purpose of SEPA is to inform an underlying substantive decision; e.g., whether or not to grant some underlying permit or authorization to take action that potentially affects the environment.

² See *Quinault Indian Nation v. City of Hoquiam*, 2013 WL 6637401 (Shorelines Hearings Board, Dec. 9, 2013) (borrowing NEPA definition of cumulative effects for SEPA analysis of crude-by-rail terminal).

³ See also *Ocean Advocates v. Corps of Engineers*, 402 F.3d 846, 867-68 (9th Cir. 2005) (requiring EIS for dock construction project to consider “increased vessel traffic” that would be proximately caused by project); *S. Fork Band Council of W. Shoshone v. DOI*, 588 F.3d 718, 725 (9th Cir. 2009) (“The air quality impacts associated with transport and offsite processing of the five million tons of refractory ore are prime examples of indirect effects that NEPA requires to be considered.”).

WAC 197-44-400. Accordingly, the information developed under SEPA on indirect and cumulative impacts of fossil fuel projects is intended to inform the ultimate permitting decision.

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

Courts have repeatedly recognized that this denial authority exists, even where projects otherwise comply with all relevant applicable codes. Indeed, the Washington Supreme Court explicitly affirmed that “under the State Environmental Policy Act of 1971 a municipality has the discretion to deny an application for a building permit because of adverse environmental impacts even if the application meets all other requirements and conditions for issuance.” *West Main Associates v. Bellevue*, 106 Wn.2d 47, 53 (1986). An appeals court similarly affirmed that “counties therefore have authority under SEPA to condition or deny a land use action based on adverse environmental impacts even where the proposal complies with local zoning and building codes.” *Donwood v. Spokane County*, 90 Wash. App. 389 (1998). Decision-makers have denied permits under this authority in a number of other contexts, many of which are similar to those of this project.⁴

The complete text of the applicable language is:

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

⁴ *Polygon Corp. v. City of Seattle*, 90 Wn.2d 59, 69-70 (1978) (upholding denial of high-rise project based on aesthetic, property values, and noise impacts); *Victoria Tower P’ship v. City of Seattle*, 59 Wash. App. 592, 602 (1990) (upholding denial of 16-floor tower and mitigation to 8-floors); *State v. Lake Lawrence Pub. Lands Prot. Ass’n*, 92 Wn.2d 656, 659 (1979) (upholding denial of development of 14-acre parcel because of effects on bald eagles); *Cook v. Clallam Cnty.*, 27 Wash. App. 410, 414 (1980) (upholding permit denial of commercial development in rural area); *W. Main Associates v. City of Bellevue*, 49 Wash. App. 513, 521-23 (1987) (upholding denial of permits based on historic/cultural impacts, view impacts, shadow impacts, traffic impacts, and air impacts).

the time specified by RCW 43.21C.120. Such action may be conditioned only to mitigate specific adverse environmental impacts which are identified in the environmental documents prepared under this chapter. These conditions shall be stated in writing by the decision maker. Mitigation measures shall be reasonable and capable of being accomplished. In order to deny a proposal under this chapter, an agency must find that: (1) The proposal would result in significant adverse impacts identified in a final or supplemental environmental impact statement prepared under this chapter; and (2) reasonable mitigation measures are insufficient to mitigate the identified impact. Except for permits and variances issued pursuant to chapter 90.58 RCW, when such a governmental action, not requiring a legislative decision, is conditioned or denied by a nonelected official of a local governmental agency, the decision shall be appealable to the legislative authority of the acting local governmental agency unless that legislative authority formally eliminates such appeals. Such appeals shall be in accordance with procedures established for such appeals by the legislative authority of the acting local governmental agency.

RCW 43.21C.060 (emphasis added); *see also* WAC 197-11-030(1) (“The policies and goals set forth in SEPA are supplementary to existing agency authority.”). This authority is amplified in Ecology’s SEPA regulations, which lay out additional procedures and requirements for conditioning or denial pursuant to SEPA’s substantive authority. WAC 197-11-660. For example, in order to deny a proposal under SEPA, an agency must find that “reasonable mitigation measures are insufficient to mitigate the identified impact.” WAC 197-11-660(f)(ii). Cowlitz County has also adopted explicit code provisions laying out its authority to deny or condition projects. CCC 19.11.110 (“Under RCW 43.21C.060 and WAC 197-11-660, Cowlitz County is allowed to condition or deny proposals if such decision is based upon policies that have been identified and incorporated into regulations, plans, or codes formerly designated as possible bases for the exercise of substantive authority under SEPA.”).

In short, the Co-leads have the discretion to deny this project under SEPA, as long as: (a) the denial is based on an appropriate policy; (b) the agency finds that the project would result in significant adverse impacts; and (c) “reasonable mitigation measures” cannot mitigate those impacts. These criteria are satisfied here.

Cowlitz County has specific policies to implement this substantive authority, and they are sweeping indeed. They include the duty to use all practicable means to “fulfill the responsibilities of each generation as trustee of the environment for succeeding generations”; to “[a]ssure for all people of Cowlitz County safe, healthful, productive, and aesthetically and culturally pleasing surroundings”; and to “[a]ttain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended

consequences.” It also explicitly incorporated its air quality standards, critical areas ordinances, and shoreline code and master plan into its SEPA substantive authority. These provisions highlight the importance of good air and water quality as well as fish and wildlife habitat. *See, e.g.,* CCC 19.30.010 (“The Board deems it to be in the best interests of the public to secure and maintain such levels of air quality as will protect human health and safety and to the greatest degree practicable, prevent injury to plant and animal life and property; foster the comfort and convenience of the county inhabitants; promote the economic and social development of the county and facilitate the enjoyment of the natural attractions of the county.”); CCC 19.15.030(A)(4) (“Fish and wildlife habitat conservation areas perform many important physical and biological functions that benefit the county and its residents.”).

The County has explicitly adopted authority to condition projects based on consistency with state and federal goals.⁵ CCC 19.11.110 (B)(4)(h) (“In order to reduce or eliminate adverse environmental impacts, Cowlitz County may condition approvals on the applicant’s compliance with particular state and/or federal statutes, regulations, agreements and/or permit conditions.”). Among those policies so incorporated is the state’s growing framework to reduce GHG emissions. *See, e.g.,* RCW 80.80.005(1)(a) (Washington is “especially vulnerable to climate change because of the state’s dependence on snow pack for summer stream flows and because the expected rise in sea levels threatens our coastal communities.”); RCW 70.235.070(1) (adopting standards that seek to reduce GHG to 1990 levels by 2020, and 50% below 1990 levels by 2050); RCW 80.80.040 (setting a GHG emissions standard for new power infrastructure); RCW 70.235.005(3) (state will “minimize the potential to export pollution, jobs and economic opportunities”); *see also* Governor’s Executive Order 09-05 (“effective and immediate action to reduce greenhouse gas emissions . . . is essential to the future well-being of all Washingtonians”). Similar policies and goals have been adopted by the federal government, including the federal Clean Power Plan and the U.S. international commitments to dramatically reduce U.S. GHGs.

Even with the errors and oversights described in this comment letter, it is important to note that the DEIS itself finds many aspects of the MBT proposal would cause harm and risks to the environment and are both significant and unavoidable. Section S.7 summarizes the areas of impacts that cannot be mitigated. While we believe an accurate list of significant and unavoidable impacts would be both broader and deeper, this list alone provides a more than sufficient basis to deny this project under SEPA.

II. SEPA REQUIRES FULL DISCLOSURE OF ALL RISKS AND HARMS, AND ACCURATE, COMPLETE ANALYSIS

An EIS must evaluate the likely impacts related to the project. WAC 197-11-060(4). Decision makers must provide a “detailed statement” of environmental impacts. RCW 43.21C.030(2)(c). SEPA requires full disclosure and “detailed” consideration of all affected environmental values. At its heart, SEPA is an “environmental full disclosure law.” *Norway*

⁵ The County has also adopted by reference all SEPA policies of the Department of Ecology. CCC 19.11.020.

Hill Preservation, 87 Wn.2d at 277. The *Norway Hill* court highlighted the legislature's intent that "environmental values be given full consideration in government decision making," and its decision to implement this policy through the procedural provisions of SEPA which "specify the nature and extent of the information that must be provided, and which require its consideration, before a decision is made." *Id.* at 277-78.

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

In making the similar assessment under NEPA, federal courts require agencies to take a "hard look" at environmental impacts. More specifically, for review of the NEPA claims, the court must "ensure that an agency has taken the requisite hard look at the environmental consequences of its proposed action, carefully reviewing the record to ascertain whether the agency decision is founded on a reasoned evaluation of the relevant factors." *Te-Moak Tribe v. Interior*, 608 F.3d 592, 599 (9th Cir. 2010). This review must be "searching and careful." *Ocean Advocates v. U.S. Army Corps of Engineers*, 402 F.3d 846, 858 (9th Cir. 2005). It also is guided by a "rule of reason" that asks "whether an EIS contains a reasonably thorough discussion of the significant aspects of the probable environmental consequences." *Churchill County v. Norton*, 276 F.3d 1060, 1071 (9th Cir. 2001), *amended by*, 282 F.3d 1055 (9th Cir. 2002).

As discussed in the sections below, the DEIS fails to provide the necessary hard look and reasonably thorough discussion of environmental impacts in several important respects. These shortcomings will need to be rectified in the final EIS. As a preliminary matter, however, there are some significant procedural concerns with respect to this DEIS that undermine the process and weaken the public's role in ensuring a thorough analysis of all impacts.

The inadequate comment period undermines the quality and content of the DEIS and prevents the public from fully reviewing and responding to it. We understand that Cowlitz County and Ecology agree that a longer comment period should have been adopted but that the proponent refused to agree. We assume that its intransigence was a strategic effort to prevent thorough analysis. The Coalition has worked hard to do the best review it could in the time

available but additional time would have enabled us to make additional and more useful comments.⁶

Finally, we note one significant, overarching omission from the DEIS: the sordid history of this project and the proponent's dishonesty with regulators and the public. In 2010, the proponents sought permits from Cowlitz County to build a claimed 5 million ton/year project. After some Coalition members appealed that decision to the Shorelines Hearings Board, appellants uncovered confidential documents to expand dramatically as soon as permits were received. The attempt to defraud regulators led to national news and the withdrawal of this project. In our view, this event colors all of the claims that the proponents make about this project and its claimed benefits. It should not go unmentioned in this DEIS.

III. THE DEIS LEAVES SOME INDIRECT IMPACTS OUTSIDE ITS SCOPE

SEPA requires an environmental impact statement ("EIS") for any action that has a "probable significant, adverse environmental impact." RCW 43.21C.031(1). "Significance means a reasonable likelihood of more than a moderate adverse impact on environmental quality." WAC 197-11-794. "A proposal's effects include direct and indirect impacts caused by the proposal. Impacts include those effects resulting from growth caused by a proposal, as well as the likelihood that the present proposal will serve as precedent for future actions." WAC 197-11-060(4)(d). The scope of impacts includes direct, indirect, and cumulative impacts. WAC 197-11-792. "The range of impacts to be analyzed in an EIS (direct, indirect, and cumulative impacts, WAC 197-11-792) may be wider than the impacts for which mitigation measures are required of applicants." WAC 197-11-060(4)(e). It is implicit in SEPA that an "agency cannot close its eyes to the ultimate probable environmental consequences of its current action." *Cheney v. City of Mountlake Terrace*, 87 Wn.2d 338, 344 (1976).

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

⁶ The problem was particularly pronounced with respect to GHG analysis and air modeling sections discussed below, in which we did not receive critical information until a short time before the close of the comment period. While we appreciate the Co-leads and consultant providing us with this information, it significantly hampered our ability to provide useful comments. We reserve the right to supplement this letter if necessary.

of the state's jurisdiction. WAC 197-11-060(c); *Cathcart-Maltby-Clearview Comm. Council v. Snohomish Cty.*, 96 Wn.2d 201, 209 (1981) (SEPA "also mandates that extra-jurisdictional effects be addressed and mitigated, when possible.").

The Coalition has previously argued for a broad scope for this EIS to include all direct, indirect, and cumulative impacts, which includes rail transportation out of state, additional coal mining in the Powder River basin and elsewhere, and impacts on consumption of fossil fuels in jurisdictions that import coal from the terminal. Our concerns were shared by numerous federal and state agencies, local governments, Tribes and countless members of the public. We appreciate the Co-leads' efforts in including many of these impacts in the DEIS, as required by SEPA. However, we note that there are still serious environmental concerns that are proximately caused by this project that are not included in the DEIS but should be.

First, the DEIS acknowledges that an indirect effect of the terminal is increased rail traffic, and its attendant pollution, rail line congestion, and impacts on road traffic and emergency response. Ch. 5.1. However, the DEIS appears to assume that these impacts end at the state border. This makes little sense. **The extensive traffic congestion and system user impacts will be just as serious in Idaho, Oregon, Montana, and Wyoming.** For example, the DEIS acknowledges that capacity could be significantly constrained in those states. DEIS 5.1-14 (capacity as low as 30 trains a day in some locations, with existing traffic between 25 and 28 a day). These impacts should not be qualitatively dismissed, and indeed, WAC 197-11-060(4)(b) requires that they should be treated in the same manner as the in-state effects. While the Coalition understands that some limited qualitative information is given on out-of-state impacts, there is no reason to treat the out-of-state rail impacts differently. It does not even appear particularly challenging to provide the basic information on capacity deficits on individual rail segments, as is done for in-state rail. The Coalition asks that the FEIS include information on out-of-state impacts in the same manner.

Similarly, although the DEIS provides a discussion of accident risk in the Columbia River, we are puzzled by the DEIS's decision to limit the scope of that analysis to three miles offshore. Obviously, the marine transport vessels will continue to exist past that three-mile mark. Indeed, the DEIS does not appear to be consistent on this point, as it includes GHG impacts from vessel transport for the entire cross-ocean voyage. As discussed below, the DEIS also inappropriately ignores "upstream" impacts like induced mining demand.

We are also concerned that the issue of spill risk during bunkering is dismissed since the proponent promises not to bunker onsite. The promise simply begs the question of where will bunkering occur, as the vessels will not arrive from Asia fully fueled. If vessels will not be bunkering in the Columbia as claimed, that means necessarily that they will be bunkering in the Salish Sea, either on the way to or back from the facility. As other studies have revealed, **bunkering results in frequent spills of fuel into environmentally sensitive waters, and elevated risks of spills.** Transit of Panamax-sized bulk vessels into the Salish Sea for bunkering would also increase traffic in that area, which adds a risk of vessel incidents that is growing cumulatively with many additional new projects proposed in the region. We ask that these omissions be rectified in the FEIS.

IV. THE DEIS UNDERSTATES DIRECT AND INDIRECT GREENHOUSE GAS EMISSIONS

The Coalition applauds the Co-leads for including in the DEIS an analysis of the direct and indirect impacts of the project on GHG emissions, including the most important component of the project's impacts, its effect on the consumption of coal—the most polluting and dangerous of the fossil fuels. As the state, its communities, and the nation as a whole grapple with the dramatic changes that will be required in order to comply with our international commitments to reduce GHG pollution, there is probably no more critical issue in this DEIS than how to assess the question of this project's overall GHG impacts. While the DEIS makes a laudable start, there are some critical concerns and omissions that need to be dealt with in order to have a truly useful GHG analysis.

A. SEPA Standards for GHG Emissions Review

SEPA and its implementing regulations require consideration of direct and indirect climate impacts. *See* RCW 43.21C.030(f) (directing agencies to “recognize the world-wide and long-range character of environmental problems”); WAC 197-11-444 (listing “climate” among elements of the environment that must be considered in SEPA review). SEPA regulations also explicitly direct that environmental impacts outside the jurisdiction of the deciding agency should be considered. WAC 197-11-060(c). As discussed above, agencies are required to assess both the direct and indirect impacts of the proposal.

In 2008, a governor-appointed working group provided a list of recommendations on how to ensure that climate change is considered in meeting SEPA's directives.⁷ Notably, those recommendations identified the following categories of GHG emissions to be considered pursuant to SEPA: a) off-site mining of materials purchased for the project; b) transportation of raw materials to the project, and transport of the final product offsite; and c) use of products sold by proponent to consumers or industry, including “emissions generated from combustion of fuels manufactured or distributed by the facility.” *Id.* at App. D.

Ecology has issued SEPA Guidance for its own consideration of GHG emissions.⁸ The Guidance makes clear that SEPA requires climate to be considered in its environmental analysis. Ecology's Guidance proposes that SEPA documents consider whether the proposal will significantly contribute to GHG concentrations, and states that “[i]f the emissions are proximately caused by the project, they should be disclosed regardless of their location.” *Id.* at 4. The Guidance proposes that projects qualitatively disclose GHG emissions of at least 10,000 metric tons/year and quantitatively disclose GHG emissions for projects expected to produce an average of 25,000 tons/year of carbon dioxide equivalent.

⁷ Available at

http://www.ecy.wa.gov/climatechange/docs/sepa/20110603_SEPA_GHGinternalguidance.pdf.

⁸ Available at <http://www.ecy.wa.gov/climatechange/sepa.htm>.

Ecology has also provided a “table of tools” that can be used to calculate emissions from projects.⁹ That Table, in turn, lists various sources of emissions from projects, methods to calculate those emissions, and options to mitigate them. Direct “Scope 1” emissions include trains and boats. *Id.* at 1. Scope 3 emissions include “emissions from the future combustion of fossil fuels,” which are defined to include “emissions that will result from the combustion of fossil fuels transported, distributed or imported as a result of the project (e.g., natural gas pipeline).” *Id.* at 2.

A growing body of caselaw under SEPA’s federal counterpart, NEPA, reveals that infrastructure projects like this one must consider both the upstream and downstream impacts of proposed actions.¹⁰ Recent CEQ guidance makes that obligation explicit: an EIS should include “emissions from activities that have a reasonably close causal relationship to the Federal action, such as those that may occur as a predicate for agency action (often referred to as upstream emissions) and as a consequence of the agency action (often referred to as downstream emissions).”¹¹

Many other tools are available to assist in how to disclose and assess the GHG footprint of major fossil fuel infrastructure investments like this one. A discussion brief from the Stockholm Environment Institute discusses three different approaches to analyzing these impacts.¹² One of them—simply disclosing the full impact of combusting the fuel that travels through the infrastructure—is discussed further below. Another framework, which the authors label the “political economics” approach, should receive greater attention in the FEIS:

Finally, none of the approaches address what may be one of the most significant emissions impacts: how the development of further fossil infrastructure might further contribute to social or political norms, risk reduction, or economies of scale for fossil-based infrastructure that further contribute to its lock-in (or other fuels’ or technologies’ lock-out).

For example, implementation of a major new fossil fuel infrastructure project (such as development of rail infrastructure to enable development of a coal deposit in Mongolia) may create local interests and political forces that lead to further, similar developments in the future (such as development of additional coal deposits). In contrast, decisions not to implement the same project could lead other alternative energy supply industries (e.g., solar

⁹ Available at <http://www.ecy.wa.gov/climatechange/sepa.htm>.

¹⁰ Ex. 2.

¹¹ CEQ Revised Draft Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Reviews, 79 Fed. Reg. 77,802, 77,826 (CEQ Dec. 24, 2014).

¹² Ex. 3.

energy in the Gobi desert) to flourish and “lock in” or strengthen political momentum in the opposite direction.

Focusing solely on marginal impacts of single investments can disguise larger, systemic changes and path dependencies. Therefore, in addition to those outlined above, a fourth perspective, that of a political economist, is important to consider as well, though it is less likely than the other three to yield a quantifiable result. This political economist might look at the political consequences of proceeding or not proceeding with a fossil fuel infrastructure project – and of the rationale for such a decision – and how climate policies or the investment actions of other major players might be influenced.¹³

The DEIS does little or nothing to disclose these kinds of potential impacts. For example, to what extent does authorizing the Longview coal terminal “lock in” additional coal reliance because it “uses up finite capital,” “contributes to social or political norms for fossil fuels,” “builds in redundancy of supply that helps to increase investor confidence in the long-term prospects” of coal, or “contributes to economies of scale for fossil fuel processing technologies”?¹⁴ To what extent will providing a secure, low-cost source of PRB coal influence long-term investment decisions in Asia? While difficult to define quantitatively, these may well be the most significant and salient consequences of opening up the West Coast of the United States to exporting coal. However, they are not explored at all in the DEIS. This defect must be remedied.

B. The DEIS Should More Fully Consider the GHG Implications of Combusting 44 Million Metric Tons of Coal/Year¹⁵

A January 2015 study published in the journal *Nature* concluded that, to have a better-than-even chance of keeping warming below this critical threshold, the majority of the world’s fossil fuel reserves that are still in the ground must stay there.¹⁶ This includes, most importantly, coal. The study considered two scenarios: one assuming that carbon capture and sequestration (“CCS”) technology will be unavailable and one assuming widespread deployment of CCS after 2025. Without CCS, 88% of coal reserves globally—and 95% of coal reserves in the United States—must remain unused before 2050 to meet the target of 2 °C. In light of this information, any action that involves the production and consumption of coal must be considered with the greatest of care.

¹³ *Id.*

¹⁴ *Id.* at 2.

¹⁵ As a threshold matter, the DEIS should disclose that the coal volumes discussed are in metric tons, or “tonnes”: 44 million metric tons is equivalent to 48.5 million U.S. tons.

¹⁶ Ex 4.

The Coalition agrees with the Co-leads that the DEIS must complete a full analysis of the lifecycle emissions of this project. And it agrees that the fundamental concepts—that export of large volumes of coal from the West Coast could alter energy consumption patterns and drive coal prices down, increasing coal consumption—are correctly stated. As discussed further below, the analysis included in the DEIS significantly understates these impacts. The indirect impacts of the project would be vastly higher than suggested, and would make the project one of the single largest GHG pollution sources in the nation.

