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S. HRG. 115–344

HEARING TO EXAMINE IMPLEMENTATION OF CLEAN WATER ACT SECTION 401 AND S. 3303, THE WATER QUALITY CERTIFICATION IMPROVEMENT ACT OF 2018

HEARING

BEFORE THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE

ONE HUNDRED FIFTEENTH CONGRESS

SECOND SESSION

AUGUST 16, 2018

Printed for the use of the Committee on Environment and Public Works

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ONE HUNDRED FIFTEENTH CONGRESS
SECOND SESSION

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C O N T E N T S

Page

AUGUST 16, 2018

OPENING STATEMENTS

Barrasso, Hon. John, U.S. Senator from the State of Wyoming 1
Gillibrand, Hon. John, U.S. Senator from the State of New York 3
Daines, Hon. Steve, U.S. Senator from the State of Delaware 18

WITNESSES

CJ Stewart, Board Director, National Tribal Energy Association 20
Prepared statement 22
Responses to additional questions from:
Senator Carper 25
Senator Merkley 28
Brent Booker, Secretary-Treasurer, North America's Building Trades Unions . 30
Prepared statement 32
Response to an additional question from Senator Carper 37
Anthony Willardson, Executive Director, Western States Water Council 68
Prepared statement 70
Responses to additional questions from:
Senator Carper 86
Senator Markey 99
Senator Merkley 102

ADDITIONAL MATERIAL

Report; Environmental and Land Use Hearing Office, Order on Summary Judgment 377
Letter; International Brotherhood of Electrical Workers 401
Report; United States Court of Appeals for the Second Circuit, Petition for Review form the Federal Energy Regulatory Commission 423
Statement; Senator Daines: Dained Defends Montana's Right ot Export Coal to Asia 521
Statement; Western Water Council .....
Statement; Westerm Governors Association 530
Report: Hon. Robert J. Bryan, Opposition to the Millennium Bulk Terminal Port Facility 533
Report; SEPA Greenhouse Gas Emissions Technical Report 579
Letter; International Brotherhood of Electrical Workers 700
Letter; New Jersey Conservation Foundation and The Watershed Institute 703
Testimony; Western States Water Council 709
Article; the New Jersey Spotlight: Move in Congress to Weaken Clean Water Act Could Have Big Impact in New Jersey 750
Statement; Washington Building Trades: Resolution in Support of the Millennium Bulk Terminals Project 752
Letter; IPAA, Independent Petroleum Association of America 754

HEARING TO EXAMINE IMPLEMENTATION OF CLEAN WATER ACT SECTION 401 AND S. 3303, THE WATER QUALITY CERTIFICATION IMPROVEMENT ACT OF 2018

WEDNESDAY, AUGUST 16, 2018

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
Washington, DC.

The committee met, pursuant to notice, at 10:03 a.m. in room 406, Dirksen Senate Building, Hon. John Barrasso (chairman of the committee) presiding.

Present: Senators Barrasso, Capito, Boozman, Fischer, Rounds, Ernst, Cardin, Merkley, Gillibrand, Booker, Markey, and Van Hollen.

OPENING STATEMENT OF HON. JOHN BARRASSO, U.S SENATOR FROM THE STATE OF WYOMING

Senator BARRASSO. Good morning. I call this hearing to order.

Today, the committee will hold a legislative hearing to examine S. 3303, the Water Quality Certification Improvement Act of 2018. This bill would improve implementation of Section 401 of the Clean Water Act.

Section 401 of the Clean Water Act empowers states with an important role in protecting water quality within their borders. Anyone applying for a Federal license or permit must ask the State to certify that resulting discharges into water will not degrade water quality. For decades, States have reviewed projects and issued water quality decisions.

Generally, this process works well. States and Washington, DC. work together, with clear and defined roles, to solve problems at both the regional and the national level. The State makes sure discharges will not negatively affect water quality. The Federal Government then issues the permit or license with the State's blessing.