However, buried in the middle of the DEIS with little emphasis is perhaps the single most significant number in the entire document: 90 million tons of CO²/year, which is the combustion GHG impact of the 44 million metric tons of coal that would come through the facility. DEIS 5.8-22. **90 million tons of CO² roughly equals Washington State's entire GHG emissions from all sources.** While we agree that it may be appropriate to consider how these ultimate downstream emissions are reduced by displacement of other coal sources and the like, these market impacts are subject to a number of assumptions and unknowns that make accurate predictions challenging. While we have endeavored to provide the Co-leads with additional information to make these predictions as accurately as possible, it will be difficult to assess them with certainty.

Accordingly, we feel the appropriate approach is to start with the certain GHG emissions, which include the 90 million tons of CO² associated with 44 million metric tons of coal, and then offer some different scenarios which could theoretically offset that. This is an approach that has been taken in other EISs for fossil fuel transportation projects. For example, in the Tesoro-Savage DEIS, the full life-cycle emissions are provided and placed in context of the state's total emissions, while the potential reduction in that amount is provided in a more qualitative fashion.¹⁷ While we have concerns about the overall GHG analysis in that DEIS as well, we think that the Co-leads should fully disclose the full life-cycle emissions of this project, in the context of Washington State's total emissions, before embarking on the more uncertain task of assessing international coal market responses. Indeed, the DEIS seems to minimize the impacts of the project by finding that the average net emissions constitute only 2.8% of the total potential emissions. DEIS 5.8-22. What it does not disclose is that the 90 million tons of CO² is certain—the 44 million metric tons of coal to be moved through that project will serve one and only one purpose, which is combustion in Asian power plants. The 97.2% reduction in that quantity proposed in the DEIS is based on a host of assumptions, speculations, and hopes. The Co-leads should be clearer with the public on the potential impacts.

C. Indirect GHG Emissions Due to Changes in Coal Consumption Are Significantly Understated

The DEIS includes a market analysis of how exporting coal to Asia will influence demand, and hence consumption, of coal in both the U.S. and Asia. This analysis, which is required by SEPA, directly refutes the longstanding industry claim that exported coal will simply substitute for other sources of coal with no impact on total amount consumed. The fundamental

¹⁷ Ex 5 at 5-47.

principles of the market analysis—that exporting large volumes of U.S. coal will have an effect on supply, demand, price, and consumption—appear to be sound. That said, we believe that the analysis significantly underestimates the total amount of GHGs that will result from this project.

The Coalition has commissioned an expert review of the market analysis contained in the DEIS and technical report by Dr. Tom Powers et al., which is attached.¹⁸ We incorporate that analysis into these comments. Dr. Powers explains several fundamental problems with the GHG analysis related to coal markets and combustion that, collectively, greatly understate the total GHG impact of this project. **As Dr. Powers explains, the market impact of exporting 44 million metric tons of coal a year is far greater than revealed in the DEIS.** As Dr. Powers shows, the true GHG impact of this project is totally unacceptable and an independent basis for denial.

The DEIS and market analysis shortcomings include the following:

- The analysis mistakenly assumes that the project is economic under most scenarios, but it is not. The only scenario under which the project could even conceivably be built is the mis-named “Upper Bound” scenario, which should be the preferred choice for drawing conclusions. Any scenario in which delivered coal prices from the proposed port are not competitive so that the project is not viable should be eliminated from the analysis, and a new “true” upper bound scenario should be developed.
- The DEIS mistakenly assumes that increasing production of coal in the PRB to meet export demand will increase domestic prices and hence lead to fuel switching to less-GHG intensive fuels, thereby offsetting a significant portion of the increased GHG caused by additional combustion in Asia. While this relationship between price and consumption is generally accurate, the DEIS is incorrect that production increases at the scale involved here would result in price increases for coal. To the contrary, there is abundant capacity of PRB coal (the production of which has been in decline for years) to increase production without any effect on price. Accordingly, the offsets described in the DEIS are illusory.
- The analytical model treats Asian and U.S. responses to changes in coal prices asymmetrically, in a way that understates potential increases in GHGs. In the analysis of market adjustments in the U.S., changes in consumption are only assumed to take place due to shifting from coal to gas and other lower-carbon sources. It does not include any potential reductions in total energy consumption associated with higher prices. In Asia, the problem is reversed: the only impact that is considered is reduced total energy consumption, not any switching to lower carbon energy sources. But the lower prices in Asia that would result from this project would not just increase total demand for electricity, they would also result in switching from lower-GHG fuels to coal. Indeed,

¹⁸ Ex. 6, *Comments on the Greenhouse Gas Impacts and the Modeling of Coal Flows in the Millennium Bulk Terminals Longview SEPA Draft Environmental Impact Statement*, Thomas Michael Power, et al. (June 10, 2016).

the nations that the project purports to export to (including Japan, South Korea, and Taiwan) all have the capacity to shift from coal to natural gas. Similarly, China is in the process of converting to a greater share of natural gas: availability of cheap coal could encourage them to temper that shift. The failure of the model to include this understates the potential for increased GHG emissions.

- The proprietary IPM model used as the basis for the analysis is a closed “black box” model that makes it all but impossible for the public and decisionmakers to replicate. While the Coalition appreciates the Co-leads’ efforts to provide our consultants with additional information, it doesn’t solve the fundamental problem. Moreover, the information was provided just a short time before the close of the comment period. The Co-leads should not rely on this tool without requiring disclosure of all data, assumptions, and inputs. Alternatively, the Co-leads should re-run the analysis using the open-source NEMS model, which would provide the public with the ability to scrutinize the inputs and assumptions, and to provide much more useful comment.

D. Failure to Utilize Social Cost of Carbon

While the DEIS seeks to calculate the quantity of GHGs associated with this project, it makes little or no effort to discuss the implications of additional GHG pollution. At one time, such an oversight was understandable, because there were few useful tools available to do so. That is no longer the case. The social cost of carbon is a tool for assessing the costs of carbon pollution that was created by an interagency working group in 2010 consisting of scientific and economic experts from a dozen federal agencies and offices, including EPA and the Departments of Agriculture, Commerce, Energy, Transportation, and the Treasury.¹⁹ The working group’s primary goal was to help federal agencies engaged in rulemaking to quantify the economic benefit of federal actions that reduce CO² emissions. The result of their efforts was the social cost of carbon – a schedule of estimates of the global economic harm caused by each ton of emissions in a given year, expressed as \$/ton.²⁰ These values encompass damages from decreased agricultural productivity as a result of drought, human health effects, and property damage from increased flooding, among other factors.²¹

In a recent case arising under NEPA, a U.S. District Court rejected an EIS for a coal mine because it failed to incorporate the social cost of carbon into its GHG analysis. The court rejected older cases that upheld agency action without calculation of the economic impacts of GHG pollution because no tool existed at the time of those cases:

I am not persuaded by these cases, or by anything in the record, that it is reasonable completely to ignore a tool in which an

¹⁹ Interagency Working Group on Social Cost of Carbon, Technical Support Document: Social Cost of Carbon 2-3 (Feb. 10, 2010), attached as Ex. 7.

²⁰ Fact Sheet: Social Cost of Carbon, ENVTL. PROT. AGENCY (Nov. 2013), attached as Ex. 8.

²¹ Interagency Working Group, Technical Update of the Social Cost of Carbon 2 (May 2013), attached as Ex. 9.

interagency group of experts invested time and expertise. Common sense tells me that quantifying the effect of greenhouse gases in dollar terms is difficult at best. The critical importance of the subject, however, tells me that a “hard look” has to include a “hard look” at whether this tool, however imprecise it might be, would contribute to a more informed assessment of the impacts than if it were simply ignored.²²

Scientific reviews have concluded that the interagency social cost of carbon estimates do not account for, or poorly quantifies, certain impacts, suggesting that the estimated values are conservative and should be viewed as a lower bound. For example, one study identified that damages such as “increases in forced migration, social and political conflict, and violence; weather variability and extreme weather events; and declining growth rates” are either missing or poorly quantified in SCC models.²³ Another concluded that the 2010 Interagency social cost of carbon “omits many of the biggest risks associated with climate change, and downplays the impact of current emissions on future generations,” and suggested that the social cost of carbon should be almost \$900 per ton of carbon.²⁴ Virtually all commentators have concluded that the current federal guidance understates the true cost of GHG pollution, and any use of the tool should disclose as much.

While acknowledging these factors, the FEIS should calculate the range of potential economic costs of the project’s potential GHG emissions using the social cost of carbon. EPA guidance has calculated a range of potential per-ton costs of between \$13 and \$137, depending on the discount rate used, while also acknowledging that the IPCC has found that it is “very likely” that SCC underestimates the economic damages. **Even so, application of these figures to the GHG estimates associated with exporting 44 million metric tons/year of coal reveals the staggering costs associated with this project—even at the low end, the costs are many hundreds of millions of dollars per year, while at the high end, costs are in the multiple billions.** While an imperfect tool (mostly because it underestimates costs), it would help the public grasp just how grave the impacts of this project are. We ask that the FEIS include a cost analysis using the social cost of carbon method.

²² *High Country Conserv. Advocates v. U.S. Forest Serv.*, 52 F. Supp.3d 1174, 1194 (D. Colo. 2014).

²³ *See, e.g.*, Peter Howard, et al., Environmental Defense Fund, Institute For Policy Integrity, Natural Resources Defense Council, OMITTED DAMAGES: WHAT’S MISSING FROM THE SOCIAL COST OF CARBON, (March 13, 2014), attached as Ex. 10.

²⁴ Frank Ackerman & Elizabeth A. Stanton, CLIMATE RISKS AND CARBON PRICES: REVISING THE SOCIAL COST OF CARBON (2012), attached as Ex. 11.

E. GHG Emissions from Fossil Fuel Transportation Are Understated

Overall, it appears that the DEIS does a credible job of calculating GHGs from transportation of fossil fuels.²⁵ The study reveals that even if the issue of combustion is taken off the table, the project would be one of the state's largest emitters of GHGs. However, there are some shortcomings that should be addressed in the FEIS.

First, the DEIS models marine vessels traveling from the U.S. to Asia, not return trips. The authors assume return trips would be laden with other goods and should therefore not be counted in this analysis. However, the DEIS fails to support this assumption, and there is ample evidence to support the opposite conclusion. While the Millennium DEIS describes the potential for the U.S. to import up to 800,000 tons of pet coke and coal tar pitch from Asia, that's less than two percent of the 44 million metric tons being sent west across the Pacific. In fact, among the major dry bulk commodities, like grains, coal, and iron ore, the U.S. exports far more than it imports from China.²⁶ Moreover, there is currently a surplus of dry bulk carriers overall and a concentration of those carriers bringing commodities to China – facts that imply competition is fierce for carrying dry bulk cargo outbound from China.²⁷

It is therefore likely that some, if not the majority of, international vessels servicing Millennium (80% Panamax and 20% Handymax) would be returning from Asia with ballast water, not cargo as the report assumes. Globally, ballast water voyages for dry bulk carriers are common. A typical Panamax dry bulk vessel takes around eight voyages with cargo and five with only ballast water each year. Handymax vessels average nine cargo-laden voyages and five only-ballast legs. For coal voyages, the numbers may be even worse: a sailing pattern from Australia to Japan/Korea/China with coal is estimated at six voyages per year with cargo and five (the return trips) with only ballast.²⁸ With international vessel emissions making up the largest share of emissions in some scenarios, including the return trip would be a significant contributor to the project's greenhouse gas. Accordingly, the GHG calculations should be revised to include both legs of the sea voyage, which would significantly increase the project's GHG footprint.²⁹

Second, we think that the offsetting of vessel transportation emissions based on various market scenarios is needlessly complicated and speculative. The terminal will be the proximate cause of vessel transport to and from Asia, and the GHGs associated with that transport are readily calculated and should be clearly disclosed. Speculative offsets from other changes in transportation can be addressed in a qualitative way.

²⁵ However, the DEIS's approach of calculating emissions based on location—e.g., Cowlitz County, the remainder of the state, and elsewhere—is confusing and disjointed. The FEIS should categorize emissions by category—e.g., all transportation, all operations, and coal combustion.

²⁶ Ex. 12.

²⁷ Ex. 13.

²⁸ Ex. 14 (“[T]hese vessels will in average do six voyages a year with cargo and five in ballast due to imbalances in trade.”).

²⁹ Moreover, even if they were carrying something back, the Longview terminal would surely not be its destination—so additional distances would be required to return to the terminal itself.

Finally, the technical report only calculates emissions associated with increased vehicle waiting times within the immediate project area, ignoring the extensive delays throughout the state and beyond. The FEIS should extrapolate these values to the entire project.

Adding all these changes together, and disclosing them in a coherent way, would reveal that the GHG impact of the project is startlingly high, even before assessing any combustion of coal or changes to coal markets. This should not necessarily come as a surprise: transporting 44 million metric tons of minerals halfway around the globe would require a significant amount of fossil fuel energy. The high GHG footprint of the project's transportation emissions highlights the absurdity of this project and the stark choice for the Co-leads.

F. The DEIS Should Include the GHGs of Coal Extraction

The technical analysis for GHGs properly includes transportation to and operations at the terminal, as well as some of the impacts of coal combustion. However, it does not include the GHGs of extraction of coal. This is not explained, nor does it meet the standards listed above.

In contrast to “downstream” combustion of coal, increased coal mining is considered an “upstream” impact of the coal terminal decision.³⁰ As noted above, CEQ guidance requires consideration of actions which “may occur as a predicate” to the agency decision under review.³¹ Recently, EPA commented on proposed NEPA guidance issued by FERC, specifically observing that FERC should consider increased gas production as an indirect effect of its gas pipeline decisions.³² In listing potential sources of GHGs to be considered under SEPA, Ecology's table of tools specifically mentions “Emissions produced in the mining, harvest, processing, and transportation of materials that will be used as feedstocks by the project when operational.”³³

GHG emissions from coal extraction are no small matter. In addition to the significant energy required to move colossal quantities of earth and minerals to mine and prepare coal for transport, it is increasingly well understood that coal mining in the PRB releases significant quantities of methane, a potent GHG.³⁴

It is difficult to see how the extraction of coal for the terminal should be treated any differently than the transportation of that coal to the terminal site. Both are proximately caused by the terminal—the 44 million metric tons of coal that would be shipped out of the terminal would not be mined but for the terminal, as it would be supplementary to any coal mined for other purposes. As discussed in the Powers report, there is abundant supply of coal in the Powder River basin, supply that would remain in the ground if it were not for this project. GHGs should be calculated for this component of the project and included in the final estimates. We

³⁰ See Burger and Wentz, *supra*.

³¹ CEQ Guidance, *supra*, 79 Fed. Reg. at 77826.

³² Ex. 15.

³³ Ecology guidance, *supra*, at 2.

³⁴ Ex. 16.

discussed this issue extensively in our scoping comments and are surprised to see the exclusion of extraction from the GHG analysis. *See* Scoping Comments, at 37.

The GHG technical report states that extraction is excluded because it has already been addressed in “separate GHG analyses” required by NEPA for the coal mines. Technical Report at 2-5. No specific NEPA analyses are identified. In fact, the statement is in many cases incorrect. Historically, BLM did not include GHG estimates from extraction (or anything else) in its coal lease EISs, which can be as old as 20 years.³⁵ Moreover, while recent agency and court decisions have suggested a more thorough approach to GHG emissions for new mines in the future, there remains over 20 years’ worth of already-leased coal available. Supply for this terminal can be provided for years before new mines need to be developed. Moreover, there is no reason in either the governing regulations or applicable precedent that states that an impact can be ignored just because it is addressed in another EIS. At issue here is not a GHG “reporting” regimen in which it is critical that a given set of emissions not be counted more than once. Rather, the issue here is an understanding of the results that are caused by this decision, and a given set of effects can have more than one cause. **Simply put, exporting 44 tons of coal means mining 44 more tons of coal than would otherwise be the case.** It should be included in the FEIS.

G. The GHG Analysis Only Assumes Full Operations for 11 Years

The GHG analysis includes estimates for GHG emissions on an annual basis, and as “total.” However, the analysis is based on a highly unrealistic set of assumptions that understates the true total GHG impact of this project. Specifically, the analysis looks at a time scale of 2018 to 2038, with full operations not occurring (due to a multi-year ramp-up) until 2028. Technical Report at 2-13. **In other words, the analysis only assumes that this project will be operating at full capacity for 11 years.** This assumption is highly unrealistic—no company would invest \$700 million for an infrastructure project with that short a lifetime. A typical lifetime for such a project is closer to 50 years. Annual emissions provide a more than adequate basis to consider and compare the emissions of this project, and “total” emissions should be based either on an expected lifetime of 50 years, or omitted altogether.

H. The Proposed Mitigation Is Inadequate

Correction of the flaws included in the DEIS would reveal that GHG pollution from this project is far more significant than admitted. But however it is counted, the project will be a major source of GHG pollution. And given the state’s repeatedly stated interest in reducing its GHG emissions, 100% of its emissions should be mitigated. That is why we are puzzled that the DEIS only proposes to mitigate half of the GHG emissions that are estimated. **If Washington is serious about its commitment to reducing GHGs, then the project must either be denied or 100% mitigation required.** If the project proponent does not wish to go forward under such a requirement, that is its own decision.

³⁵ Ex. 17.

Acceptable mitigation options must include both denial of the project outright, as well as a requirement to purchase credits from a legitimate and verified source to offset all net GHG emissions on an annual basis, including lifecycle emissions that are proximately caused by the project. Alternatively, the state could impose a GHG fee and use it to implement offsets of its own. But the state is no longer in the position of being able to allow major new sources of GHGs without 100% mitigation.

V. THE DEIS UNDERSTATES THE IMPACTS ASSOCIATED WITH RAIL TRANSPORTATION OF COAL

The DEIS highlights the significant concerns associated with massive increases of rail transportation that would be caused by this project. Sixteen additional trains, a mile and a third long each, would traverse major portions of the state each day. **This increase would explode the capacity of the rail lines, cause major traffic concerns in Northwest communities, and exacerbate coal dust and diesel pollution in both urban and environmentally sensitive areas.** Regrettably, the DEIS does not do a complete or even adequate job of disclosing these concerns. In some cases they are openly dismissed without foundation. Even so, the DEIS concedes a number of significant and unavoidable impacts that would by themselves warrant denial.

One major flaw infects all of the DEIS analyses related to rail. Buried in the DEIS is the surprising assumption that a 10% increase in “throughput” can be achieved from rail car capacity by 2028. DEIS at 5.1-4. It is not stated how 10% more coal will fit in the same size rail cars, nor is it at all self-evident. The assumption is totally unwarranted. If anything, it is likely that any additional future coal dust suppression mechanisms, like load profiling or a requirement for covered rail cars, would reduce the amount of coal that could be transported per car. In other words, as currently stated, the rail analysis from the outset underestimates by at least 10% all of the potential impacts. Delays, accidents, and pollution would all be 10% higher than disclosed in the DEIS. This will need to be corrected in the FEIS.

Another critical flaw that merits serious attention is the failure of the DEIS to place the rail-related impacts in the context of the Columbia River Gorge National Scenic Area. As explained in the separate comments of Friends of the Columbia River Gorge, the National Scenic Area is a national treasure. While the rail-related impacts of this project would be unacceptable virtually anywhere, they are even more egregious in light of the special resource values, economic values, and national interests in preserving and protecting this special place. We ask that you devote a separate chapter to the National Scenic Area and which of its values would be compromised by approval of this project.

Finally, we note that the DEIS concedes that rail operations would significantly interfere with tribal fishing access. Indeed, for the reasons discussed below, the impacts to tribal fishing are likely far greater than disclosed in the DEIS. Our organizations support the Tribes and object to any project that causes significant impacts to tribal fishing. Unless mitigation can be worked out in cooperation with the Tribes, these impacts provide an independent basis for project denial.

A. The DEIS Must Disclose and Consider the Impacts of Rail Infrastructure Upgrades

The DEIS openly acknowledges that infrastructure on the BNSF Spur and Reynolds Lead is effectively incapable of handling the proposed increase in rail traffic due to capacity constraints. *See, e.g.*, DEIS 5.16-16; 5.1-10 (maximum existing capacity of BNSF Spur and Reynolds Lead is 16 trains/day, and there is already traffic on it). Similarly, other components of the rail system cannot function with this project in place without significant upgrades. However, it further observes that there is a proposal to upgrade that infrastructure to accommodate the traffic, although that project is neither “funded or permitted.” DEIS 5.1-16. This appears to be a troubling effort by the proponent to unlawfully segment a single project into multiple components for environmental review.

Under SEPA regulations, agencies must consider “[p]roposals or parts of proposals that are related to each other closely enough to be, in effect, a single course of action” together in a single EIS. *See Gebbers v. Okanogan County Pub. Util. Dist. No. 1*, 144 Wash. App. 371, 380 (Wash. Ct. App. 2008). As stated in the regulations:

(b) . . . Proposals or parts of proposals are closely related, and they shall be discussed in the same environmental document, if they: (i) Cannot or will not proceed unless the other proposals (or parts of proposals) are implemented simultaneously with them; or (ii) Are interdependent parts of a larger proposal and depend on the larger proposal as their justification or for their implementation.

Wash. Admin. Code 197-11-060. Conversely, courts have stated that an EIS need not include an analysis of arguably connected actions if the additional projects “are either substantially independent from the proposed action or are not necessary to meet the project’s purpose and need.” *Gebbers*, 144 Wash. App. at 380-81; *see also SEAPC v. Cammack II Orchards*, 49 Wash. App. 609 (1987) (EIS need not cover subsequent phases if initial project is substantially independent of subsequent phase and project would be constructed without regard to future development).

Future expansion work on the BNSF Spur and Reynolds Lead does not meet this standard. According to the DEIS, operating the project without those improvements will have significant and unacceptable impacts, and may not even be feasible at all. DEIS 5.1-16. And without the coal terminal, there is no identifiable need to do the upgrades. *Id.* 5.1-17 (LVSF would not undertake the work without assurance that future traffic will be available). Washington Department of Natural Resources highlighted this concern in its scoping comments, observing that the existing rail system is located immediately adjacent to the shoreline for long stretches and hence any upgrade work would have significant potential impacts.³⁶ While the DEIS discusses the potential benefits of this work (e.g., shorter travel times and reduce traffic), it is silent on the environmental consequences, risks, and downsides, to say nothing of alternatives.

³⁶ *See* DNR Scoping Comments, Nov. 18, 2013, at 12.

This kind of one-sided balancing is not appropriate. Accordingly, the rail upgrades and the terminal are connected and the project should be revised to include this very significant work, along with a revised DEIS that puts it in the appropriate context.³⁷

B. Coal Dust From Rail Cars is a Major Concern

Among the more surprising conclusions in the DEIS is the dismissal of all health and environmental concerns associated with rail-related coal dust pollution, ultimately finding that coal dust pollution from rail is not a significant concern. This section of the DEIS is deeply flawed and needs substantial revision.³⁸ It is largely borrowed from another, totally inadequate and incomplete draft EIS (for the Tongue River railroad). It is completely inconsistent with extensive data from other places, and years of observations of rail traffic. **The truth is that coal dust pollution is a major problem – for the railroads, for the environment, and for people who live near the tracks.** This section of the DEIS should be overhauled completely.

A preliminary and significant flaw is that the DEIS uncritically accepts industry statements that surfactants are 85% effective at reducing coal dust, and that there is 100% compliance with using surfactants. Those assumptions should be challenged for several reasons. First, it is inconsistent with real-world experience. The Coalition incorporates by reference the separate comments and exhibits submitted by Friends of the Columbia Gorge describing ongoing coal dust pollution in the Columbia Gorge from existing rail traffic. This information shows that airborne deposition of coal dust remains a significant problem, even since the construction of a second surfactant spray facility in Pasco, and that the railroad is undertaking efforts to clean up coal dust adjacent to the Columbia River even as it denies that dust is a problem.

Second, the industry has not provided adequate data to back up its 85% claim; these statements about effectiveness have not been independently peer reviewed or assessed. Do they account for the high wind conditions in the Gorge, for example? Third, there is evidence that coal shippers are ignoring the surfactant tariff and not applying a surfactant at all. A utility coalition estimated only 30% of coal shippers were applying a surfactant.³⁹ And finally, the claims of effectiveness are belied by the evident need to build and operate a second spray station in Pasco. Plainly, if the surfactants remained effective for their entire voyage, respray would not be necessary. But there was abundant evidence that the surfactant wears off, prompting BNSF to

³⁷ The same would be true under federal law as well. An action that “cannot or will not proceed unless other actions are taken previously or simultaneously” and actions that are “interdependent parts of a larger action and depend on the larger action for their justification” must be considered together in a single EIS. 40 C.F.R. § 1508.25(a)(1). Where one action involves the development of infrastructure necessary to proceed with another action, it must be considered in a single EIS. *Thomas v. Peterson*, 753 F.3d 754, 759 (9th Cir. 1985). Plainly, the project cannot proceed without massive infrastructure development on the rail lines; conversely, such infrastructure development will not be necessary without the project. Under federal law they would have to be considered together in a single EIS.

³⁸ This comment letter addresses the health impacts of coal dust, and the coal dust pollution at the terminal site, below in separate sections. This section addresses coal dust impacts associated with rail transportation.

³⁹ Ex. 18.

invest in the Pasco facility. By definition, the surfactant is not 85% effective right before the respray station, nor is it appropriate to assume that it will be 85% effective a few hundred miles later when arriving in Longview. But the DEIS incorrectly assumes that the surfactant is 85% effective over the entire voyage.

Indeed, the DEIS itself acknowledges that so much dust is produced by coal trains that it creates a safety hazard by destabilizing railroad ballast. DEIS 5.7-15. The point is well taken, as coal dust accumulation in railroad ballast has been documented as a factor in derailments, and BNSF has undertaken significant efforts to remove coal dust in the Columbia and elsewhere. However, the DEIS does not acknowledge the huge inconsistency between its modeled conclusions of “insignificant” dust deposition with the known experience that so much coal dust is escaping that it is destabilizing rail infrastructure. Both of those things cannot be simultaneously true.

Another data point reflecting that the DEIS model-based approach is inconsistent with known experience is hidden in the technical report itself. Figure 4 of the coal dust technical report compares the “modeled” emissions of coal dust with the actual emissions as measured during the October 2014 test. As Dr. Dan Jaffe has pointed out in his independent comments, **actual emissions are four times higher than the modeled emissions**. Even so, the DEIS conclusions are all based on the modeled emissions, likely understating the dust impacts by a considerable degree. The Coalition incorporates by reference Dr. Jaffe’s comments, which address this as well as a number of modeling flaws.⁴⁰ This is true even though the measured emissions that form the basis for the DEIS conclusions are themselves deeply compromised, as discussed in both Dr. Jaffe’s analysis as well as the separate comments submitted by Friends of the Columbia Gorge.

Recent data from Australia backs up our concern that “real world” measurements do a substantially better job predicting what will happen than the models used in the DEIS. In a recent study in Australia, monitors showed dramatic spikes—including spikes that exceed levels set to protect human health and safety—when uncovered coal cars passed by.⁴¹ **One particularly startling finding of this study was that empty coal trains had higher particular pollution than loaded ones.** However, the DEIS dismisses pollution concerns from empty cars, an omission that must be rectified in the FEIS.

A critical question remains unanswered with respect to the ecological impacts of coal dust in water and the environment. Relatively little is known about the how coal dust harms plants and animals in the aquatic environment. However, a recent study in *Nature* confirmed a link between coal dust and mortality to aquatic organisms.⁴² Although the DEIS acknowledges that the USGS is currently studying the issue closely, it doesn’t acknowledge the possibility that

⁴⁰ Although the DEIS lists Dr. Jaffe’s previous work on the question of coal dust pollution from trains, we are puzzled that it nowhere references that work, which reaches very different conclusions from those presented in the DEIS.

⁴¹ Ex. 19.

⁴² Ex. 20.

there may be serious impacts to the Columbia River associated with coal dust. There is certainly no scientific basis on which to conclude that it is not a problem, given the paucity of scientific studies on the topic. The Coalition understands that the USGS work is almost complete. Given the critical importance of this question, we ask that the FEIS not be released until the USGS results are finalized and incorporated into this section.

The DEIS relies heavily on one field study conducted over two weeks in October 2014 that found relatively small amounts of coal dust pollution and deposition, lower than a similar peer reviewed study conducted by Dr. Jaffe. DEIS 5.7-7. However, little information is provided on variable background conditions (such as wind speed and other weather factors) that could affect the outcome, or other factors (such as whether the railroad was aware of the time and location of the study). Nor is acknowledgment made of other credible and peer reviewed studies that found much different results, like Dr. Jaffe's work, or of the verifiable "real world" experience with significant pollution in some conditions in the Columbia. This one study should not receive any particular weight given its inconsistency with others.

The DEIS also relies heavily on coal dust analysis prepared by the Surface Transportation Board for the now defunct Tongue River Railroad EIS process.⁴³ That EIS process used the same flawed model approach that is used in this one. It was the subject of intense criticism and expert review which found that actual emissions would be far higher than predicted. The Coalition incorporates by reference the environmental group comments on the TRR DEIS, and accompanying expert report prepared for the Northern Cheyenne Tribe.⁴⁴ These criticisms are equally appropriate in the context of this DEIS.

The DEIS is also totally silent on the other mechanism by which coal dust can enter the environment: via leaking from the bottom of the open rail cars due to precipitation events or even just normal travel. The open rail cars are not watertight: if the train encounters rain or snow during the lengthy voyage to Longview, that water—presumably carrying some amount of coal dust and particles—will leak out the bottom of the train. It is also possible, since the cars are not airtight, that coal dust leaks from the bottom during normal rail travel conditions. The Coalition is unaware of any modeling to estimate how much coal is introduced into the environment in this manner, and asks that it be modeled in the final EIS.

Overall, the issue of coal dust is deemed insignificant because known pollution would be below federal health standards. DEIS 5.7-25. That is not the only basis on which to deem an impact significant. As documented above, the conclusions are likely greatly understated and there remain too many unknowns to dismiss coal dust pollution. The DEIS acknowledges that coal dust deposition on property for people who live near the rail lines would be a "nuisance."

⁴³ Before Arch Coal abandoned its stake in this project, it also abandoned its stake in a rail line in Montana known as the Tongue River Railroad. The EIS process is not progressing, so there will never be a response to the multiple critiques made by groups on the DEIS. *See, e.g.*, Arch Exits Terminal ownership as critics get more vocal, Greenwire, May 27, 2016, *available at* <http://www.eenews.net/greenwire/2016/05/27/stories/1060038044>.

⁴⁴ Exs. 21 and 22.

People who live near existing coal terminals experience this “nuisance” in the real world, and presumably find the impacts “significant.” For example, one newspaper story about a community near the Westshore coal terminal documented the constant problem of coal dust at the local marina:

At the Point Roberts Marina, nearly 1,000 pleasure boats are docked with access to the Strait of Georgia. Coal dust is a "constant problem" for boat owners, who are frustrated to find their white boats covered with gray soot, said Jacquelyne Everett, the marina manager.⁴⁵

Finally, the mitigation proposed for the coal dust issue is totally unsatisfactory. The only mitigation for coal particulate pollution—which is a health hazard, an environmental issue, and a nuisance to property owners—is to eliminate the pollution. The proponent has no inherent right to discharge any of this pollution, and should be held to a strict standard to mitigate environmental impacts. Accordingly, the Co-leads should analyze the effectiveness of full rail car covers, which are increasingly in use in Australia and other locations.⁴⁶ Covered rail cars are used in many bulk commodities. They should be mandatory here, too.

C. Unexamined Impacts on Other Rail System Users

The Washington State Department of Transportation Freight Rail Plan 2010-2030 (attached to the Coalition’s scoping comments at Ex. 164) indicates that a number of critical sections of track, including the Columbia Gorge, were at or near capacity in 2008 and predicted further congestion by 2028. Other key chokepoints are identified in the Washington State Transportation Commission’s Statewide Rail Capacity and System Needs Study, December 2006 (Scoping Comments Ex. 162), and the *Heavy Traffic Ahead* study (Scoping Comments Ex. 148).⁴⁷ Additional critical bottlenecks include the Columbia Gorge and the Spokane-Sandpoint Corridor (known in railroad parlance as “the Funnel” due to the fact that most major east-west rail corridors converge there). This project would clearly contribute to additional congestion in these areas. However, the DEIS masks the true extent of these impacts.

Specifically, there is abundant evidence that rail congestion is causing economic harm to other users of the system, as fossil fuel freights—which are more profitable for the rail lines—displace agricultural products and other traffic. However, this impact is not evident in the DEIS. The FEIS should fully analyze the impacts on Northwest shippers if inbound and outbound freight traffic is diverted or eliminated due to the competition with coal trains. Unless mitigated with significant capacity additions, the additional increase of coal train traffic is likely to present significant adverse impacts on other users of the rail line, including grain and fruit shippers,

⁴⁵ http://tdn.com/news/local/westshore-provides-glimpse-of-longview-s-potential-future-with-coal/article_35ad9c0c-3634-11e0-8eea-001cc4c03286.html

⁴⁶ <http://www.ecofab.com/>

⁴⁷ To the extent necessary, all of our previous scoping exhibits are incorporated by reference into this DEIS comment.

intermodal users, ports, industries, aircraft manufacturers and passenger rail—all of whom are critically dependent on timely and affordable access to the rail system. This issue is particularly consequential in the context of cumulative effects. Even so, this terminal has such a significant impact—16-mile-plus-long trains each day in many parts of the state and region—that even on its own there is an identifiable impact.

Coal and oil traffic are already displacing and harming other economic sectors. Rail costs are a significant factor affecting the lack of competitive status of Washington ports as compared to others on the West Coast due to the prioritization of higher freight rates paid by fossil fuel shippers. In March 2015, the Washington Department of Ecology released the *Marine and Rail Oil Transport Study-Preliminary Findings & Recommendations*.⁴⁸ Although the focus of the report is on crude oil, its findings are equally applicable to the overabundance of coal trains on the regional rail system:

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

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

Similarly, the DEIS fails to analyze impacts, mitigation measures, and potential funding relating to the use of passenger rail on these same lines. The Amtrak Cascades Mid-Range Plan discusses how Washington and passenger rail advocates have significant plans for increases of passenger rail capacity, including adding additional high-speed passenger trains on the I-5 corridor.⁴⁹ The DEIS must analyze how existing and expanded passenger rail uses will be impacted if freight traffic increases.⁵⁰ The DEIS should also consider existing and prospective public funding for rail capacity to purchase passenger rail service. The public has spent billions of dollars on rail improvements to ensure that passenger rail fits with existing capacity, and it is

⁴⁸ Ex. 23.

⁴⁹ Ex 24.

⁵⁰ Passenger service that may be affected would include, among others, Sound Transit Sounder Commuter services as well as Amtrak intercity service and Empire Builder service between Seattle and Chicago. The Empire Builder service also utilizes “The Funnel” in Spokane, which is expected to see the greatest increase in freight rail traffic because of the coal shipments.

imperative that the DEIS fully analyzes the past and prospective investments to ensure that public funds are not spent for private purposes.

The DEIS must also account for the demand for public investment spurred by this project. Rail infrastructure improvements are anticipated, although it is far from clear how those improvements will be funded. Rail lines and infrastructure will also need to be regularly maintained, and there will be mitigation costs for structures such as overpasses, tunnels, and railroad crossings. The DEIS must also address whether the public will be expected to bear any costs for infrastructure constructed for private benefits. Federal and state governments commonly bear a significant share of the costs of freight rail capacity improvement projects.⁵¹ The DEIS should include all needed capacity improvements that will be required to address at least those areas where the planned oil train traffic will exceed the capacity of the existing system.

D. Increased Rail Traffic at Crossings Weakens Emergency Response and Increases the Risk of Accidents

The DEIS acknowledges that there will be significant traffic delays associated with this proposal.⁵² However, it is surprisingly dismissive of the risk that increased rail traffic will cause real harm to emergency services and responses. Frequent long trains at rail crossings will mean delayed emergency medical service response times.⁵³ The FEIS should provide more quantitative analysis at specific crossings throughout the state, particularly where congestion is greatest. The analysis should also be done with respect to the cumulative impacts of this project alongside many others. For example, the cumulative impacts section observes future rail traffic of 200 trains per day near Spokane—what would be the impact of that level of traffic on emergency vehicles in those communities?

Among the more startling admissions of the DEIS is that the project will proximately cause a substantial increase in the number of rail accidents—a 22% increase statewide. What is not disclosed is any meaningful analysis of the potential safety, human health and environmental risks of such accidents. Just this month, a unit train carrying Bakken crude oil derailed in the Columbia River Gorge near Mosier, Oregon, creating a massive fire and public health emergency, closing an interstate highway, and leaking oil into the Columbia River. Initial reports blamed the incident on track failure. What is undisclosed in the DEIS is how frequent operations of coal unit trains—among the longest and heaviest trains on the rail system—

⁵¹ See Sightline, January 2013, *Who Pays for Freight Rail Upgrades?* available at <http://daily.sightline.org/2013/01/18/who-pays-for-freight-railway-upgrades/>.

⁵² It is not clear whether any of the traffic analysis considers the addition of up to 88,000 trucks carrying the anticipated 2.1 million cubic yards of fill that will be required, a staggering volume that would be concentrated in a single year. DEIS 2-19. This additional truck traffic adds pollution and reduces safety while compounding traffic problems.

⁵³ Ex. 25. This testimony was prepared for another project nearby, the Tesoro-Savage oil terminal. It addresses a number of factors, such as diesel exhaust, noise, and delay of emergency vehicles, that are pertinent to this project.

contribute to higher-than-normal degradation of rail infrastructure, increasing the risk of accidents. Given the desire to substantially increase the amount of crude oil on the regional rail system, the DEIS needs to look closely at the extent to which the project will contribute not just to accidents generally but to crude oil accidents specifically. Any increase in the risk of a crude oil accident is totally unacceptable.

VI. THE DEIS UNDERSTATES THE IMPACTS AND RISKS TO THE COLUMBIA RIVER, ESTUARY, AND COASTAL WATERS FROM THE COAL TERMINAL

A. The Columbia River Estuary: Ground Zero for Columbia Basin Salmon Recovery

MBT proposes operating the nation's largest coal export terminal in the Columbia River estuary, an area at the center of a regional and national effort to restore endangered and threatened salmonids and other species. The Columbia River estuary extends from the Oregon-Washington coast to Bonneville Dam, located 146-miles upriver. The U.S. Environmental Protection Agency ("EPA") designated the Columbia River estuary as an Estuary of National Significance under the Clean Water Act's National Estuary Program.⁵⁴ EPA also designated the Columbia River as one of seven Priority Large Aquatic Ecosystems.⁵⁵ The estuary is also an "ecologically critical area," 40 C.F.R § 1508.27(b)(3), that is essential to the survival of juvenile salmon and steelhead, waterfowl, and many other species.⁵⁶ The Columbia River estuary contains some of the most biologically productive ecosystems in the world because of the large and concentrated supply of nutrients from the convergence of the Columbia River and Pacific Ocean.⁵⁷

The Columbia River estuary provides vital habitat for salmon throughout the Columbia River Basin.⁵⁸ The National Marine Fisheries Service ("NMFS") and U.S. Fish and Wildlife Service ("USFWS") designated the estuary as critical habitat for 17 species of ESA-listed fish and Essential Fish Habitat for Pacific salmon. Multiple studies identify the Columbia River

⁵⁴ EPA, National Estuary Program in Region 10, <http://yosemite.epa.gov/R10/ECOCOMM.NSF/6da048b9966d22518825662d00729a35/c7a2ab5e252f309688256fb600779ea6!OpenDocument>.

⁵⁵ EPA, *Columbia River Basin: State of the River Report for Toxics* (Jan. 2009), http://www2.epa.gov/sites/production/files/documents/columbia_state_of_the_river_report_jan2009.pdf.

⁵⁶ NOAA, *Columbia River Estuary ESA Recovery Plan Module for Salmon and Steelhead* (2011); Fresh *et al.*, *NOAA Technical Memorandum NMFS-NWFSC-69: Role of the Estuary in the Recovery of Columbia River Basin Salmon and Steelhead* (2005); 78 Fed. Reg. 2,726 (Jan. 14, 2013) (*Proposed Critical Habitat Designation for Lower Columbia Coho Salmon*).

⁵⁷ Western Hemisphere Shorebird Reserve Network, <http://www.whsrn.org/site-profile/columbia-river-estuary>

⁵⁸ See generally Exhibit 26 (Williams, Richard N., *Review of the draft Biological Assessment and Essential Fish Habitat for Proposed Oregon LNG Terminal Project* (Jan. 8, 2015)).

estuary as vitally important for juvenile salmonid rearing and endangered species recovery.⁵⁹ As one Columbia River expert recently commented, “A growing body of evidence, much of it quite recent (Bottom *et al.* 2005; Roegner *et al.* 2012; Weitkamp *et al.* 2012), provides increasing insight into the important role that shallow water estuarine habitats in the [Columbia River estuary] play in stabilizing production of Columbia River salmon and steelhead.”⁶⁰ Estuarine habitats provide high growth opportunities for out-migrating juvenile salmon and also provide protection from predators. Research in the Columbia River estuary demonstrates that the estuary is an important staging area where juvenile and adult salmon, steelhead, and trout undergo significant physiological changes that allow transitions to and from saltwater.

Public and private entities have invested, and continue to spend, billions of dollars in efforts to restore the ecological health of the Columbia River Basin.⁶¹ This includes federal agencies’ obligations under the Federal Columbia River Power System Biological Opinion (“FCRPS BiOp”). The estuary is ground zero for restoration efforts. For example, the federal government, tribes, states, and others have made significant investments in riparian and wetland restoration projects in the estuary. The federal government has funded—and will continue to fund for the foreseeable future—a significant portion of the salmon restoration efforts in the Columbia River estuary.

Upper Columbia River and Snake River Chinook salmon are essential for the survival of Puget Sound’s Southern Resident Killer Whale (“SRKW”) population. The birth rate of the SRKW is strongly correlated with the abundance of Chinook salmon. New information shows that abundant runs of Columbia and Snake River Chinook salmon are important to the long-term survival of the SRKW.⁶² Juvenile Chinook salmon use the lower Columbia River estuary for migration and sustenance. Adult salmon must migrate along the Columbia River past the proposed Terminal site.

In 2010, the National Marine Fishers Service (“NMFS”) listed the Southern Distinct Population Segment of eulachon (*i.e.*, smelt) as threatened under the ESA.⁶³ NMFS subsequently designated critical habitat for eulachon, which covers the aquatic area of the applicant’s proposed dredging and docks.⁶⁴ According to NMFS, “[d]redging during eulachon

⁵⁹ NOAA, *Columbia River Estuary ESA Recovery Plan Module for Salmon and Steelhead* (2011); Fresh *et al.*, *NOAA Technical Memorandum NMFS-NWFSC-69: Role of the Estuary in the Recovery of Columbia River Basin Salmon and Steelhead* (2005); 78 Fed. Reg. 2,726 (Jan. 14, 2013) (*Proposed Critical Habitat Designation for Lower Columbia Coho Salmon*).

⁶⁰ Exhibit 26 at 5.

⁶¹ See Thom, R. *et al.*, *Columbia River Estuary Ecosystem Restoration Program, 2012 Synthesis Memorandum, PNNL-21477 FINAL* (Jan. 2013).

⁶² NOAA, 2015 Southern Resident Killer Whale Satellite Tagging (May 2015), http://www.nwfsc.noaa.gov/research/divisions/cb/ecosystem/marinemammal/satellite_tagging/blog2015.cfm.

⁶³ 75 Fed. Reg. 13012 (Mar. 18, 2010).