This shared authority has been a good example of cooperative federalism. The vast majority of States have honored this shared responsibility. Recently, a few States have hijacked the water quality certification process in order to delay important projects.

The State of Washington has abused their authority to block the export of coal mined in Wyoming, Utah, Colorado, and Montana. The State of Washington has refused to grant a water quality certification for the Millennium Bulk Terminal project. The project would enable the export of Western coal to markets in Asia.

Japan, South Korea, and other countries want and need this American energy. By preventing this project from moving forward, Washington State has hurt the economy of the entire region and the Nation.

The delay of the export terminal does not just affect the coal industry. The Millennium Bulk Terminal project creates jobs and directly benefits families in Wyoming, Washington, and other Western States. That is why local unions and Cowlitz County, the county where the terminal would be built, support the project.

Washington State's refusal to issue the permit is not just bad for our economy; it is also bad for the environment. Wyoming produces the cleanest burning coal in the United States in a sustainable and safe manner.

The Asian market will continue to use coal even if it cannot get American coal. By refusing to allow Wyoming to export its coal, the State of Washington is pushing these Asian markets to use coal from non-American sources, sources that are not as clean or safe.

Washington State hired a consultant to evaluate greenhouse gas effects as part of its environmental review process. That consultant, hired by the State of Washington, concluded that mining and exporting American coal could reduce total global greenhouse gas emissions by displacing coal mined elsewhere.

Washington State's actions infringe on interState and international commerce. That is why Wyoming, and other States, have joined together to take legal action against Washington State.

The State of Washington's obstruction is about politics. It has nothing to do with clean water. The nine reasons that Washington used to deny certification had nothing to do with water quality. The State of Washington's own environmental impact study for the project found there would be no significant impacts to water quality.

The State of New York has taken similar steps to block construction of natural gas pipelines. America is the world's No. 1 producer of natural gas. Pennsylvania has abundant supplies of this resource but New York is blocking gas pipeline projects which would supply States in New England.

In January, power plants and utilities in New England had to take the dramatic and drastic step of importing liquefied natural gas from Russia to meet their energy demands. It makes no sense for America to import liquefied natural gas from our adversaries, Russia, when we have that resource right here at home.

Using the Clean Water Act simply to delay important projects was clearly not what Congress had in mind when Congress passed the law. That is why I, along with Senators Capito, Inhofe, Daines, and Enzi, sponsored the Water Quality Certification Improvement Act of 2018.

The bill amends Section 401 of the Clean Water Act to clarify the appropriate scope of review for a water quality certification. It clarifies that these reviews are limited to water quality impacts only. It would also put in place procedural guardrails and notice requirements to prevent future abuses.

Under our legislation, States, when evaluating water quality, can only consider discharges from the federally permitted or licensed activity itself, not from other unrelated sources. No longer will a

State be able to abuse this authority in order to stop a project from moving forward.

This bill is commonsense legislation to clarify current law, ensure a more predictable permitting process, and to prevent costly delays. Our legislation defends interState commerce and returns the certification process to what it was originally designed for, to protect the quality of America's water.

Before I introduce our witnesses for today, I would now like to turn to Senator Gillibrand for her remarks.

OPENING STATEMENT OF HON. KIRSTEN E. GILLIBRAND, U.S SENATOR FROM THE STATE OF NEW YORK

Senator GILLIBRAND. Thank you, Mr. Chairman.

I join you in welcoming our witnesses here today and our colleague, Steve Daines.

When it comes to protecting the environment, we have a solemn responsibility to do everything we can to protect clean water. Unfortunately, the bill we are hearing testimony on today, the Water Quality Certification Improvement Act of 2018, would fundamentally alter the role States have in permitting projects that cross rivers, streams and wetlands.

The bill substantially robs States of the rights they exercise under the Clean Water Act and abandons the cooperative federalism approach that has been a centerpiece of Federal environmental law.

Do not just take my word for it. The Western Governors Association and nine other organizations representing State governments wrote a letter last week raising concerns with the legislative approach.