⁶⁴ Exhibit 27 (NOAA, *Endangered and Threatened Species; Designation of Critical Habitat for the Southern Distinct Population Segment of Eulachon*, 76 Fed. Reg. 203 (Oct. 20, 2011)).

spawning would be particularly detrimental, as eggs associated with benthic substrates are likely to be destroyed.”⁶⁵

The Columbia River estuary supports tribal fisheries throughout the Columbia River Basin. Since time immemorial, Columbia River Basin tribes have relied on salmon that depend on the estuary for survival. As the Columbia River Inter-Tribal Fish Commission (“CRITFC”) explains:

To call salmon a staple of the tribal diet would be an understatement. Historically, the typical tribal member ate almost a pound of salmon every day, but salmon represented much more than a source of nutrition—they shaped our societies and our religions.⁶⁶

Indian people have lived in the Columbia River Basin for thousands of years. Salmon is the foundation of their culture and economy. According to conservative estimates, prior to European settlement, the Columbia River’s annual salmon returns ranged from 11 to 16 million fish.⁶⁷ In 1855, the U.S. government signed treaties with some Columbia River tribes. In these treaties, tribes ceded most of their lands, but reserved the right to fish at “all usual and accustomed fishing places...in common with citizens.” CRITFC summarizes the tribes’ focus on salmon restoration in the Columbia River Basin:

Today the tribes are doing everything in their power to make sure that salmon return to as many of their traditional waters as they can. Enormous amounts of resources are being poured into this effort, and tribal youth are joining the fight to save salmon. Every year, more and more tribal members are becoming fish biologists, environmental engineers, and other scientists who are offering their minds as well as their hearts for the protection of the salmon, the water, and ultimately, their traditional way of life.⁶⁸

⁶⁵ *Status Review Update for Eulachon in Washington, Oregon, and California*, Prepared by the Eulachon Biological Review Team at 13019 (Jan. 20, 2010); *see also id.* (“Potential dredging impacts on eulachon consist of direct effects of entrainment of adults and eggs and potential for smother of eggs with sediment . . . Indirect effects may consist of alteration of freshwater spawning habitat and estuarine nursery habitat.”) (citations omitted).

⁶⁶ CRITFC website, <http://www.critfc.org/salmon-culture/we-are-all-salmon-people/>.

⁶⁷ CRITFC website, <http://www.critfc.org/about-us/fisheries-timeline/>.

⁶⁸ CRITFC website, <http://www.critfc.org/salmon-culture/we-are-all-salmon-people/>.

Salmon and other fisheries in the Columbia River estuary also support vibrant traditions of non-tribal subsistence, commercial, and sport fishing.⁶⁹ The Buoy 10 fishery, spanning the mouth of the Columbia River, is one of the Pacific Northwest's most renowned fisheries.⁷⁰

Despite significant declines in the salmon fishery, commercial fishing in the Columbia River estuary persists. The primary commercial fisheries operating in the Columbia River estuary are gill-netters and crabbers. Gill nets are used on the Columbia River for salmon, sturgeon, shad, and smelt, with salmon as the primary target. In addition to commercial and sport fishing on the Columbia River, a number of ocean fisheries' vessels operate out of the Columbia River.

The Columbia River estuary is a local and regional treasure, and a national priority for watershed health and salmon recovery. For the reasons explained below, MBT will degrade the estuary, harm tribal, commercial, and recreational fisheries, and undermine efforts to restore endangered species. The DEIS does not do an adequate job of disclosing all of the risks and impacts to the Columbia River and the wildlife and communities that rely on it.

B. The DEIS Ignores the Impacts of Increased Vessel Traffic Outside of a Narrow Study Area

The DEIS fails to acknowledge the risks and impacts of vessel traffic in the Pacific Ocean and along the Washington, Oregon, and California coasts. MBT will add 840 vessels per year—1,680 vessel transits—to the Columbia River, the Pacific coastline, and beyond.⁷¹ The DEIS does not disclose potential vessel routes or impacts and risks of vessel traffic along the coastline and in the Pacific Ocean. The risks and impacts of vessel traffic are reasonably foreseeable and must be addressed in the FEIS.

The Co-leads must expand the vessel traffic study area to encompass the foreseeable routes of vessels transiting to and from MBT. When deciding what impacts to address in a DEIS, the Washington Supreme Court explained that an agency “cannot close its eyes to the ultimate probable environmental consequences” of its current action. *Cheney v. City of Mountlake Terrace*, 87 Wn.2d 338, 344 (1976). Nevertheless, the DEIS cuts off the study area for vessel transportation at 3 nautical miles (“nmi”) seaward of the Columbia River's mouth.⁷² **Coal export vessels servicing MBT would not magically disappear and re-appear three miles from the mouth of the Columbia River.** While three miles is the seaward limit of

⁶⁹ Exhibit 28 (Oregon Department of Fish and Wildlife and Washington Department of Fish and Wildlife, 2014 Joint Staff Report: Stock Status and Fisheries for Spring Chinook, Summer Chinook, Sockeye, Steelhead, and Other Species, and Miscellaneous Regulations (Jan. 22, 2014)).

⁷⁰ Washington Department of Fish and Wildlife, Buoy 10 Creel, <http://wdfw.wa.gov/fishing/creel/buoy10/>; Lewis and Clark Guide Service website, <http://www.lewisandclarkguideservice.com/buoy-10-salmon-fishing/>

⁷¹ DEIS at 5.4-35.

⁷² DEIS at 5.4-3.

Washington's coastal zone boundary, this jurisdictional boundary has no bearing on the appropriate study area for SEPA analysis.

Examples of vessel traffic impacts and risks beyond the three-mile study area include:

- Disruption or destruction of the near-shore marine and inter-tidal ecosystems.
- Impacts of tanker traffic and potential spills on Washington, Oregon, and California's commercial fishing industries, especially the high-value Dungeness crab fishery. Increased vessel traffic could interfere with commercial fishing activities and spills in the coastal ocean could harm target species, disrupt food webs, and lead to fishery closures or seafood consumption bans.
- Impacts to coastal tourism and recreation. The DEIS acknowledges that, within the study area, an increase in vessel traffic increases the risk of a fuel spill or accident involving an oil tanker resulting in an oil spill.⁷³ An oil spill into the coastal ocean off of Washington, Oregon, or California could have disastrous consequences for local economies. For example, an oil spill could precipitate beach closures or deter people from using beaches for walking, swimming, surfing, fishing, razor-clamming or other traditional activities, resulting in significant loss of revenue for coastal communities in addition to the incalculable environmental harm.
- Impacts to human health and safety, including exposure to toxic substances for individuals attempting to clean up oil spills.
- Increase in ship strikes and acoustic disturbance to whales and other marine life. By illegally constricting the vessel and wildlife study areas,⁷⁴ the DEIS gives readers the impression that the impacts of ship traffic on marine mega-fauna will be insignificant or non-existent. However, a NMFS Biological Opinion for a Columbia River crude oil terminal concluded that oil tankers exiting from the Columbia River are "substantially certain" to collide with, and acoustically disturb, threatened and endangered marine mammals and leatherback sea turtles.⁷⁵ Washington courts require reasonably thorough disclosure and discussion of environmental impacts and sufficient information to make a reasoned decision. *Klickitat County Citizens Against Imported Waste v. Klickitat County*, 122 Wn.2d 619, 633 (1993). The DEIS's consideration of impacts to whales and other marine life fails to meet this standard.

⁷³ SEPA Vessel Transportation Technical Report at 3-13 (April 2016).

⁷⁴ The DEIS restricts the wildlife study area for aquatic species and habitats to approximately 5.1 miles upstream and 2.1 miles downstream from the upstream and downstream ends of the proposed docks. DEIS at 4.8-3.

⁷⁵ Exhibit 29 (NMFS, *Final Biological Opinion for Columbia Pacific Bio-Refinery Dock Expansion* at 7 (June 8, 2015)).

Overall, limiting the study area to the three nautical miles in front of the mouth of the Columbia obscures the risks and impacts of MBT's project.

C. The DEIS Demonstrates Significant Impacts from a 44% Increase in Columbia River Vessel Traffic

MBT would generate a staggering volume of deep-draft vessel traffic in the Columbia River estuary. According to the DEIS, **MBT would generate more deep-draft vessel traffic than any single public port in the Columbia River Basin.**⁷⁶ For the reasons described below, the DEIS ignores and understates the significant ecological impacts of adding 1680 deep-draft vessel transits to the Columbia River estuary each year.

1. *Wake stranding caused by MBT's vessel traffic would injure and kill ESA-listed salmonids and other species.*

Vessel wakes from deep-draft bulk cargo vessels calling at MBT would kill and injure juvenile salmon, steelhead, and other fish in the Columbia River. Wake stranding occurs when a wave caused by a vessel wake lifts an aquatic organism onto the shoreline. NMFS identifies ship wake stranding as a limiting factor for recovery of Lower Columbia River ("LCR") Chinook salmon, Columbia River chum, LCR coho salmon, and LCR steelhead, with juvenile ocean-type Chinook originating from LCR tributaries and CR chum being particularly vulnerable.⁷⁷

The DEIS does not dispute the impact of wake stranding on fish. The DEIS states: "A growing body of evidence indicates that juvenile salmon and other fish are at risk of stranding on wide, gently sloping beaches because of the wakes generated by deep draft vessel passage."⁷⁸ The DEIS describes studies analyzing the wake stranding in the Lower Columbia River, stating:

Studies indicate that juvenile salmon and other fish are at risk of stranding on wide, gently sloping (i.e., less than 5% slope) beaches as a consequence of wakes generated by deep-draft vessel passage (Bauersfeld 1977; Hinton and Emmett 1994; Pearson et al. 2006; ENTRIX 2008). Depending on various factors—such as the slope and breadth of a beach, river stage, tidal stage, depth of water vessel in transiting, and vessel size—direction of travel and speed, wakes from passing vessels can travel a considerable distance. When these wakes meet the shoreline, they can carry fish and deposit them, essentially stranding them on the beach where they are susceptible to stress, suffocation, and predation before than [sic] can return to the water.⁷⁹

⁷⁶ DEIS at 5.4-18–19.

⁷⁷ Exhibit 29 at 86.

⁷⁸ DEIS at 4.7-18.

⁷⁹ DEIS at 4.7-31–32.

Studies on wake stranding in the Lower Columbia River conclude that “certain sites appear to be more susceptible to stranding than others.”⁸⁰

NMFS’ recent Biological Opinion (“BiOp”) for dock work at the Columbia Pacific Bio-Refinery, located downstream of MBT at Port Westward, provides a detailed summary of research on wake stranding in the Columbia River estuary.⁸¹ The dock work would facilitate a 7% increase in large-ship vessel traffic in the Columbia River estuary.⁸² After analyzing research on wake stranding in the estuary, NMFS concluded that vessel traffic calling on the Bio-Refinery’s dock would “likely increase the incidence of stranding and death of all populations of juvenile salmonids and eulachon.”⁸³

The DEIS discloses significant impacts to endangered salmonids and other fish from MBT’s vessel traffic, which would increase large vessel traffic on the Columbia River 44% over 2014 traffic levels.⁸⁴ In particular, the DEIS concludes: “The Proposed Action would add 840 vessel transits to the Columbia River at full build-out, which would introduce additional **permanent risk of fish stranding** in the Columbia River.”⁸⁵ The Co-leads should revise the DEIS to include a more robust analysis of impacts from wake stranding.

- The DEIS does not attempt to quantify the impact of 840 vessel transits per year on wake stranding. While the DEIS describes a “growing body” of research on the impacts of large vessel traffic on wake stranding, the DEIS does not use these studies to project the impact of 840 vessel transits per year on wake stranding along the Columbia’s shoreline. The Co-leads can utilize data on wake stranding in the lower Columbia. For example, in 2004 and 2005, researchers monitored 126 deep-draft vessel transits at three beaches along the Lower Columbia River.⁸⁶ Along a 300-meter stretch of shoreline at Barlow Point (just downstream from MBT), researchers observed 26 different deep-draft vessel transits, which resulted in the total wake stranding of 351 juvenile chinook salmon (an average of 13.5 juvenile chinook stranded per deep-draft vessel transit).⁸⁷ NMFS Biological Opinion for the Columbia Pacific Bio-Refinery summarizes studies from the lower Columbia documenting the impacts of wake stranding. The Co-leads can use data from wake-stranding studies to extrapolate MBT’s impact on ESA-listed fish.

⁸⁰ *Id.* at 4.7-19.

⁸¹ Exhibit 29 at 85–86.

⁸² *Id.* at 87.

⁸³ *Id.* at 86.

⁸⁴ DEIS Vessel Transportation Fact Sheet at 2.

⁸⁵ DEIS at 4.7-19 (emphasis added).

⁸⁶ Exhibit 30 (Pearson *et al.*, *A study of stranding of juvenile salmon by ship wakes along the lower Columbia River using a before-and-after design—before-phase results* (2006)).

⁸⁷ *Id.* at 9, 48.

- The DEIS fails to analyze the impact of wake stranding on ESA-listed eulachon. The Tesoro-Savage DEIS, released by the Washington Energy Facility Site Evaluation Council (“EFSEC”) in January 2016, analyzed the impact of vessel traffic from that project on eulachon. The Tesoro-Savage DEIS concluded that wake stranding “could result in a moderate to major long-term effect on nearshore fish including listed salmonids and eulachon.”⁸⁸
- The DEIS does not discuss wake stranding along Columbia and Willamette River shorelines **upstream** of the terminal. The DEIS discusses beaches susceptible to wake stranding from the Columbia mouth to the terminal. The DEIS, however, acknowledges that vessels transporting coal to and from the terminal may use anchorages upstream of the terminal site, including anchorages at the Ports of Kalama, Woodland, Vancouver, and Portland.⁸⁹ In turn, the DEIS’s vessel traffic study area reaches to the Port of Vancouver, Port of Portland, and Willamette River. Without explanation, the DEIS fails to analyze wake stranding impacts within the designated study area upstream of the terminal.

For the reasons described above, the DEIS underestimates the project’s impact on wake-stranding.

The DEIS concludes that MBT would introduce “additional permanent risk of fish stranding in the Columbia River.” The DEIS fails to propose any voluntary measures or mitigation to address the loss of endangered and threatened species from wake stranding.⁹⁰ Nonetheless, the DEIS concludes that “[c]ompliance with laws and implementation of the voluntary measures and mitigation measures described above would reduce impacts on fish” and “[t]here would be no unavoidable and significant adverse impacts.” This conclusion contradicts the DEIS’s own findings. Just five pages before reaching the “unavoidable and significant adverse impacts” conclusion, the DEIS states:

In 2028, with full coal terminal export throughput, the Proposed Action would represent approximately 27% of the projected vessel traffic volume in the lower Columbia River. The additional traffic associated with the Proposed Action would result in increased risk of fish stranding.

As noted above, the DEIS makes no effort to quantify projected fish mortality from wake stranding up- and downstream of the terminal.

⁸⁸ Exhibit 31 (Tesoro-Savage DEIS at 3.6-54).

⁸⁹ DEIS at 5.4-7 (map of anchorages vessels calling on MBT would use, including anchorages upstream at the Ports of Kalama, Vancouver, Woodland, and Portland); *see also id.* at 5.4-9–11 (discussing anchorages upstream and downstream of MBT).

⁹⁰ DEIS at 4.7-35–37 (describing potential mitigation measures for fish impacts); *id.* at 5.4-47 (describing potential mitigation measures for vessel traffic impacts).

The DEIS contains a qualitative conclusion that the MBT will increase the risk of wake stranding. However, the DEIS never connects MBT's impact from wake stranding with a mitigation measure. Instead, the wake stranding section trails off with a one paragraph commentary on vessel operation oversight by federal agencies.⁹¹ The DEIS does not identify how federal regulation would address or mitigate impacts from wake stranding.

In sum, the DEIS: (1) discloses significant impacts from vessel traffic, (2) fails to identify voluntary measures or mitigation to off-set these impacts, and (3) contradicting the DEIS's own finding that MBT "would introduce additional permanent risk of fish stranding in the Columbia River,"⁹² concludes "[t]here would be no unavoidable and significant adverse impacts" to fish. The Co-leads must revise the DEIS to conclude, consistent with the DEIS's disclosure on the project's impacts from wake stranding, that there would be unavoidable and significant adverse impacts to fish. Such impacts must either be mitigated, or the DEIS should include a clear conclusion that they cannot be.

The coalition anticipates that MBT may propose altering vessel transit speeds in areas more susceptible to wake stranding. The Co-leads should reject this unproven form of mitigation. In Columbia Pacific Bio-Refinery BiOp, NMFS noted that reducing vessel speed in the lower Columbia River to mitigate wake stranding is probably infeasible "primarily because of the lost revenues that would result from slower ship travel" and because "the speed of ships traveling through the estuary may be difficult to alter because of safety issues."⁹³

2. *The DEIS contains an incomplete and flawed analysis of oil spill risks.*

The DEIS understates oil spill risks associated with increasing deep-draft vessel traffic by 44% over 2014 levels. The DEIS technical report on vessel traffic states:

Risks of oil spills involving diesel or heavy fuel oil during transit could occur as the result of an incident or during bunkering transfers at locations other than the dock. The Applicant has committed to not allowing vessel bunkering from barges or tanker trucks at Docks 2 or 3. If an incident occurred that resulted in an impact, there is a possibility that a fuel tank could be damaged and fuel spilled. Oil spills could also occur during bunkering at anchorages within the study area. In general, the risks of spills would increase under the Proposed Action due to an increase in the number of vessels calling at the project area and the resultant increase to overall vessel traffic in the study area.⁹⁴

To provide additional information about the relative likelihood of various sized oil spills, the

⁹¹ DEIS at 4.7-32.

⁹² DEIS at 4.7-19.

⁹³ Ex. 29 at 86 (Columbia Pacific Bio-Refinery BiOp).

⁹⁴ SEPA Vessel Transportation Technical Report at 3-13 (April 2016).

DEIS risk assessment quantitatively evaluated the incremental increase in risks of a spill in the event of a collision or grounding. The DEIS does not include a qualitative or quantitative risk analysis of bunkering (*i.e.*, refueling). The DEIS, however, acknowledges oil spill risks associated with bunkering, stating:

Increased vessel traffic associated with the Proposed Action also has the potential to result in an increased risk of oil spills during bunkering activities. Causes of oil spills during bunkering transfers include overflow of the tank, parting the hose due to mooring fault, operator error in connecting the hose, failure of the hose or pipework, and failure of bunker tanks (HSE 2012). Experience from insurance claims (Gard 2002) is that most bunker spills result from an overflow of the bunker tank due to carelessness or negligence, either on the part of those supplying the bunkers, or those on board the vessel receiving them.⁹⁵

The DEIS notes that utilizing best practices during bunkering is the best safeguard against bunkering spills.⁹⁶ The DEIS makes a preliminary effort to quantify the risk of a bunkering spill, but falls short. In particular, the DEIS describes projections on the frequency of spills during bunkering, stating:

Spills of oil cargoes are better documented than spills from bunkering. Therefore, previous risk analyses (DNV GL 2011) have assumed the frequency of spills during bunkering is the same as during transfer of liquid cargoes: 1.8×10^{-4} (.00018) per bunkering operation for spills exceeding 1 metric ton (7.3 barrels or 308 gallons). The frequency of smaller spills is likely to be much greater. This implies that the annual likelihood depends on the number of bunkering operations. If the vessel bunkers 10 times per year, the likelihood of a spill of 1 metric ton or more would be 1.8×10^{-3} (.0018 or .00018*10) per year, or approximately 1 chance in 500 per year.⁹⁷

The DEIS notes that there were nine oil spills during refueling of large cargo vessels in the study area from 2004 to 2014.⁹⁸

The DEIS cuts short the bunkering oil spill risk analysis. The DEIS fails to analyze the risk of bunkering spills from 840 new, deep-draft vessels servicing MBT. Nonetheless, the DEIS vessel traffic technical report concludes: “Although it is not possible to predict the number of vessels that may bunker or where they would bunker, the risks of a spill during transfer would

⁹⁵ *Id.*

⁹⁶ *Id.*

⁹⁷ *Id.* at 3-14.

⁹⁸ DEIS at 5.4-45.

increase slightly due to the increase in vessel trips under the Proposed Action.” The DEIS fails to provide any technical support for its conclusion characterizing the increased risk of a bunkering spill as “slight.”

In general terms, the DEIS describes the impacts of a bunker fuel spill in the “marine environment,” but fails to analyze potential impacts in the Columbia River estuary, a confined estuarine environment. Specifically, the DEIS technical report states:

The consequences of a spill of heavy fuel oil into the marine environment are, in general, considered to be more severe than for other fuels, although this may depend on the sensitivity of the local environment to acute toxicity (DNV GL 2011). Undoubtedly, spills of heavy fuel oil will be more persistent, taking longer to weather naturally and being more difficult to clean-up.⁹⁹

The DEIS identifies ports and anchorages where bunkering may occur, *see* Figure 5.4-1, but fails to analyze the consequences of a bunkering spill at potential bunkering locations within the estuary or other locations. **The Co-leads must revise the DEIS to address the impacts of a bunker oil spill at different locations in the Columbia River estuary and at other potential bunkering locations.**

D. The DEIS Understates Shoreline Erosion and Associated Impacts to Shoreline Vegetation from Increased Vessel Traffic.

The Co-leads must revise the DEIS to connect MBT’s impacts on shoreline erosion and vegetation with the conclusions reached. The DEIS discloses significant impacts from vessel traffic on shoreline erosion and shoreline vegetation.¹⁰⁰ For example, DEIS Appendix F states:

Vessels transiting the Columbia River would create vessel wakes, which have the potential to impact riparian vegetation directly through breakage, swamping, and erosion and indirectly through altered patterns of erosion and deposition and spread of noxious weeds. Vessel wakes are most likely to affect shoreline vegetation communities at or near water level. Wakes can redistribute fine sediment that can smother aquatic vegetation, but can also provide substrate for colonization of emergent wetland plants. Vessels traveling up and down the Columbia River could assist with dislodging (with wakes) and facilitating waterborne transport of wetland and riparian zone invasive exotic plants.¹⁰¹

Despite disclosing a litany of significant impacts, the DEIS concludes “[t]here would be no

⁹⁹ SEPA Vessel Transportation Technical Report at 3-14.

¹⁰⁰ DEIS 4.6-23–24.

¹⁰¹ DEIS Appendix F at F-8.

unavoidable and significant adverse environmental impacts” to shoreline erosion and vegetation.¹⁰² The DEIS does not identify mitigation to reconcile its findings on impacts with the “no unavoidable” and “not significant” conclusions.

The DEIS addresses the impacts of vessel traffic on shoreline erosion and vegetation in Chapter 4.6, *Vegetation*. The DEIS states:

Increased vessel traffic and associated wakes could contribute to erosion of tidal marsh vegetation along the shoreline of the Columbia River. Operation of the coal export terminal at maximum throughput would deliver 70 vessels per month or 840 vessels per year to Docks 2 and 3 and would equate to 1,680 vessel transits a year (840 vessels each way) (Chapter 5, Section 5.4, Vessel Transportation). The location and extent of these impacts would depend on vessel design, hull shape, vessel weight and speed, angle of travel relative to the shoreline, proximity to the shoreline, currents and waves, and water depth (Jonason 1993:29–30; MARCOM 2003). The potential for shoreline erosion could also be influenced by the slope and physical character of the shoreline (i.e., soil susceptibility to erosion), as well as the amount and type of vegetation that occurs along the shoreline.¹⁰³

The DEIS concludes that vessel traffic may impact shoreline erosion and vegetation at the terminal and along the vessel route. Specifically, the DEIS states:

[T]here may be a potential for such impacts [*i.e.*, shoreline erosion] on the thin strip of shoreline vegetation along the northern end of Lord Island from large wakes, or wakes oriented perpendicular to the main navigation channel and docks, such as those that can occur when tugs are oriented perpendicular to the shoreline as they push vessels into position at docks. There is the potential for impacts related to vessel wakes on vegetation along the shoreline of the lower Columbia River as a result of the Proposed Action.¹⁰⁴

The DEIS also notes that: (1) vessel operations in the Lower Columbia River are federally regulated, including size, speed, and navigation; (2) large vessels must be operated by U.S. Coast Guard-licensed pilots within the Lower Columbia River; and (3) the Corps manages the navigation channel and its ongoing maintenance.¹⁰⁵ The DEIS fails to explain how these factors will reduce or mitigate for shoreline erosion from MBT’s vessel traffic.

¹⁰² DEIS at 4.6-27.

¹⁰³ DEIS at 4.6-23.

¹⁰⁴ *Id.* at 4.6-23.

¹⁰⁵ *Id.*

Like the DEIS's treatment of wake stranding, the DEIS's treatment of vessel traffic's impacts on shoreline erosion and shoreline vegetation is arbitrary. The DEIS discloses significant impacts from vessel traffic on shoreline erosion and vegetation, fails to identify mitigation or how compliance with federal laws will alleviate these impacts, and, nonetheless, concludes that the project's impacts are not significant or unavoidable.¹⁰⁶ The Co-leads must revise the DEIS to link its findings with its conclusion.

In comments on a proposed liquefied natural gas ("LNG") terminal, Bradwood Landing, the Oregon Department of Environmental Quality (DEQ) notes that studies by the Corps found an impact from deep-draft vessels on shoreline erosion. DEQ's comments state:

Corps studies related to channel deepening in the proposed reach have found wake from current ship traffic to be largely responsible for erosion at Puget Island. The DEIS incorrectly identifies speed as the most important influencing factor in ship wake erosion. The Corps studies have found vessel hull shape to be the contributing factor in ship wake erosion with severity dependent on tidal stage during travel. No information on vessel hull shape and tidal stage correlation is provided in the DEIS analysis. Additionally, tug boat wake from multiple boats during berthing and unberthing should be analyzed in combination with wake and propeller wash from the vessels.¹⁰⁷

The MBT DEIS contains the same flaws DEQ identified in the Bradwood LNG DEIS, a project with only a fraction of the vessel traffic (*i.e.*, 125 vessels per year). The Co-leads must revise the DEIS to account for significant impacts from 840 vessels per year calling on MBT.

E. Vessel Traffic Impact on Sediment and Water Quality

The DEIS does not provide adequate detail about the potential to re-suspend contaminated sediments due to vessel movement and prop wash. Sediments contaminated with PAHs, PCBs, and PBDEs exist along the Lower Columbia River, and vessel traffic remobilization of bed materials may transport and redistribute existing contaminants. Resuspension of existing contaminants would likely violate water quality standards, which could not be readily prevented or otherwise mitigated.

The DEIS fails to disclose contaminated sediment and a pending cleanup action at MBT.¹⁰⁸ Chemical analyses of sediments at the site revealed one location near Outfall 002A where PAHs exceeded screening levels. Near Outfall 002A, sediments exceeded bioassay performance standards. Accordingly, Ecology Agreed Order Amendment No. 9040 requires

¹⁰⁶ *Id.* at 4.6-26-27.

¹⁰⁷ Ex. 32 (Oregon DEQ Comments on Bradwood Land LNG DEIS).

¹⁰⁸ Ex. 33 (Ecology Agreed Order Amendment No. 8940).

dredging of up to 5,000 cubic yards of contaminated sediments. The Co-leads should analyze sediment samples from MBT and incorporate those analyses in the FEIS.

In addition, the DEIS fails to address comments raised in the Washington Department of Natural Resources' ("WDNR") scoping comments. WDNR's comments state:

The greatly increased ship activity has the potential to impact sediment quality. Diesel burning by the ships can create greenhouse gases, PAHs and dioxins, which can contribute to localized ocean acidification as well as contaminate the sediments in the area through atmospheric deposition, especially if diesel fuel is burned while the container ships are idling while at the terminal.¹⁰⁹

WDNR requested that the Co-leads "analyze the cumulative impacts of engine exhaust from the cargo vessels and tugs and upland machinery operations, and the potential for pollutants to [enter] the Columbia River from atmospheric deposition, or from vessel machinery, or loading operations."¹¹⁰ An analysis of the Morrow Pacific coal export terminal showed nitrogen deposition into the Columbia River many times above the ecological screening level of 5 kg/ha/yr.¹¹¹ These impacts crossed state boundaries. The Morrow Pacific analysis supports incorporating WDNR's request to analyze atmospheric deposition from multiple sources in the FEIS.

F. Entrainment and Impingement of Aquatic Organisms.

The DEIS does not address impingement and entrainment of aquatic organisms in the water intakes of vessels calling on MBT. Entrainment is the direct uptake of aquatic organisms by the suction field generated by water intakes on vessels, while impingement refers to organisms becoming trapped against an intake screen. The DEIS *SEPA Fish Technical Report* notes that entrainment occurs in the context of dredging, but fails to address entrainment from vessels.

The FEIS should describe the water intake structures on the tanker vessels, explain the rate and amount of water taken in by each ship, and explain (through literature review or actual sampling) the densities at which larval fish and fish eggs are likely to be present in the Lower Columbia River and therefore susceptible to entrainment or impingement. None of these figures would be particularly difficult to ascertain, but without them, readers of the DEIS have no information on the impacts of entrainment resulting from MBT.

¹⁰⁹ Ex. 34 at 9 (Washington Department of Natural Resources Scoping Comments on the Millennium EIS (Nov. 18, 2013)).

¹¹⁰ *Id.*

¹¹¹ Ex. 35 at 25 (Fox, Phyllis, *Fugitive Particulate Matter Emissions from Coal Train Staging at the Proposed Coyote Island Terminal*, Final Report, prepared for Sierra Club, San Francisco, CA (July 19, 2013)).

G. Reasonable Alternatives to Reduce Vessel Traffic Impacts

The DEIS fails to disclose reasonable alternatives to vessel traffic patterns and operations to reduce the project's adverse impacts to fish, water quality, and shoreline erosion. The DEIS again ignores WDNR's scoping comments. WDNR recommended that the DEIS "analyze alternative berthing times and seasonal restrictions to ensure that cargo vessel and tug operations do not adversely affect the spawning and migration behavior of salmon, eulachon, sturgeon, and other species that utilize the proposed project area." The DEIS lacks the analysis requested by WDNR.

Information disclosed in the DEIS supports an alternatives analysis on vessel traffic operations. The DEIS acknowledges vessel maneuvering challenges at the existing dock:

Currently, maneuvering a vessel to the existing berth (Dock 1) can be challenging upstream of the project area due to the strong current outflow from the bank (Amos pers. comm.). [River] Pilots expect that conditions for the proposed docks (Docks 2 and 3) would be the same as they are at Dock 1 (Gill pers. comm.). Pilots would be aware of this issue and would consider it during planning and operations.¹¹²

While the DEIS discloses vessel maneuvering challenges, the DEIS does not evaluate alternative dock designs to address known risks. Likewise, the DEIS does not incorporate the known challenges of docking at Dock 1 into the oil spill risk analysis for Docks 2 and 3.

H. Terminal Construction Impacts on the Columbia River

1. *Failure to analyze reasonable alternatives to the proposed dock and dredging designs.*

The DEIS lacks any analysis of alternative dock configurations and alternatives to the quantity and size of the proposed dredge prism. WAC 197-11-440(5)(d) states in part: "When a proposal is for a private project on a specific site, the lead agency shall be required to evaluate only the no-action alternative plus other *reasonable alternatives for achieving the proposal's objective on the same site*" (emphasis added). The DEIS fails to consider reasonable alternatives to achieving MBT's objectives at the site.

First, the DEIS fails to evaluate alternative dock alignments and associated impacts on endangered species and other aquatic life. WDNR requested a dock and dredge prism alternatives analysis in the agency's scoping comments, stating:

The EIS should include a comprehensive analysis of alternatives to the proposed project design. The analysis should assess the

¹¹² DEIS at 5.4-36.

potential adverse impacts and mitigation measures for each alternative. Alternative overwater structure designs should be evaluated to identify designs that avoid and minimize impacts, such as minimizing the number of pilings required, minimizing the coverage area of new overwater structures, using alternative decking materials, and minimizing artificial light.¹¹³

The DEIS lacks the alternatives analysis required under WAC 197-11-440(5)(d) and recommended by WDNR.

Second, the DEIS fails to analyze reasonable alternatives to dredging 48-acres of the Columbia River. Again, the DEIS ignores the requirements of WAC 197-11-440(5)(d) and WDNR's scoping comments. The Co-leads should analyze alternative dock configurations that would minimize the initial and ongoing dredging requirements. WDNR's scoping comments recommend that the Co-leads analyze using smaller, shallower-draft transport and ship loading equipment designs. The DEIS lacks this analysis.

Third, the DEIS fails to analyze utilizing the existing dock, Dock 1. MBT has stated on the record that it will not use Dock 1 for coal export.¹¹⁴ In turn, the Co-leads and other agencies have authorized rebuilding and maintenance dredging to facilitate safe, ongoing operations at Dock 1. The public and agencies have relied on Millennium's statements that Dock 1 would not be used for coal export. The Coalition does not support coal export at Dock 1 or any new docks. However, the DEIS should nonetheless analyze the alternative of utilizing an existing dock and dredge prism before destroying additional critical habitat in the Columbia River.

The Co-leads must revise the DEIS to consider reasonable alternatives to MBT's proposed dock and dredging proposal.

2. *Direct and indirect impacts of dock construction and dredging.*

Construction of the trestle and dock structures will impact salmon, eulachon, and other

¹¹³ WDNR Scoping Letter at 1.

¹¹⁴ Exhibit 36 (Letter from MBT to Cowlitz County (Sept. 19, 2011)).

aquatic life.¹¹⁵ MBT proposes placing 610, 36-inch pilings below the high-water mark.¹¹⁶ MBT also proposes altering a 48-acre area of benthic habitat in the deep-water zone by removing approximately 500,000 cubic yards of benthic sediment to achieve a depth of -43 feet Columbia River Datum (CRD), with a 2-foot overdredge allowance.¹¹⁷ MBT would increase water depth in the dredge prism by up to 16 feet.¹¹⁸ The DEIS concludes that “[c]ompliance with laws and implementation of the voluntary measures and mitigation measures . . . would reduce impacts on fish” and “[t]here would be no unavoidable and significant adverse impacts.” Impacts disclosed in the DEIS in concert with unproven and undisclosed mitigation render this conclusion arbitrary.

The DEIS identifies substantial impacts from dock construction and dredging. These impacts include:

- temporarily altering or permanently removing aquatic habitat in the Columbia River adjacent to the project area;¹¹⁹
- permanently altering a 48-acre area of benthic habitat in the deep-water zone by removing approximately 500,000 cubic yards of sediment;¹²⁰
- temporarily increasing turbidity, which is associated with behavioral impacts on fish (avoidance, disorientation, decreased reaction time, increased or decreased predation and increased or decreased feeding activity);¹²¹

¹¹⁵ Exhibit 37 (Minimizing Effects of Over-Water Docks on Federally Listed Fish Stocks in McNary Reservoir: A Literature Review for Criteria, prepared by the U.S. Geological Survey for the U.S. Army Corps of Engineers (2010) (prepared in support of criteria for siting new docks in the McNary Pool of the Columbia River, this report recommends, among other things: (1) pilings shall not exceed 5 inches in diameter, (2) each over-water structure shall utilize no more than 6 piles for the entire project, and (3) nothing shall be placed on the over-water structure that will reduce natural light penetration through the structure)); Overwater Structures and Non-structural Piling White Paper, prepared by Jones & Stokes Associates for the Washington Department of Fish and Wildlife (2006) (summarizes scientific literature documenting the direct, indirect, and cumulative impacts of overwater structures, including industrial docks, to ESA-listed salmonids and other aquatic life); Exhibit 38 (Over-water Structures: Freshwater Issues, prepared by Herrera Environmental Consultants for the Washington Departments of Fish and Wildlife, Ecology, and Transportation (2001) (comprehensive overview of scientific literature, current through late-2000, describing the impact of pilings and docks on aquatic life, including increased predation, decreased habitat quality, and degraded water quality)).

¹¹⁶ DEIS at 4.5-21.

¹¹⁷ *Id.* at 4.7-22.

¹¹⁸ *Id.*

¹¹⁹ *Id.* at 4.7-22.

¹²⁰ *Id.*

¹²¹ *Id.* at 4.7-23.

- noise attenuation and fish movement models predicted that underwater noise thresholds would be exceeded, resulting in injury or behavior impacts, at distances ranging from 45 feet (single strike) to 3.92 miles (cumulative sound);¹²²
- “adult salmon migrating through the study area could be injured by pile-driving noise” (temporary and long-term hearing damage, permanent reductions in sensitivity, and, overall, reduced fitness);¹²³ and
- changes to primary productivity, fish behavior, predation, and migration caused by overwater structures, barges, and vessels required for construction.¹²⁴

The DEIS also identifies direct impacts to salmonids and other fish from MBT operations. These include:

- increased shading from Docks 2 and 3 and large vessels, which could result in changes to primary productivity fish behavior, predation, and migration;¹²⁵
- noise impacts from vessel traffic;¹²⁶ and
- deposition of 1.88 grams per square meter per year from fugitive coal dust.

Despite the impacts disclosed, the DEIS concludes that there would be no unavoidable and significant adverse impacts to fish. The mitigation described in the DEIS does not support this conclusion. The DEIS points to compliance with laws and the implementation of voluntary and mitigation measures. The DEIS, however, fails to specify any details about mitigation aside from applicant mitigation. For example, the DEIS notes that the Corps will require compensatory mitigation “for the acres and functions of the affected wetlands.”¹²⁷ But MBT failed to identify compensatory mitigation as part of the DEIS. Indeed, the DEIS is explicit that mitigation is going to be developed *in the future*, in plain violation of law. DEIS 4.7-20.¹²⁸ As a result, MBT cut-off public, agency, and tribal government input on the adequacy of mitigation to off-set the project’s impacts.

It is unclear how the DEIS can conclude the project will have no unavoidable or significant adverse impacts on fish without identifying and reviewing the adequacy of compensatory mitigation. Such a conclusion weakens the public’s confidence in the integrity of the document.

¹²² *Id.* at 4.7-24.

¹²³ *Id.* at 4.7-26.

¹²⁴ *Id.*

¹²⁵ *Id.* at 4.7-27.

¹²⁶ *Id.* at 4.7-29.

¹²⁷ *Id.* at 4-7-35.

¹²⁸ See *Quinault Indian Nation, supra*, at *15 (invalidating an MDNS which proposed that mitigation be developed in the future).

Weighing the impacts disclosed in the DEIS against MBT's "Applicant Mitigation" does not support the "no unavoidable impacts/no significant adverse impacts" conclusion. For example, MBT proposes mitigation measure ("MM") FISH-4, "Conduct Eulachon Surveys." Under this mitigation measure, MBT would "conduct underwater surveys for eulachon spawning and larval activity within those areas where in-water work will occur (i.e., Docks 2 and 3 and the dredge prism)" and "coordinate with fish and wildlife agencies on appropriate measures to avoid and minimize impacts to spawning and larval eulachon."¹²⁹ MBT proposed its coal export project over six years ago. Why are eulachon surveys characterized as a "mitigation measure" when the applicant could have conducted these studies prior to the DEIS and utilized the studies to influence project design and reasonable alternatives?

In addition, several MBT mitigation measures contain undefined language with no clear path to ensure compliance. MM CDUST-3, "Reduce Coal Dust Emissions from Rail Cars," is a poster child for the weak and undefined mitigation that characterizes MBT's fish mitigation. Under this mitigation measure, MBT "will work with rail companies to implement advanced technology for applicants of surfactants along the rail routes for Proposed Action-related trains." If MBT is aware of "advanced technology," the applicant should identify this technology in the DEIS, the Co-leads should analyze the efficacy of the "advanced technology," and the Co-leads should require MBT to utilize this technology. As a practical matter, MM CDUST-3 reads like other mitigation measures: weak, undefined, and potentially meaningless.

3. *Cumulative impacts of dock building, dredging, and maintenance dredging on water quality and fish.*

Degradation of fish habitat and water quality in the Columbia is the product of cumulative impacts: no single project or action has resulted in damaged habitat and compromised water quality in the Columbia. Rather, salmon are listed and their habitat protected because of the cumulative impacts of multiple individually minor actions that, taken together, have resulted in drastic modification of the system. This project proposes to add to that steady loss of habitat and ongoing degradation of water quality. That's why the cumulative impacts analysis is particularly important. However, the DEIS's cumulative impacts analysis contains two substantial flaws.

First, the analysis ignores the existing dock at MBT, Dock 1, which has obtained multiple in-water work permits and maintenance dredging permits in recent years.¹³⁰ The Co-leads must revise the DEIS to account for Dock 1 and ongoing water quality impacts from the maintenance of Dock 1 and its dredge prism.

Second, the DEIS fails to analyze cumulative impacts from past and present activities, instead restricting the analysis to cumulative impacts from the project and reasonably foreseeable future actions. The first sentence of DEIS Chapter 6, *Cumulative Impacts*, states "Cumulative impacts are impacts that would result from the incremental addition of the Proposed Action to

¹²⁹ DEIS at 4.7-36.

¹³⁰ *Id.* at 6-26.

impacts from *past, present, and reasonably foreseeable future actions.*”¹³¹ While the DEIS acknowledges that cumulative impacts include past and present actions, the DEIS makes the arbitrary decision to exclude past and present actions from the substance of the cumulative impacts analysis on water quality and fish impacts. In particular, the DEIS states: “The cumulative impacts study area for water quality impacts due to on-site activities is the project area (including dredged material disposal sites), the CDID #1 stormwater system drainage ditches adjacent to the project area, and the Columbia River Segment 2 (river miles 37 to 72).”¹³² The DEIS identifies the following projects in the study area: the Barlow Point Master Plan Project, the Northwest Innovation Works facility at Port Westward, the Columbia Pacific Bio-Refinery, the Riverside Refinery, Washington Energy Storage & Transfer, and the Kalama Manufacturing and Marine Export Facility. These projects are identified in DEIS Chapter 6 as “reasonably foreseeable future actions.” Failure to account for past and present actions renders the DEIS’s cumulative impacts analysis flawed.

I. The DEIS Understates the Impacts of Coal Dust on the Columbia River.

Coal export terminals have been in operation around the world for decades. We know from experience that they are notoriously dirty. The DEIS, however, concludes that coal dust from MBT will have no unavoidable or significant impacts on the Columbia River. This conclusion is inconsistent with the actual evidence in the DEIS, and ignores significant information that was readily available. Coal dust pollution at the terminal site and along the rail line is a major concern that the decisionmakers and the public need to understand.

The DEIS ignores literature from around the world documenting the significant, detrimental impacts of coal terminals adjacent to waterbodies.¹³³ The DEIS also fails to examine the effectiveness of best management practices employed at other coal terminals. MBT proposes best management practices to reduce fugitive coal dust and the DEIS assumes, without supporting rationale, that the BMPs will be effective. For the reasons described in Section VI below, the DEIS greatly underestimates fugitive coal dust from the terminal, including coal dust entering the Columbia River. The Co-leads must revise the DEIS to: (1) evaluate the effectiveness of proposed BMPs based on real-world applications, (2) consider additional scientific literature on the impacts of coal dust on water quality and aquatic life, and (3) consider third-party modeling of fugitive coal dust from the terminal.

¹³¹ *Id.* at 6-1 (emphasis added).

¹³² *Id.*

¹³³ Ex. 39 (Bounds, William J. and Johannesson, Karen H., *Arsenic additions to soils from airborne coal dust originating at a major coal shipping terminal*, 185 *Water Air and Soil Pollution* (2007)); Ex. 40 (Johnson, Ryan and Bustin, R.M., *Coal dust dispersal around a marine coal terminal (1977-1999)*, *British Columbia: The fate of coal dust in the marine environment*, 68 *International Journal of Coal Geology* (2006)); Ex. 41 (Levings, C.D., *Juvenile Salmonid Use of Habitats Altered by a Coal Port in the Fraser River Estuary*, *British Columbia*, 16 *Marine Pollution Bulletin* 6 (1985)); Exhibit 42 (Evaluation of Coal Dust and Spillage Control Measures Alaska Railroad Corporation, Aurora Energy Services, LLC Coal Terminal Seward, Alaska, Expert Report of Steven Klafka (Mar. 7, 2012)).