They wrote "We urge Congress to reject any legislative or administrative effort that would diminish, impair or subordinate States' ability to manage or protect water quality within their own boundaries." The bill we are discussing today would do just that.

I ask unanimous consent to submit their letter for the record.

Senator BARRASSO. Without objection.

[The referenced information follows:]

6. Do you anticipate an increase in the number of 401 certification requests in the future, and what might be the impact on State administrative resources?

Most states do not anticipate a significant increase in 401 certification requests. Some do. Some states have actually seen significant declines in requests. Again, most requests appear to be related to 404 permitting, which in turn increase with general economic conditions and related construction starts, oil and gas development, etc.

[Expansion of CWA jurisdiction as may be proposed by new rules could have an undetermined impact on the number of requests related to any increase in Section 404 permitting requirements.]

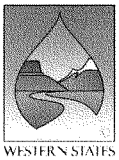
California expects an increase in requests due to FERC relicensing, license amendments, and new projects. Further, as described post-licensing monitoring of conditions, as well as non-hydropower certification requests will significantly impact the State's administrative resources. FERC currently lists 115 non-federal hydropower projects in California, not including transmission line projects, with varying expiration dates. Since 2000, 22 FERC project licenses have expired, and another 26 will expire through 2029, necessitating either relicensing or surrender of the license. Decommissioning can also have water quality impacts. SWRCB is already involved in a number of relicensing pre-application activities. The Division of Water Rights Water Quality Certification Program also certifies non-hydropower projects that involve water rights.

Colorado does not anticipate a significant increase in the number of requests, but does anticipate 4-5 very large and complex project certification requests from water diversion and storage projects over the next 3-4 years.

Idaho does expect an increase in requests, as well as additional review requirements related to antidegradation reviews and analyses associate with federal permits, placing greater demands on static staff.

New Mexico noted drought limits the viability of hydropower projects.

Oregon has certified several projects through the federal relicensing process over the past several years. Currently there are only a few projects under relicensing review. Oregon anticipates ongoing interest in retrofitting both irrigation and drinking water systems with hydro turbines, but many will be exempt from licensing and no 401 certification will be required. Many preliminary permit applications have not proceeded to licensing, making certification requirements difficult to estimate.



August 9, 2018

The Honorable Paul Ryan
Speaker of the House
U.S. House of Representatives
H-232 U.S. Capitol
Washington, D.C. 20515

The Honorable Mitch McConnell
Majority Leader
United States Senate
S-230 U.S. Capitol
Washington, D.C. 20510

The Honorable Nancy Pelosi
Minority Leader
U.S. House of Representatives
H-204 U.S. Capitol
Washington, D.C. 20515

The Honorable Charles Schumer
Minority Leader
United States Senate
419 Hart Senate Office Building
Washington, D.C. 20510

Dear Senators McConnell and Schumer, and Representatives Ryan and Pelosi:

We write to express our concerns about various proposals to alter the state certification process under Section 401 of the federal Clean Water Act (CWA). Because each state is unique, we need the flexibility and authority to address our individual water needs. We urge Congress to reject any legislative or administrative effort that would diminish, impair or subordinate states' ability to manage or protect water quality within their boundaries.

States have primary legal authority over the allocation, administration, protection and development of their water resources. Responsible growth and development, as well as proper environmental management, depend upon the recognition and preservation of state stewardship.

We recognize the importance of partnerships between states and the federal government. To implement the CWA, Congress purposefully designated states as co-regulators under a system of cooperative federalism that recognizes state interests and authority. Congress recognizes the legal position of states in the CWA; Section 101 clearly expresses Congress's intent to:

> recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources, and to

> consult with the Administrator in the exercise of his authority under this chapter...Federal agencies shall co-operate with state and local agencies to develop comprehensive solutions to prevent, reduce, and eliminate pollution in concert with programs for managing water resources.

A balanced system of cooperative federalism has enabled states to implement the CWA effectively and with flexibility. The CWA correctly recognizes that a one-size-fits-all approach to water management and protection does not accommodate the practical realities of geographic and hydrologic diversity among states.