1. *The DEIS underestimates the amount of fugitive coal dust in the Columbia.*

The DEIS relies on a flawed model to project the amount of coal dust released by MBT. The DEIS acknowledges multiple pathways for coal dust to enter the Columbia River, stating:

Coal and coal dust could enter the Columbia River directly or via the surrounding drainage channels from spills during loading or unloading or through airborne transport of fugitive dust from stockpiles. The extent of average annual coal dust deposition was modeled and mapped (Chapter 5, Section 5.7, Coal Dust, Figure 5.7-3). Coal dust is anticipated to deposit a maximum of 1.88 grams per square meter per year ($\text{g}/\text{m}^2/\text{year}$) adjacent to the project area. This area extends past the project area into the Columbia River. The spatial extent of the maximum annual coal dust deposition near the project area is shown in Figure 5.7-3 in Chapter 5, Section 5.7, Coal Dust.¹³⁴

In assessing the terminal's impacts on water quality and aquatic life, the DEIS relies on the 1.88 $\text{g}/\text{m}^2/\text{year}$ estimate. For the reasons stated in Section VI, the DEIS utilizes a model that underestimates the amount of fugitive coal dust and, therefore, renders the 1.88 $\text{g}/\text{m}^2/\text{year}$ estimate flawed. The Co-leads must revise the DEIS to account for accurate estimate of fugitive coal dust entering the Columbia River, and the associated impacts of that estimate on water quality and aquatic life.

Coal handling terminals around the country and abroad utilize BMPs and, nonetheless, release considerable amounts of fugitive coal dust.¹³⁵ The DEIS provides a laundry list of BMPs and design features to address fugitive coal dust. For example, the DEIS states that MBT will control fugitive coal dust from 75-acres of unenclosed coal stockpiles. The DEIS states:

The coal export terminal would employ dust suppression systems throughout the terminal, including the tandem rotary dumpers, all conveyors, stockpile pads, surge binds, transfer towers, and trestle. The dust suppression system would employ sprayers, sprinklers and foggers that disperse water and capture coal dust.¹³⁶

The DEIS fails to evaluate the effectiveness of these BMPs and design features based on real-world applications, including varying temperature and wind conditions.

¹³⁴ DEIS at 4.5-23.

¹³⁵ Ex. 42; Ex. 43 (Sightline Institute, Are Coal Export Terminals Good Neighbors? A closer look at coal dust (Mar. 15, 2011)).

¹³⁶ DEIS at 4.5-24.

In addition to 75-acres of unenclosed coal piles, MBT proposes enclosing only 4,900 linear feet of the 16,100 linear feet of conveyor belts. The DEIS fails to address BMPs, if any, to reduce fugitive coal dust from unenclosed conveyor belts.

2. *The DEIS ignores studies showing impacts from coal dust on aquatic life.*

The DEIS understates the impacts of coal dust on Columbia River water quality and aquatic life. As an initial matter, the DEIS acknowledges studies demonstrating significant impacts from coal and coal dust on marine and estuarine environments.¹³⁷ The DEIS states:

At sufficient quantities, coal and coal dust in marine and estuarine environments have similar adverse effects as elevated levels of suspended sediments on water quality (Ahrens and Morrisey 2005). During periods of lower flow, a smaller amount of coal dust could have a greater impact on water quality. Impacts include increased turbidity, which can interfere with photosynthesis and increase water temperatures (Ahrens and Morrisey 2005). Coal and coal dust in the water column can also affect marine organisms through abrasion of tissue and smothering and clogging of respiratory and feeding organs (Ahrens and Morrisey 2005).¹³⁸

As noted above, the DEIS relies on a flawed model to project coal dust concentrations in the Columbia River at the terminal site and downstream. Based on this flawed model, the DEIS concludes that MBT would not result in significant impacts to aquatic life and water quality. The Co-leads should revise the DEIS to account for the impacts of fugitive coal dust based on deposition levels described in the Coalition's expert report.

In addition, the DEIS fails to address studies conducted over an eleven year period, from 2005 to 2016, documenting the impacts of coal dust in aquatic environments. The DEIS analyzes coal dust studies in Section 3.1.1, Aquatic Impacts, of *SEPA Coal Technical Report: Coal Dust Emissions, Coal Spills Analysis, and Sulfur Dioxide and Mercury Emissions Analysis* (hereafter "Coal Dust Technical Report"). The DEIS Coal Dust Technical Report states:

The most comprehensive literature review on the potential impacts of unburnt coal in the aquatic environment was conducted by Ahrens and Morrisey (2005). Their review summarized the potential physical and chemical (toxicity) effects of unburnt coal released into the aquatic environment; the following summarizes these effects and draws heavily from their review.

The DEIS relies on Coal Dust Technical Report in describing the impacts of coal dust on water quality and aquatic life. Both the DEIS and the Coal Dust Technical Report fail to examine

¹³⁷ See SEPA Coal Technical Report at 44–45.

¹³⁸ DEIS at 4.5-23.

studies published after 2005 (*i.e.*, studies released after the Ahrens and Morrissey literature review).¹³⁹ For example, the DEIS fails to examine the following studies and reports:

- Harper, Matthew P. and Peckarsky, Barbara L., *Effects of Pulsed and Pressed Disturbances on the Benthic Invertebrate Community Following a Coal Spill in a Small Stream in Northeastern USA*, 544 *Hydrobiologia* (2005) (Exhibit 44);
- Johnson, Ryan and Bustin, R.M., *Coal dust dispersal around a marine coal terminal (1977-1999), British Columbia: The fate of coal dust in the marine environment*, 68 *International Journal of Coal Geology* (2006) (Exhibit 40);
- Cabon, Jean Yves, et al., *Study of Trace Metal Leaching From Coals Into Seawater*, 69 *Chemosphere* (2007) (Exhibit 45);
- Lucas, Steven Andrew, Planner, John, *Grounded or Submerged Bulk Carrier: The Potential for Leaching of Coal Trace Elements to Seawater*, 64 *Marine Pollution Bulletin* (2012) (Exhibit 46);
- Naidoo, G. and Y. Naidoo. Coal dust pollution effects on wetland tree species in Richards Bay, South Africa, *Wetlands Ecology and Management* (2005) 13: 509–515;
- Meador, J. P.; Sommers, F. C.; Ylitalo, G. M. & Sloan, C. A. (2006, October). Altered growth and related physiological responses in juvenile Chinook salmon (*Oncorhynchus tshawytscha*) from dietary exposure to polycyclic aromatic hydrocarbons (PAHs) *Canadian Journal of Fisheries and Aquatic Sciences*, 63: 2364-2376 (Exhibit 48); and
- Achten, C. and Hoffman, T., *Native polycyclic aromatic hydrocarbons (PAH) in coals – a hardly recognized source of environmental contamination*, 407 *Science of the Total Environment* 8 (2009) (Exhibit 49).

The Co-leads ignore studies published after 2005, including examples provided above, documenting the impacts of coal dust on aquatic environments. This renders the DEIS’s conclusion on coal dust impacts arbitrary.

The DEIS also understates the toxic impacts of coal dust. The DEIS states, “One review of the chemical composition of coal dust (U.S. Geological Survey 2007) suggests that the risk of exposure to concentrations in toxic materials (e.g., PAHs and trace metals) from coal are low because the concentrations are low and the chemicals bound to coal and not easily leached.” The DEIS fails to address other studies identifying risks from

¹³⁹ The DEIS examines one report on coal spillage published in 2015. That report does not address coal dust.

toxic materials in coal dust. The Co-leads should evaluate the expert report prepared by Leyda Consulting, Inc., on the proposed Morrow Pacific coal export project (hereafter “Leyda Report”).¹⁴⁰ The Leyda Report includes an in-depth toxicology report on coal dust.

The FEIS should also incorporate findings from a study on the impacts of coal dust in the marine environment, *Simulated coal spill causes mortality and growth inhibition in tropical marine organisms*, published on May 13, 2016.¹⁴¹ This is the first study to examine the effects of fine coal particles on tropical marine organisms. The study “demonstrates that moderate to high levels of coal contamination can substantially decrease growth and increase mortality of important reef-bearing coral species, reef fish and seagrass.”¹⁴² The Co-leads should analyze the potential for analogous impacts from coal dust on Columbia River aquatic life.

J. Conclusion for Columbia River Impacts.

Federal and state agencies, along with Columbia River Treaty Tribes, have spent decades trying to protect and recover salmon and other species in the Columbia River that are threatened with extinction due to hydropower operations and habitat loss. Indeed, the federal government’s chief response to mortality to salmon caused by dams is to improve habitat in the Columbia River estuary. Agreements with the states call for spending tens of millions of dollars on estuary habitat restoration to mitigate hydropower impacts.¹⁴³ These efforts will be undermined by the extensive pollution, habitat loss, and risk of accident that are associated with this project. The impacts disclosed in the DEIS and the lack of adequate mitigation support denying permits, including the 401 water quality certification and Shoreline Substantial Development Permit, based on the project’s impacts.

VII. THE DEIS UNDERSTATES THE IMPACTS AND RISKS TO PUBLIC HEALTH AND ENVIRONMENTAL JUSTICE COMMUNITIES; AN HIA IS REQUIRED

The Coalition herein incorporates by reference the separate comments filed by Oregon and Washington Physicians for Social Responsibility regarding the significant public health impacts of this project, and the need for a full Health Impact Assessment (“HIA”).

The DEIS examines air quality, water quality, traffic delays, noise and light pollution and confirms some serious health impacts but it is also incomplete. The Draft EIS does not incorporate an HIA. Many organizations, municipalities and individuals submitted scoping comments that called for an HIA. They include, but are not limited to, the City of Portland, the City of Mosier, the City of Milwaukee, the City of Beaverton, the City of Eugene, the Oregon

¹⁴⁰ Ex. 50 (Leyda Consulting, Inc., *Ecological Impacts of Proposed Coal Shipping on the Columbia River Port of Morrow and Port Westward, OR* (2012)).

¹⁴¹ Ex. 20.

¹⁴² *Id.* at 5.

¹⁴³ Ex. 51.

Environmental Justice Task Force, Oregon Physicians for Social Responsibility, Dr. Frank James, and The Yakama Nation.

Because this would be the largest coal export facility in the US, one with a variety of human-health related impacts, it is imperative that a HIA that closely analyzes all these risks is produced. This HIA must be a state-of-the art assessment that takes a comprehensive approach to health and health care costs, while incorporating the values of equity, environmental justice, democracy, sustainable development, and ethical use of evidence. The HIA should answer specific health and safety questions submitted during scoping process for the EIS by individuals and organizations. The HIA should also utilize the full resources available to Co-leads via EPA's EJ Screen.

It is incumbent upon the decision makers in this process to apply the *best available science* in determining the health impacts of the MBT. The Washington Department of Ecology summarized the current state of the science in a white paper entitled, "Concerns about the Adverse Health Effects of Diesel Engine Emissions" (2008). This paper recommends the adoption of the risk assessment tools developed by the California EPA's Office of Environmental Health and Hazard Assessment for carcinogenic and non-carcinogenic risk based DPM concentration levels. We recommend the use of these risk assessment tools in investigating the potential impact of the MBT.

The highest exposure risks of diesel particulate matter (DPM) from the MBT will occur to populations in close proximity to the tracks, the terminal, and shipping lanes. Thus, we recommend that the HIA quantify near source health effects spatially along transportation corridors, not just for the terminal site. This should include all railway corridors and vessel corridors.

Modeling should use either the California Office of Environmental Health Hazard Assessment tools and modeling protocol or the EPA Air Toxics Community Multiscale Air Quality Model to predict multiple pollutant effects on the affected communities. The modeling protocol should be approved by the Washington Department of Ecology and the EPA. The modeling should be performed by independent consultants familiar with the models and with interpreting the results of the models.

The Columbia Basin and Portland/Vancouver metropolitan areas experience temperature inversions, which can dramatically increase pollutant concentrations. Thus, the analysis must include not only effects of pollutants near the transportation corridor under normal weather conditions, but also under temperature inversion conditions.

The HIA should analyze the negative air quality and health impacts from three and four locomotives powering each coal train. To the extent that the DEIS predicts DPM levels and other dangerous pollutant levels on the assumption that there will only be two locomotives powering each train, the Final EIS and HIA should correct this assumption and all related estimates.

If mitigation measures such as construction of a terminal building that encloses piles of coal, covered rail cars that enclose coal, other pollution control devices, ultra low sulfur fuel specifications, or late model diesel locomotive emission factors are used in the emissions estimates and models, those assumptions should be listed as mitigation required in the Final EIS.

Finally, the HIA is an important tool for decision makers and must be made available so the public can review and comment on it. Scoping for HIA was not completed during the DEIS comment period. The public must be provided the opportunity to comment on a draft HIA before a Final HIA and a Final EIS is released.

The Coalition also incorporates by reference the comments regarding environmental justice analysis filed by Stand. We are dismayed that the DEIS limited analysis of environmental justice impacts to the project site only, whereas there is abundant evidence of noise, air pollution and other impacts to environmental justice impacts all along the rail-line. It is critical that these communities and individuals, who frequently lack English language skills and/or face challenges that prevent them from participating in the EIS process, are engaged in the decisionmaking process. They will bear the burdens of this project in increased noise, pollution, and emergency risks, but will receive none of the claimed benefits. The DEIS falls short in this regard.

VIII. THE DEIS UNDERSTATES THE IMPACTS AND RISKS OF AIR POLLUTION

A. The DEIS Relies Excessively on NAAQS Compliance, Which Does Not Prevent Significant Environmental and Health Harms

The computer modeling used in support of the DEIS reveals that people at and near the Terminal will be exposed to air pollution levels which can cause a variety of health problems, including asthma attacks and premature mortality.¹⁴⁴ However, the DEIS fails to warn people of this potentially deadly impact, including the more than 600,000 people in Washington with asthma.¹⁴⁵ The DEIS inappropriately relies on national ambient air quality standards (“NAAQS”) to judge whether there is significant impact. Use of the NAAQS in this context is arbitrary and unlawful because NAAQS reflects policy judgments aimed towards effective implementation of the Clean Air Act which are wholly irrelevant to determining if there will be

¹⁴⁴ The DEIS itself and the SEPA Air Quality Technical Report are largely based on an analysis using a computer model to predict air pollution levels. The analysis was done using the AERMOD computer modeling system. Despite the AERMOD analysis being the heart of the air quality analysis, the Department of Ecology and Cowlitz County did not make the AERMOD files available to the public. This created a highly non-transparent process. Sierra Club submitted a public information request for the AERMOD modeling files and other documents used to prepare inputs into the AERMOD modeling files. Cowlitz County and the Department of Ecology eventually provided these modeling files to Sierra Club but not until June 1, 2016. Thus, Sierra Club only really had a 13-day public comment period with regard to the air quality issue which is a technical, time-consuming issue. Such a short comment period on such a technical issue is inconsistent with SEPA.

¹⁴⁵ See <http://www.doh.wa.gov/DataandStatisticalReports/DiseasesandChronicConditions/AsthmaData> (according to Washington State Department of Health, over 600,000 in Washington have asthma, nearly 120,000 of these are children and nearly 100 people die each year from asthma).

significant environmental impacts from construction and operation of the Terminal. In other words, air quality impacts can still be “significant” even if a violation of NAAQS does not occur.

Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing SEPA.¹⁴⁶ Scientific analysis is by definition, something different than policy judgments designed to lead to effective implementation of the Clean Air Act, a regulatory program not at issue in the DEIS. SEPA itself makes clear what should be obvious, that policy judgments to ensure effective implementation of the Clean Air Act are not relevant to an EIS. Rather, SEPA explains that significance means a “reasonable likelihood of more than a moderate adverse impact on environmental quality.”¹⁴⁷ It should be beyond dispute that premature death or asthma attacks are a “more than a moderate adverse impact”.

The DEIS says:

Computer modeling determined the maximum annual construction emission estimates for the peak construction year would not exceed federal air quality standards. This means that although emissions of criteria air pollutants would occur, they would not be expected to cause a significant change in air quality and are unlikely to significantly affect sensitive receptors surrounding the project area.¹⁴⁸

The DEIS at 5.7-10 also claims:

PM10 and PM2.5 have been determined to cause increased health hazard if the regulatory limits are exceeded (U.S. Environmental Protection Agency 2014c). If any pollutant level exceeds regulatory limits, health impacts would depend on the concentration in the air, the duration of the exposure, and the number of times exposure occurs.) 5.7-25 (Overall, the impacts of PM10 and PM2.5 emissions from Proposed Action-related rail transport of coal would not be significant because emissions would be below applicable federal standards.)

It is simply a false statement to claim that there are no health hazards for PM10 and PM2.5 below the regulatory limits, that is the NAAQS. The DEIS cannot actively mislead the public about the Terminal’s impacts.

Comparing the modeled impacts to the national ambient air quality standards (NAAQS) is not appropriate in the context of NEPA/SEPA. This is because the NAAQS is not a concentration of pollution below which people are not harmed. Rather, NAAQS represent policy

¹⁴⁶ 40 C.F.R. § 1500.1(b).

¹⁴⁷ WAC 197-11-794.

¹⁴⁸ DEIS at S-34. *See also* 5.6-10 (same).

judgments made in the context of the effective implementation of the Clean Air Act. However, in the context of NEPA/SEPA, the relevant question is environmental and public health impacts.¹⁴⁹

NAAQS consists of four elements: indicator, averaging time, form and level.¹⁵⁰ For example, the 2010 SO₂ NAAQS has a level of 75 parts per billion (ppb) and an averaging time of one-hour. EPA selected this level and averaging time of 75 ppb based on a one-hour averaging time based on the overwhelming scientific conclusion that certain people, like asthmatics, will be hurt if they are exposed to SO₂ at 75 ppb, even for periods as short as five minutes.¹⁵¹

However, the 2010 SO₂ NAAQS also has a form. The form is the 3-year average of the 99% of the one-hour daily maximum SO₂ value. But there is not scientific evidence that people do not experience adverse impacts until they are in their third year of exposure to SO₂, for example.

Similarly, the use of the one-hour daily maximum value is relevant to the NAAQS but hides significant adverse environmental impacts in the context of an EIS. For example, say there was a 1-hour average of 85 ppb at 8 am and a 1-hour average of 84 ppb at 6 pm on the same day at the Terminal. The 2010 SO₂ NAAQS wholly ignores the 84 ppb level at 6 pm because the 2010 SO₂ NAAQS only considers the highest 1-hour concentration in a day. However, in terms of scientific analysis, the 84 ppb level at 6 pm is highly relevant and must be disclosed. This is because the 84 ppb is at a level that the science upon which EPA relied to set the level of the NAAQS shows there to be adverse impacts such as asthma attacks. And the individual people at or near the Terminal at 6 pm are likely to be different than the individual people at or near the Terminal at 8 am. Exposing more people to dangerous levels of air pollution makes the impact more significant. Ignoring this increased impact is contrary to SEPA but by relying on the 2010 SO₂ NAAQS including all four of its elements, rather than just the purely science based ones like level and averaging time, that is exactly what the DEIS does.

The form of the 2010 SO₂ NAAQS represents policy judgments about how to effectively implement the Clean Air Act. A three-year average of the 99th percentile of the one-hour daily maximum SO₂ concentration is used because using a standard based on only one year of data and based on the highest concentrations would result in areas “bouncing” back and forth between nonattainment and attainment designations under the Clean Air Act’s implementation provisions. EPA refers to this as the “stability” of the standard. EPA chose the form of the NAAQS because it would be “appreciably more stable” than other forms.¹⁵² This is also true for the form of the PM10, PM2.5, NO₂ and ozone NAAQS.

¹⁴⁹ WAC 197-11-794; 40 C.F.R. § 1500.1(b).

¹⁵⁰ 75 Fed. Reg. 35,520, 35,529 (June 22, 2010).

¹⁵¹ 75 Fed. Reg. at 35,537 – 35,539.

¹⁵² 75 Fed. Reg. at 35,541.

The level of 75 ppb, however, was set based primarily on the controlled human exposure and epidemiological evidence.¹⁵³ That said, it is important to note that the level is also a public health policy judgment.¹⁵⁴ That is, EPA did not say that exposures below the level of 75 ppb will not cause adverse impacts. In fact, EPA said there were epidemiological studies which showed associations between SO₂ concentrations and emergency department visits and hospital admissions down to the 50 ppb level.¹⁵⁵ EPA was willing to accept those possible adverse impacts below 75 ppb as a policy judgment. The DEIS fails to disclose this information. Rather, it misleads people into thinking exposures below the NAAQS will not have adverse impacts when the scientific evidence, as acknowledged by EPA, says otherwise.

It was the EPA Administrator's policy judgment at the time of creating this NAAQS that the form of the NAAQS would result in effective implementation of the Clean Air Act. We are not questioning this policy judgment or suggesting that the EIS somehow question the EPA's Clean Air Act policy judgment. However, the science of environmental impacts, which is distinct from the policy of Clean Air Act implementation, should be the basis for an EIS. The science says that short term exposures of 75 ppb or above can cause injury to people. Policy judgments about proper implementation of the Clean Air Act should not skew the scientific analysis of an EIS. Thus, the DEIS should evaluate whether there will be short-term impacts, that is 5 minutes or greater, of 75 ppb or above SO₂.

Using the appropriate standard for an EIS, that is the level and averaging time from a NAAQS, and accepting the DEIS' modeling as accurate despite all the flaws in the DEIS' modeling described below, we see that the Terminal will cause air pollution levels which would constitute significant environmental and public health impacts. For example, for SO₂, the 75 ppb level is equivalent of 196 ug/m³.¹⁵⁶ The DEIS' modeling found that three year average of the highest 1-hour SO₂ concentration was 292.2 ug/m³.¹⁵⁷ This is significantly above the NAAQS level of 196 ug/m³. And there are multiple exceedances of the NAAQS level at multiple locations.¹⁵⁸ We only see ten concentrations above the NAAQS level in the modeling files but the lowest one is 237.6 ug/m³ so we assume there are many others. The DEIS fails to disclose that the public will be exposed to SO₂ levels that can trigger asthma attacks and cause other adverse health impacts including premature mortality.

As to PM_{2.5}, Longview has a maximum PM_{2.5} 24 hour level of 38.9 ug/m³ in 2015 even without the Terminal.¹⁵⁹ Thus, Longview already has PM_{2.5} levels that are dangerous so the additional PM_{2.5} pollution, even if we assume the DEIS' modeling is correct, will result in PM_{2.5} levels of at least 50.9 which is well above the 2006 PM_{2.5} NAAQS level. Again, the DEIS fails to disclose these significant environmental impacts. Similarly the DEIS evaluates

¹⁵³ 75 Fed. Reg. at 35,546.

¹⁵⁴ *Id.*

¹⁵⁵ 75 Fed. Reg. at 35,547.

¹⁵⁶ SEPA Air Quality Technical Report (Air Report) at 3-8, Table 9.

¹⁵⁷ Air Ex. 1 at Page 201 (Group ID "All").

¹⁵⁸ *Id.*

¹⁵⁹ Air Ex. 2.

Spokane for coal dust from trains. Spokane already has PM_{2.5} levels above the NAAQS level of 35 $\mu\text{g}/\text{m}^3$.¹⁶⁰ The addition of the fugitive coal from the coal trains will result in Spokane experiencing PM_{2.5} above the 24 hour NAAQS levels but the DEIS fails to disclose this adverse impact caused by the fact that there are modeled concentrations above the NAAQS level even if there are not modeled concentrations above the NAAQS form.

B. The DEIS Does not Disclose that Air Pollution Levels will Exceed NAAQS During Operations If One Examines Air Pollution Levels On-Site and Over the Columbia River

Even if one accepts the NAAQS as an appropriate standard to judge significant impacts for an EIS, which we do not, the Terminal will still cause violations of the NAAQS. However, the DEIS failed to reveal this critical impact.

The DEIS' modeling analysis simply omits any modeling of air pollution levels on the site of the facility as well as on nearby parts of the Columbia River.¹⁶¹ The DEIS did not place receptors in its model on the site of the Terminal as well as on parts of the Columbia River. With no receptors in the model at these locations, the only possible result is that air pollution concentrations in these locations are zero. This means the DEIS ignores air pollution impacts to workers at the Terminal, including people like the locomotive engineers who will not be employees of MBT.¹⁶²

We had a modeler with extensive expertise in AERMOD fill in this important blank. Lindsey Sears re-ran the modeling that ICF did for the DEIS exactly the same except filling in the receptor grid included the facility and the Columbia River.¹⁶³ The results as reported in Table 1 below show that the Terminal will violate the PM₁₀ 24-hour, the PM_{2.5} 24-hour and the SO₂ 1-hour NAAQS.¹⁶⁴ The PM₁₀ level is over twice the NAAQS. The PM_{2.5} level is nearly twice the NAAQS and the SO₂ level are over 25% above the NAAQS. These are significant environmental and worker safety impacts which the EIS must disclose.

¹⁶⁰ Air Ex. 3 at 2.

¹⁶¹ Air Ex. 4 at 1 and Figure 1. We have included Ms. Sears modeling files as Ex. 5 to provide complete transparency.

¹⁶² ICF may have taken this approach because of the Clean Air Act regulatory definition of ambient air which allows permittees in the Clean Air Act context to ignore ambient air quality impacts on the permittees' private property if non-employees are physically prohibited from entering the area. This Clean Air Act regulatory definition has no place in the context of an environmental impact statement which is supposed to reveal all of the project's impacts. Furthermore, even under the Clean Air Act, a permittee is not allowed to exclude consideration of impacts on public areas such as the Columbia River but that is exactly what ICF did. *See* Air Ex. 4 at Figure 1. In addition, a Clean Air Act permittee would be required to include receptors on the rail tracks on site because non-permittee employees will be on the trains.

¹⁶³ Air Ex. 4 at 1-2 and Figure 2.

¹⁶⁴ Air Ex. 4 at Table 1.

Table 1: AERMOD Results for Onsite and Offsite Sources, with Onsite Receptors

Pollutant	Averaging Period	Modeled Impact ($\mu\text{g}/\text{m}^3$)	Background ($\mu\text{g}/\text{m}^3$)	Total Predicted Concentration ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)
NO ₂	1-hour	117	57	174	188
PM ₁₀	24-hour	309	23	332	150
PM _{2.5}	24-hour	45	18	63	35
SO ₂	1-hour	232	15	246	196

C. Construction Emissions Will Violate NAAQS

The SEPA Air Quality Technical Report reveals that the ICF modeling analysis failed to consider fugitive PM₁₀ and PM_{2.5} emissions from roads when the trucks run over them.¹⁶⁵ The DEIS states that during peak construction, 56,000 loaded truck trips will occur at the Terminal but does not discuss the huge air pollution impact of fugitive PM from these trucks. Again, we filled in this important aspect of the problem.

First, engineer Dr. Ranajit Sahu calculated the PM₁₀ and PM_{2.5} emissions from the haul roads.¹⁶⁶ Then modeler Lindsey Sears modeled these emissions using ICF's own modeling and a complete receptor grid. Ms. Sears conservatively assumes that MBT reduces fugitive emissions from the roads by 75% through various controls measures even though there is absolutely no reason to believe this will actually happen. Even with this very conservative assumption, the modeling showed violations of both the PM₁₀ and PM_{2.5} 24-hour NAAQS.¹⁶⁷ This is a very significant environmental impact which must be disclosed in the EIS.

D. The Terminal Will have a Significant Impact on Deadly PM_{2.5} Levels

There is no known level of PM_{2.5} below which death and disease do not occur. See *North Carolina v. TVA*, 593 F.Supp.2d 812, 822 (W.D.N.C. 2009) *rev'd on other grounds*, 615 F.3d 291 (4th Cir. 2010) (“there is an increased risk of incidences of premature mortality in the general public associated with PM_{2.5} exposure, even for levels at or below the NAAQS standard of 15 [$\mu\text{g}/\text{m}^3$.”); *Sierra Club v. TVA*, 592 F.Supp.2d 1357, 1371 (N.D. Al. 2009) (“there is no level of primary particulate matter concentration at which it can be determined that no adverse health effects occur.”); *Catawba County v. EPA*, 571 F.3d 20, 26 (D.C. Cir. 2009) (“A ‘significant association’ links elevated levels of PM_{2.5} with adverse human health consequences such as premature death, lung and cardiovascular disease, and asthma....PM_{2.5} can travel

¹⁶⁵ DEIS at 5.6-5, 5.6-11.

¹⁶⁶ Air Ex. 4 at 2.

¹⁶⁷ Air Ex. 4 at Table 2.

hundreds or thousands of miles.”); 70 Fed. Reg. 65,983, 65,988 (Nov. 1, 2005) (“emissions reductions resulting in reduced concentrations below the level of the standards may continue to provide additional health benefits to the local population.”); 71 Fed. Reg. 2620, 2635 (Jan. 17, 2006) (US EPA unable to find evidence supporting the selection of a threshold level of PM_{2.5} under which the death and disease associated with PM_{2.5} would not occur at the population level). Gina McCarthy, the head of EPA, in a letter to Hon. Fred Upton, U.S. House of Representatives (Feb. 3, 2012) stated as follows:

Studies demonstrate an association between premature mortality and fine particle pollution at the lowest levels measured in the relevant studies, levels that are significantly below the NAAQS for fine particles. These studies have not observed a level at which premature mortality effects do not occur. The best scientific evidence, confirmed by independent, Congressionally-mandated expert panels, is that there is no threshold level of fine particle pollution below which health risk reductions are not achieved by reduced exposure. Thus, based on specific advice from scientific peer-review, we project benefits from reducing fine particle pollution below the level of the NAAQS and below the lowest levels measured in the studies.

The Air Quality Technical Report states that “the state’s goal [is] to keep PM_{2.5} concentrations below 20 ug/m³.”¹⁶⁸ However, the DEIS itself hides this goal of keeping PM_{2.5} below 20 ug/m³ and instead only relies on the 2006 PM_{2.5} NAAQS of 35 ug/m³. Failure to mention the state’s goal of keeping PM_{2.5} below 20 ug/m³ is a critical omission. This is because the DEIS states that background at the Terminal of PM_{2.5} is 17.8 ug/m³.¹⁶⁹ However, the operations of the coal export terminal will add 4.8 ug/m³, according to the DEIS’s modeling exercise, which puts PM_{2.5} over this important threshold. Moreover, that modeling omits key sources of emissions discussed elsewhere in these comments. Even with its underestimation of impacts, the total predicted concentration will be 22.6 ug/m³.¹⁷⁰ Thus, the operations of the coal export terminal will push the PM_{2.5} levels above the state’s goal. This is a significant impact that the Final EIS must reveal. Mandatory mitigation in terms of hourly throughput limits and limits on simultaneous operation of different processes must be imposed to bring the total PM_{2.5} levels back to below the state’s goal of 20 ug/m³.

E. The Terminal May Force Parts of Washington State into a Non-Attainment Designation for Ozone

The project may force the Seattle region into an ozone nonattainment designation will all the consequences that flow from that, such as increased vehicle testing and the potential loss of highway funds. The Air Quality Technical Report acknowledges that the ozone monitor near

¹⁶⁸ Air Report at 2-10.

¹⁶⁹ DEIS at 5.6-14.

¹⁷⁰ *Id.*

Enumclaw, which is in the same county at Seattle, by which the coal trains will pass, has shown exceedances of the 8-hour ozone standard during the past 3 years.¹⁷¹ However, the Technical Report does not reveal the disturbing trend in ozone levels. As Table 2 shows, between 2013 and 2015, the ozone levels at this site have increased almost 30% and the most recent year, 2015, has a 4th high value that is above the 2015 ozone NAAQS level of 70 parts per billion. Adding all the additional ozone precursor pollution from all the coal trains will very likely push this monitor over the edge into nonattainment status.

TABLE 2

	2013	2014	2015
4 th High 8-hour daily max	57	67	74

Washington does not currently have any ozone nonattainment areas. In fact, it has been over a quarter century since Washington has had an ozone nonattainment area. The EIS must reveal the potential impact of Washington having an ozone nonattainment area.

F. The OLM Method Was Not Properly Implemented

In determining impacts of nitrogen dioxide (NO₂), the DEIS uses a three tier approach. For Tier 3, the DEIS uses the ozone limiting method (OLM). However, the DEIS did not properly apply the OLM.

The DEIS uses an ozone background of 42 ppb for every hour in its OLM.¹⁷² However, ozone levels fluctuate hourly. Thus, the OLM calls for actually hourly ozone levels to be used. OLM “require[s] ... a background ozone monitor for use in the NO titration schemes.”¹⁷³

A single representative background ozone concentration can be used, according to EPA guidance, but the user must demonstrate that the single representative background ozone concentration is conservative for each hour of modeling.¹⁷⁴ In other words, the user would have to show that in no hour out of the whole modeling exercise, in this case three years of modeling, did the ozone levels exceed 42 ppb. The DEIS does not attempt to do this.

“Furthermore, hourly monitored ozone concentrations used with the OLM and PVMRM options must be concurrent with the meteorological data period used in the modeling analysis[.]”¹⁷⁵ Here, the meteorological data period is 2001-2003 but the ozone concentrations are not from 2001-2003. Thus, the Tier 3 OLM must be redone using hourly ozone values from 2001-2003.

¹⁷¹ Air Quality Technical Report at 2-10.

¹⁷² Air Report at 3-6, fnt. f, 3-8, fnt. e.

¹⁷³ https://www3.epa.gov/scram001/guidance/clarification/NO2_Clarification_Memo-20140930.pdf at 11.

¹⁷⁴ See Air Ex. 6 at 8.

¹⁷⁵ Air Ex. 6 at 8.

G. The DEIS Significantly Underestimates SO² Emissions.

The DEIS is based on an assumption that locomotives and tug boats will use diesel fuel that contains 15 parts per million (ppm) sulfur.¹⁷⁶ However, EPA's regulations allow the use of 500 ppm sulfur fuel in a certain type of diesel which is referred to as diesel transmix.¹⁷⁷ While diesel transmix is not a "common" fuel, nothing prevents it from being used. The SO₂ NAAQS is based on a one-hour averaging time. The form on the 99% percentile of the 1-hour daily maximum concentration. That means that just four hours per year, or 0.04% of the time, high SO₂ concentration need to be present to cause a SO₂ NAAQS violation. Thus, the diesel burning pollution sources at the Terminal could use 15 ppm sulfur diesel the vast majority of the time, use 500 ppm sulfur diesel relatively rarely and still create a significant impact when it comes to SO₂.

Moreover the science behind the SO₂ NAAQS is based on impacts from as little as a five minute exposure.¹⁷⁸ Thus, even if diesel transmix is used around four one-hundredths of a percent of the time, it could results in SO₂ concentrations that are significant enough to cause asthma attacks. That is, it could result in concentrations which could trigger asthma attacks in workers, visitors and recreationalists. The EIS needs to reveal this impact to the public.

H. The DEIS Ignores Acid Deposition

Nitrogen and sulfur deposition into river and wetlands can have significant impacts on fish and water quality. Climate change can make this worse by decreasing the amount of water in the river thus increasing the impacts of the nitrogen and sulfur deposition. The DEIS failed to consider acid deposition in the tribal resources section as well as the air quality section.¹⁷⁹ The DEIS also failed to consider acid deposition in the surface water and wetlands section and the water quality and fish sections.¹⁸⁰

The final EIS analysis must consider acid deposition into waterways from the trains' and ships' diesel engines, emergency diesel engines and diesel fire water pumps. These local impacts should be considered in the context of global acidification of the oceans. We raised this issue in our scoping comments.¹⁸¹ We do not know why this important aspect of the problem continues to be ignored.

I. The DEIS Fails to Consider Ozone Impacts from Mining the Uinta Basin

The DEIS reveals that some of the coal shipped through the Terminal could be mined in

¹⁷⁶ DEIS at 5.6-7.

¹⁷⁷ See Air Ex. 7

¹⁷⁸ 75 Fed. Reg. at 35,524.

¹⁷⁹ DEIS at S-17.

¹⁸⁰ DEIS at S-20 - S-23, S-25 - S-26.

¹⁸¹ DEIS Appendix J: Scoping Summary Report at 5-11, 5-12.

the Uinta Basin.¹⁸² The Uinta Basin is a geologic basin that includes much of the northeastern corner of Utah, extending into northwestern Colorado. As we have previously discussed, mining-related impacts have been erroneously omitted from consideration in this DEIS.

The Uinta Basin has some of the worst ozone in the country. While ozone was long thought to be primarily an urban problem, recently EPA has acknowledged severe wintertime ozone violations in rural areas with significant extractive industries, such as the Uinta Basin and the Upper Green River Basin in Wyoming.¹⁸³ In the Uinta Basin, NO_x and VOC emissions are trapped near the ground by stagnant air and converted to ozone by intense sunlight reflecting off snow. When these conditions occur, these areas experience ozone levels exceeding those of the most heavily populated American cities. For example, in 2010 and 2011, Uintah County's ozone levels exceeded Los Angeles County's worst ozone days.

In 2007, EPA brought a Clean Air Act enforcement action against Kerr-McGee. EPA and Kerr-McGee settled through a consent decree, which required Kerr-McGee to fund, install, and operate ambient air quality monitors in the Uinta Basin to monitor ozone and other pollutants. The two monitors are known as the Redwash and Ouray monitors. Private monitoring is not subject to EPA's regulations governing state monitoring networks found at 40 C.F.R. Part 58. But the consent decrees mandate that the two monitors "shall meet the siting, methodology and operation requirements of 40 C.F.R. Part 58." Accordingly, the private companies were required to use EPA-approved measurement technologies and locate the monitors at certain elevations, in the path of the predominant wind direction, and away from obstructions like buildings. *See* 40 C.F.R. § 58, Apps. C, E. The monitors were installed in two widely-separated areas within the heart of the Uinta Basin, at locations approved by EPA.

Since 2009, the Redwash and Ouray monitors have measured numerous, significant exceedances of the 2008 ozone standard of 0.075 ppm and the 2015 ozone standard of 0.070 ppm. In 2010, the Redwash and Ouray monitors each measured more than 30 exceedances (that is, individual instances when the eight-hour ozone levels exceeded the 2008 standard). In 2011, the monitors each measured more than 20 exceedances, and the Ouray monitor recorded an eight-hour concentration of 0.139 ppm—nearly twice the federal standard. The design value for the Redwash monitor between 2009 and 2011 was 0.088 ppm and for the Ouray monitor was 0.100 ppm, both of which violate the 0.075 ppm standard by wide margins. According to EPA, "it is clear that the measured values are a concern for public health."

The Terminal is intended to increase the market for coal being mined from the Uinta Basin. Yet, the DEIS wholly ignores the impacts that increased coal mining in the Uinta Basin will have on the Basin's already significant ozone problem.

¹⁸² DEIS at S-1.

¹⁸³ *See* 77 Fed. Reg. 30, 088, 30,089 (May 21, 2012).

J. Failure to Consider Air Pollution Impact to Historic Properties

The DEIS acknowledges that air pollution can harm structures.¹⁸⁴ “Coal dust can also cause nuisance impacts, such as affecting the look or cleanliness of something when it is deposited on surfaces.”¹⁸⁵ Yet, the DEIS fails to analyze this important aspect of the problem.¹⁸⁶

In addition to considering impacts to historic properties and tribal resources within the footprint of the export terminal, the EIS and National Historic Preservation Act (NHPA) analysis must consider impacts from air pollution. The impacts can come in a variety of ways. Fugitive coal particulate matter from the mining, transportation, loading and unloading of the coal can cause the soiling and darkening of historic properties. In addition, acid deposition from diesel engine emissions and blasting may damage historic properties and tribal resources like fish.

Several studies could inform this analysis. One of the first studies to look comprehensively at the synergistic effects of various air pollutants on culturally-significant structures, the MULIT-ASSESS study, which developed multi-pollutant deterioration and soiling models of wet and dry deposition of gases and particulates on materials.¹⁸⁷ More recently, the CULTSTRAT study researched threshold levels of pollution for different materials used in historic structures.¹⁸⁸ The book *The Effects of Air Pollution on Cultural Heritage* may also serve as a useful resource in this evaluation. We raised this in our scoping comments.¹⁸⁹ We do not know why this important aspect of the problem continues to be ignored.

K. The NAAQS Analysis Must Include Nearby Sources, the Proposed Source, and Background.

The DEIS claims that:

The air quality modeling method followed general EPA protocols used in air quality permitting. Representative background concentrations for the study area (Northwest International Air Quality Environmental Science and Technology Consortium 2015)

¹⁸⁴ DEIS at Air Quality Fact Sheet, DEIS at 5.6-1.

¹⁸⁵ Coal Dust Fact Sheet at page 1.

¹⁸⁶ DEIS at S-16.

¹⁸⁷ Dr. Vladimir Kucera, Swedish Corrosion Institute (SCI), *Deliverable 0.2, Publishable Final report, Model for multi-pollutant impact and assessment of threshold levels for cultural heritage*, Project period 1 January 2002 to 30 April 2005. Available at <http://www.corrinstitute.se/MULTI-ASSESS/web/page.aspx?pageid=59189>.

¹⁸⁸ Dr. Vladimir Kucera, Swedish Corrosion Institute (SCI), *CULT-STRAT Assessment of Air Pollution Effects on Cultural Heritage—Management Strategies Specific Targeted Research Project (STREP) Priority 8.1 Policy-oriented Research Publishable Final Activity Report*, and *Deliverable 17 CULTSTRAT Verified indicators and threshold levels for cultural heritage*, public policy that protected historic structures.

¹⁸⁹ DEIS Appendix J at 5-25.

were used to determine background concentrations in air quality analyses since no representative monitoring data are available.

...

To assess impacts associated with the Proposed Action, the model was used to predict the increase in criteria air pollutant concentrations. The model's maximum incremental increases for each pollutant and averaging time were added to applicable background concentrations. The resulting total pollutant concentrations were then compared with the appropriate NAAQS.¹⁹⁰

Yet a fundamental of air quality modeling for air permitting is that the proposed source's impacts are added to impacts from nearby sources as well as background values. "EPA requires that, at a minimum, all nearby sources be explicitly modeled as part of the NAAQS analysis."¹⁹¹ It is only when it is demonstrated that the nearby source was contributing to the background value at the time it was recorded that a nearby source can be excluded.

Yet, the DEIS' analysis wholly ignores nearby sources in its NAAQS analysis. Examples of nearby sources which would need to be included in the EIS' NAAQS analysis include coal hauling trucks from the existing Dock 1 at the Terminal to Weyerhaeuser, the emergency generator at Weyerhaeuser and Weyerhaeuser's coal fired power plant. These are just examples. All existing emission sources within 50 kilometers must be considered for inclusion in the emission inventory for the NAAQS analysis.

L. It is Arbitrary for the DEIS to Use An Ozone Conformity *De Minimis* Level to Determine Significant Impacts for Construction.

The DEIS uses the ozone *de minimis* level for conformity purposes to judge whether all pollutants, including PM2.5 and PM10 which have nothing to do with ozone, will have significant impacts with regard to construction of the Terminal.¹⁹² There are several problems with this standard. To begin with there is no rational reason to use an ozone standard to judge the significance of NOx, SOx, PM2.5 and PM10. Each pollutant has separate impacts at separate levels. In addition, conformity is applicable to nonattainment areas but the DEIS states that the Longview area is an attainment area for all pollutants.

¹⁹⁰ See DEIS at 5.6-6.

¹⁹¹ US EPA NSR Workshop Manual at C.32 – C.34. The Department of Ecology acknowledges the validity of the NSR Workshop Manual. See http://www.ecy.wa.gov/programs/air/psd/psd_FAQS.html

¹⁹² DEIS at 5.6-11.

A rational standard for this purpose would be the PSD “significance” thresholds. These are applicable to attainment areas and are pollutant specific. The PSD significance thresholds are 40 tpy for NOx, 40 tpy for SO₂, 15 tpy for PM10, 10 tpy for PM2.5 and 100 tpy for CO.¹⁹³

The DEIS admits that NOx emissions from barges alone would be 59 tpy of NOx which is above the PSD significance level.¹⁹⁴ Barges plus equipment would be 83.6 tpy of NOx or over twice the significance threshold. Even without barges, the NOx emissions are 38.1 but this does not include an emergency generator and diesel fire water pump which must be routinely operated to ensure readiness for an emergency.

Furthermore, the daily maximum NOx emissions from equipment is 229.6 lb/day.¹⁹⁵ 229.6 lb/day * 5 days per week * 52 weeks per year / 2000 lbs per ton equals 29.85 tons per year. But Table 4 only reports the equipment NOx emissions as 24.60 tpy. This difference of 5.25 tpy would bring the NOx emissions in the study area to 43.35 tons per year which is above the PSD significance threshold. And all of the annual tpy values are incorrect except the barges. They underreport the tons per year compared to the daily values. The DEIS offers no rationale for the incorrect annual values and no rationale for why the barges would operate 5 days a week/52 weeks per year while the other sources would not.

Combustion Sources	TPY based on lb/day in Table 5
Equipment	29.85
Haul Trucks (project area)	7.11
Haul Trucks (study area)	14.36
Barges	59.11
Passenger Commute and Crossing Delay	0.19
Total for Haul Truck Scenario	51.51

Thus, the DEIS should reveal, even accepting the DEIS daily emission estimates, which we do not, that construction will have significant impacts.

M. A Comparison of the DEIS’ Predicted PM Fugitive Emissions to Actual PM Emissions at Australian Coal Ports Reveals that the DEIS’ Predictions are Unreasonably Low.

The FEIS should also consider evidence from Australia, which has had a long history of large coal-export terminals with open coal stockpiles, and extensive experience with the pollution that they cause. One analysis for a new terminal in Newcastle, performed as part of the project’s license, shows that it would discharge over 300,000 kg/year of coal dust at operations

¹⁹³ 40 C.F.R. § 52.21(b)(23)(i).

¹⁹⁴ Air Report Appendix A1 Construction Emissions

¹⁹⁵ Technical Report at 3-3.

of 66 million ton/year.¹⁹⁶ The analysis breaks down the emissions rate for each stage of the process. The largest source of emissions is from wind erosion of stockpiles.

Another analysis, based on data from Australia's National Pollutant Inventory¹⁹⁷ — that nation's most authoritative data source for pollutant information—shows that coal terminals were the primary sources of particulate air pollution in two areas where major coal terminals operated.¹⁹⁸ The Hay Point coal terminal in MacKay self-reported a release of 160,000 kg of PM10 and 17,000 kg of PM2.5 in 2014-15.¹⁹⁹ A news report from April of this year reported that the three coal export terminals in Newcastle were responsible for 62% of that city's PM10 air pollution.²⁰⁰ These authoritative figures collide sharply with the DEIS's modeled emissions—which anticipated releases an order of magnitude lower, using the exact same approaches to reduce dust from open stockpiles. Clearly, the real-world experience in Australia has more to offer than the flawed models of the DEIS.

N. The DEIS Fails to Include Diesel Emergency Generators and Fire Water Pumps.

The DEIS' emission inventory for operations is missing two types of pieces of equipment: diesel emergency generators and diesel fire water pumps. We had an expert engineer, Dr. Ranajit Sahu, give his opinion on the lack of diesel emergency generators and fire water pumps in the DEIS modeling analysis emission inventory. Dr. Sahu concluded that it was an omission to not include diesel emergency generators and fire water pumps.²⁰¹ Dr. Sahu explained that diesel-fired emergency generators are ubiquitous at industrial facility in order to provide power to critical loads during power outages.²⁰² Dr. Sahu explained that these are typically tested weekly, monthly and annually and that the emissions during these tests are usually included in emission inventories used for air permitting and environmental impact assessments.²⁰³ Dr. Sahu explains that similarly, he would expect fire suppression equipment at the Terminal which may actually be required by insurance requirements and the National Fire Protection Code.²⁰⁴ These sources, with their low stack heights and relatively low exit temperatures and velocities, often play a critical role in ambient pollution levels in modeling analysis. Thus, this is a critical omission.

¹⁹⁶ Ex. 51.

¹⁹⁷ <http://www.npi.gov.au/>

¹⁹⁸ Ex. 52.

¹⁹⁹ Ex. 53.

²⁰⁰ <http://www.smh.com.au/environment/air-pollution-increases-69-per-cent-as-coal-named-top-polluter-20160417-go8b82.html>

²⁰¹ Ex. 8 at ¶6.

²⁰² *Id.* at ¶7.

²⁰³ *Id.* at ¶7.

²⁰⁴ *Id.* at ¶8.

The DEIS should not accept any claim by MBT simply at face value. MBT had an unpermitted diesel engine driven generator at its existing facility for almost 5 years.²⁰⁵ The Department of Ecology should not allow MBT to get away with a similar omission again.²⁰⁶

IX. THE CUMULATIVE IMPACTS SECTION UNDERSTATES THE EXTENT OF HARM IMPOSED BY FOSSIL FUEL TRANSPORTATION IN WASHINGTON.

A. SEPA Requires a Robust Analysis of Cumulative Impacts

SEPA requires consideration of cumulative effects. WAC 197-110060(4)(e); WAC 197-11-330(3)(c) (“Several marginal impacts when considered together may result in a significant adverse impact.”); *White v. Kitsap Cnty.*, SHB No. 09-019 at 17 (2009) (cumulative impacts of a proposed action together with the impacts of pending and future actions should be considered when making a threshold determination). In *Quinault Indian Nation v. Hoquiam*, the SHB overturned MDNSs for two crude-by-rail facilities explicitly because they failed to consider the cumulative effects of increased rail and marine vessel traffic from each other, and a third crude-by-rail project.²⁰⁷

The DEIS does a credible job of including projects that will have major and long lasting impacts to the environment, economy, and quality of life in Washington state.²⁰⁸ As the DEIS acknowledges, our region is under assault by fossil fuel industries who wish to transform the region into a global hub for the movement of fossil fuels like coal and oil. The cumulative effects section provides a basis to begin to understand the scale of this transformation, and make decisions as to whether this is the future that we collectively envision. For example, the cumulative impact section documents breathtaking increases in rail and vessel traffic in our state—76 additional daily coal, oil and other trains crossing the state, and almost 2,000 additional vessel transits a year in the Columbia. Even with just the material provided in this section, there is a more than adequate basis to reject the terminal and other projects like it. However, for the reasons discussed below, much more is needed. The DEIS’s cumulative effect section falls short of fulfilling the Co-lead’s obligation to explain just what this transformation means for the people and environment of this region.

²⁰⁵ Ex. 9 at 3.

²⁰⁶ The DEIS at 5.6-16 has footnotes d and e next to the NO₂ 1 hour value. DEIS at 5.6-17 does the same thing. These footnotes contradict each other. The Final EIS should just include footnote e unless that is not what they actually used. DEIS 5.7-3 references Appendix L but there is no Appendix L to the DEIS.

²⁰⁷ *Quinault, supra* note 2, at 18 (“agencies are required to consider the effects of a proposal’s probable impacts combined with the cumulative impacts from other proposals”).

²⁰⁸ There are additional projects included in the cumulative effects section which, like MBT’s, face an uncertain future. For example, the Army Corps has recently denied a key permit for a similar coal facility near Bellingham. However, that decision left open the possibility of altering the project to reduce its impacts. Moreover, its proponents are considering judicial challenges to the Corps’ decision, and efforts continue in Congress to override the Corps’ discretion in this matter. Until the proponent irrevocably abandons the Gateway project, it should remain in the cumulative impact section. The same is true of other projects whose permitting status is uncertain.

B. Shortcomings of the DEIS's cumulative impacts analysis

The DEIS's cumulative impact analysis states the obvious: that cumulative increases in fossil fuel-related unit train and vessel traffic in and along the Columbia, and throughout the state, will add to the many negative impacts of MBT's proposal. But to satisfy SEPA and to assist a decision-maker, the cumulative impacts analysis must go further. It must explain—in a meaningful, tangible way—how the human environment in the study area would look and function if the proposed growth in fossil-fuel and other shipping occurs.

CEQ guidance confirms that “cumulative effects analysis should be conducted within the context of resource, ecosystem, and human community thresholds—levels of stress beyond which the desired condition degrades.”²⁰⁹ Unfortunately, the cumulative impact assessment falls short of this standard. It does not provide readers with any sense of whether impacts will cumulatively cross acceptable “resource, ecosystem, and human community thresholds.” *Id.* Nor does it disclose whether the “desired condition” of Longview, the Columbia River and its estuary, or the Pacific Northwest will survive all the proposed fossil-fuel export projects. *Id.* These failures prevent the DEIS from presenting the “reasonably thorough discussion” of environmental impacts that SEPA requires. *PT Air Watchers v. State, Dep't of Ecology*, 179 Wash. 2d 919, 927 (2014).

In many places, major conclusions are presented as vague generalities. In others, dramatic changes that will effect countless people are buried in minutiae. For example, while the DEIS confirms that the project will contribute to astonishing increases in railroad traffic—in **places, 200 trains per day**—it appears to largely dismiss the profound impacts this change would represent. For example, the DEIS is certainly correct that “The rail traffic attributable to the cumulative projects would increase vehicle delay at public at-grade crossings as a result of increased gate downtime.” *See, e.g.*, DEIS at 6-19. However what does it actually mean for people? Simply stating that 200 trains per day, where there is capacity for 76, is “would result in congestion or delays” is not particularly illuminating. DEIS 6-37. **One must wade through the details, and do one's own calculations to realize that many at grade crossings in Spokane County will be closed for almost seven hours a day.** DEIS 6-52. Where speeds are slower that number could double.

Other critical information crucial to the public and decisionmakers appears buried in a way that will risk being overlooked. For example, the DEIS acknowledges that the cumulative impact of all the fossil fuel projects will be **110 rail accidents per year**, with twelve of them attributable to the MBT project. Is Washington really willing to trade a coal or oil train accident statewide every three days for the benefit of serving as a transit point for fossil fuel companies? Is this project worth an additional rail accident each month? The DEIS is silent on the particular risks posed by oil trains, which in recent years have created emergencies and even disasters. Similarly, the DEIS discloses that there will be delays in emergency vehicles due to increased blockage, but that delay isn't place in any context or fleshed out with details. How long will the

²⁰⁹ Ex. 54.

delays be? How many emergency vehicles are going to be affected waiting for coal and oil trains? How will delays impact patients with life-threatening injuries, strokes and heart attacks?

Other rail traffic impact information is presented in an impenetrable format that doesn't aid anyone's understanding of the specifics. For example, Table 6-8 provides data on vehicle and train volumes at certain crossings in Cowlitz County, but zero information on how the interaction of the two will result in delays. Information is presented in terms of changes to the "level of service" at these crossings, but that isn't particularly informative. How long each day will these crossings be closed, and for how long? How long will drivers have to wait as each of the **142 trains per day** crosses through their communities? DEIS 6-44.

Similarly, the vessel transport section documents a near-doubling of existing traffic in the Columbia River, with **nearly eight and a half thousand total vessel transits annually**. DEIS 6-55. This means that the Columbia effectively would be transformed into a tanker superhighway, with near constant movement of massive vessels, many of them carrying coal and oil. But the increase in environmental impacts and risks from this transformation is waved away with zero analysis or explanation. For example, while recognizing that "greater number of vessels and trains in the study area could increase the potential for fuel spills," it then dismisses without any quantification or analysis the impact of such spills as "temporary and localized." DEIS 6-28. It also uses modeling that is not explained or transparent to find that the risks of allisions is "low." *Id.* 6-57.

To the contrary, an oil or fuel spill in the Columbia would be an existential-level threat to the environment and for the communities that rely on it. Remarkably, the DEIS does not actually discuss what a major crude oil or fuel spill in the Columbia would mean. Similarly, what does doubling the amount of large vessel traffic in the lower Columbia mean for wake stranding, shoreline erosion, and other impacts that are critical issues? Generalized conclusions that the project would "increase the potential for fish stranding" are not at all helpful without the context of "resource, ecosystem, and community thresholds . . ." as directed by CEQ guidance. Without these types of threshold analyses, and without placing the risks in the appropriate scale and context, the DEIS's cumulative impact analysis does not meaningfully help decision-makers faced with choices about whether this and other proposed projects are consistent with SEPA.

Of particular concern are the GHG-related impacts of exporting all the coal from currently proposed projects. As the DEIS acknowledges, collectively the existing and proposed projects would constitute a staggering 126 million tons/year increase in the amount of coal leaving the west coast. DEIS 6-71. The international market implications of this are potentially huge, but the information provided in the DEIS is extremely thin. **For example, as discussed above, the DEIS should disclose the total amount of CO² associated with that amount of coal combustion: 257 million tons/year—almost three times the state's entire GHG emissions from all sources.** (And that number doesn't include the oil projects.) While that ultimate contribution could be reduced via displacement, the FEIS should start with the known total and then discuss potential reductions from displacement and offsets.

Additionally, the information provided in the DEIS on placing these GHGs in context is both confusing and inadequate. Table 6-28 doesn't provide any information on annual emissions, which is the most comprehensible format, and appears to use a "total" based on unrealistically short life span of 11 years of full operations.²¹⁰ Moreover, the DEIS provides no information on how this information was obtained—which of the various coal market scenarios were used, and what set of assumptions? The fact that the DEIS comes up with a number of tons of "total" GHG emissions that is such a tiny fraction of the known annual coal combustion emissions raises questions about the adequacy and transparency of this analysis. Equally mystifying is that the DEIS then goes on to only attribute a tiny portion of this to Washington state—only 0.290 million tons/year. DEIS 6-73. However, the whole point of the analysis is that Washington state would be the proximate cause of the much larger amount of emissions associated with coal combustion. No matter how calculated, the public should see just how significantly the terminal would undercut Washington's commitment to reducing greenhouse gases. Even using the DEIS's flawed figure of 62.5 million tons of year, it is evident that authorizing these various projects is entirely inconsistent with our legal obligation to reduce our total GHG footprint to 66 million tons by 2035 and 44.2 million tons by 2050. In other words, the DEIS contains information that provides a clear and powerful legal basis on which to deny this and other similar fossil fuel export projects. That information should be highlighted and as clear as possible.

X. THE DEIS PRESENTS A ONE-SIDED ANALYSIS OF ECONOMIC IMPACTS

SEPA regulations generally do not require a full cost-benefit analysis of projects. However, to the extent that economic information is included, it must be balanced and inclusive. *Hughes River Watershed Conservancy*, 81 F.3d at 446–48 ("it is essential that the EIS not be based on misleading economic assumptions"). An EIS cannot "trumpet" the economic benefits of a project without also acknowledging its costs. *Sierra Club v. Sigler*, 695 F.2d 957, 979 (5th Cir.1983). In other words, to the extent its considered, economic information must be accurate and fair. *Id.* Moreover, a DEIS cannot simply incorporate without question a proponents' economic claims but must provide some independent review.

Unfortunately, the DEIS falls short of this standard. While disclaiming explicitly that it is "intended to be a cost benefit analysis," DEIS 3.2-5, it provides a one-sided picture of economic benefits simply repeated by the proponent, without any countervailing assessment of economic harm. The project applicants commissioned the BERK economic assessment included in the DEIS, but no independent third party has evaluated the study's conclusions. It does not appear that these claims have been subject to any scrutiny or review by the DEIS contractor or the Co-leads. Yet there is reason to treat its conclusions with skepticism. For example, the BERK study takes as a given the direct job projections provided by MLBT. But MLBT has not provided the public with any documentation to back up these job projections.

There are numerous data gaps that must be filled in to complete the economic picture.

²¹⁰ Table 6-28 uses the word "total" but appears to potentially mean annual. This needs to be clarified.

The Millennium Bulk Terminal’s Draft Environmental Impact Study fails to provide an accurate assessment of the project’s economic impact to the local or regional economy. Instead, the DEIS only includes the projected benefits as calculated by BERK Consulting in 2012. Indeed, somehow the DEIS concludes that there will be no significant impact on “social and community cohesion and public services, the local economy, or utilities” without even making the barest effort to analyze impacts beyond simply repeating the applicant’s preferred study. DEIS 3.2-30/.

There are several limitations to relying strictly on the BERK study as a means to evaluate MLBT’s potential economic impact. For example, the only area of study on potential economic downside is a narrow assessment how increased train traffic could cause delays in local commercial areas. Given the DEIS’s severely limited geographic scope of study, the consultants conclude the impact would be negligible. DEIS 3.2-26. While conceding that “this vehicle delay could affect accessibility to local businesses during the peak traffic hour without track infrastructure improvements” the DEIS simply dismisses them as “negligible”. Id. 3.2-27.

The question for decision-makers to consider is not simply the number of potential new employees but the net economic benefit for the local and regional communities. Both sides of a project’s balance sheet must be considered in evaluating its economic merits. The many foreseeable negative economic risk factors that were not considered in the DEIS need to be evaluated. The report fails to include a comprehensive—and geographically relevant—economic impact assessment, which would consider MBT’s potential negative economic impacts on areas including but not limited to:

- Local and regional businesses due to the congestion, blocked roadways and noise from increased train traffic through commercial areas, and its consequences for productivity, sales, etc.;
- Other state and regional exporters such as agricultural producers that utilize rail services and do not have the flexibility for shipping delays;
- Increased tax burden on local communities with the need to upgrade rail crossings, as the railroads only cover a maximum of 5% of these very costly projects;
- Fishing and recreational industries (including tribal fishing) due to risks from increased tanker traffic and the heightened possibility of collisions and spills;
- Local and regional businesses impacted by “stigma” impact of coal;
- Decrease in property values in response to a substantial increase in train traffic along the full length of the coal transport corridor, which has been shown to decrease values particularly in residential neighborhoods.
- Health care costs, including emergency department visits and hospitalizations,

Similarly, while dismissing coal dust pollution on nearby homes and businesses as at worst a “nuisance,” the DEIS neglects to quantify the economic impact of coating homes and businesses with coal dust, or potential liabilities for the County if such harms become actionable.

These are not theoretical or imaginary impacts. Robust economic analyses have been prepared for the other major coal export facility recently proposed in Washington state—the Gateway Pacific Terminal near Bellingham.²¹¹ Academic studies in other U.S. cities document a significant drop in home values as rail traffic increases.²¹² These analysis document many of the adverse impacts described above. While there are differences between the two communities, many of the impacts described in these reports are salient to the Longview project. In short, having trumpeted the alleged economic benefits of the project, the EIS must then also include a fair analysis of the potential economic risks. In this regard, it falls far short.

A related concern is the economic health of the proponent. Will it be able to follow through on its commitments, or will the community be left with another piece of useless infrastructure? Will it be able to comply with its mitigation obligations? As the Co-leads understand, the MBT project is being promoted by a coal company that recently declared bankruptcy and a private capital investor firm that does not actually operate anything. Recently, one of the co-owners of the project, Arch Coal, sold its 38% share of the terminal in exchange for exactly zero dollars.²¹³ Also as the Co-leads understand, the economic climate that would make this project even modestly profitable does not exist and is not anticipated to exist in the foreseeable future.²¹⁴ Indeed, the fundamental premise of the DEIS—that U.S. coal can “compete in Asian energy markets” due to an “anticipated growth in demand for the export of U.S. coal”—is fundamentally flawed. DEIS at 2-2. As described above, and in the accompanying expert report of Dr. Powers et al., U.S. coal cannot compete in Asian markets and the “anticipated growth” in coal demand evaporated years ago. The entire justification for the project is illusory.

The proponent has continually shifted the claimed need for the project: at first it was China, but then coal imports to China plummeted and disappeared. The case for India disappeared soon thereafter. The DEIS claims that need exists in South Korea and Japan but this is likely a chimera as well. Massive coal investment in Japan is unlikely for numerous reasons.²¹⁵ If Japan were to follow through on its uncertain plans to build significant new coal capacity, it would be double what could be acceptable under that nation’s existing coal commitments.²¹⁶ Most likely, the hoped-for coal boom in East Asia will follow the same fate as the speculative bubbles in other parts of Asia. This information is relevant to the Co-leads ultimate choices as to whether or not to authorize the project, and whether any financial

²¹¹ Ex. 55; Ex. 56; Ex 57.

²¹² Ex. 58.

²¹³ Ex. 59.

²¹⁴ Ex. 60.

²¹⁵ Ex. 61.

²¹⁶ Ex. 62.

assurances would be imposed to ensure that the project doesn't end up with more unfunded liabilities for the community.²¹⁷

CONCLUSION

The DEIS provides a strong foundation for assessing the many serious environmental impacts of the MBT project. In particular, the Co-leads correctly identified a number of indirect impacts, such as transportation impacts and GHG emissions, that fall within the appropriate scope of review. However, the DEIS misses key impacts and fails to take a hard look at all the direct, indirect, and cumulative impacts of the proposed project. Our comments are offered in the spirit of resolving those shortcomings so that the FEIS can assist Co-leads and other responsible agencies in making a fully informed and transparent decision. We believe that once the shortcomings are resolved and the true environmental, economic and GHG impacts of this project are fully disclosed, the only correct outcome will be to deny the project.

Thank you for your consideration of these comments. Coalition members stand ready to work with the Co-leads and their staffs to ensure that the FEIS is legally compliant, comprehensive, and useful.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jan. Hasselman', with a long horizontal flourish extending to the right.

Jan. Hasselman

Columbia Riverkeeper, Friends of the Columbia Gorge, Sierra Club, Washington Environmental Council, Climate Solutions, Oregon Physicians for Social Responsibility, Washington Physicians for Social Responsibility, and RESources for Sustainable Communities

²¹⁷ Washington law requires financial assurances for certain vessels and terminals engaged in transportation of “hazardous substances.” RCW 88.40.025. Even if the coal stockpiles do not fall into this regulatory definition, the Co-leads have the authority to require such assurances pursuant to their general SEPA authorities. Given the financial weakness of both the proponents and their business model, such assurances would be warranted here to ensure that the community is not saddled with another stranded asset and/or hazardous mess on prime waterfront property.