A vital component of the CWA's system of cooperative federalism is state authority to certify and condition federal permits of discharges into waters of the United States under Section 401. This authority has helped ensure that activities associated with federally permitted discharges will not impair state water quality. The U.S. Supreme Court has addressed this issue of state authority and concluded that, "[s]tate certifications under [Section] 401 are essential in the scheme to preserve state authority to address the broad range of pollution." *S.D. Warren Co. v. Maine Board of Environmental Protection*, 547 U.S. 370 (2006), citing 116 Cong. Rec. 8984 (1970).

Curtailing or reducing state authority or the vital role of states in maintaining water quality within their boundaries would inflict serious harm to the division of state and federal authorities established under the Constitution and recognized by Congress in the CWA. Any legislative or regulatory effort to streamline environmental permitting should be developed in consultation with states and must not be achieved at the expense of authority delegated to states under the CWA or any other federal law. Any such effort must also recognize, and defer to, states' sovereign authority over the management and allocation of their water resources. We implore you to ensure that the CWA continues to effectively protect water quality while maintaining the proper balance between state and federal authorities.

Sincerely,

James D. Ogsbury
Executive Director
Western Governors' Association

Julia Anastasio
Executive Director and General Counsel
Association of Clean Water Administrators

Virgil Moore
President
Association of Fish and Wildlife Agencies

Jeanne Christie
Executive Director
Association of State Wetland Managers

Senator GILLIBRAND. Thank you.

I also ask to submit for the record a letter from the New York State Department of Environmental Conservation and the State Attorney General's Office. Those offices State that this bill would "curtail and limit the authority of New York and other States to protect their own water quality resources and the health, safety and welfare of their residents.

"Put another way, the Improvement Act undermines the balanced cooperative federalism intended by Congress in the Clean Water Act."

I ask unanimous consent.

Senator BARRASSO. Without objection.

[The referenced information follows:]

example, S.3303 could preclude a state from considering environmental review developed by federal agencies pursuant to the National Environmental Policy Act in its Section 401 determinations.

Further, S.3303 proposes to amend Section 401 to require states to "grant or deny" an application on limited bases within one year of initial application. However, in New York's experience, federal agencies' environmental review rarely is completed within one year. Accordingly, an applicant's early request for state Section 401 certification could commence the one-year state review period that would expire before the federal agency's NEPA review obligations are completed, depriving a state of critical information for its Section 401 review. For example, the Federal Energy Regulatory Commission (FERC) often relies on state 401 certifications and related state environmental permitting as mitigation for federally-permitted projects. The Improvement Act's absolute one year requirement not only could eliminate a state's ability to make a reasoned, informed decision based on a completed environmental review, it would also make the state review and federally-directed mitigation meaningless. This is hardly the cooperative federalism Congress intended in the Clean Water Act, and contrary to how federal agencies authorize projects in real world practice.

Lastly, the sponsors of this legislation have proclaimed that states including New York have "abused" the Clean Water Act 401 certification process to "block or slow construction" of projects such as natural gas pipelines.[1] New York has denied Section 401 certification only where natural gas pipeline projects fail to demonstrate compliance with water quality standards. New York and other states must continue to have the right to review projects on a case-by-case basis, to ensure that a proposed project would meet water quality standards and not have unacceptable impacts on a state's own resources.

The Water Quality Certification Improvement Act of 2018 threatens to upend the balanced cooperative federalism Congress ingrained in the Clean Water Act by curtailing and limiting the primary authority granted to New York and other states to ensure the protection of their waters and the health, safety, and welfare of their residents. We urge you to strongly oppose this unwarranted intrusion into New York's ability to protect its residents and environment.

Sincerely yours,

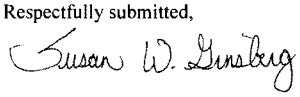
Lemuel Srolovic
Chief, Environmental Protection Bureau
New York State Office of the Attorney General

Thomas Berkman
Deputy Commissioner and General Counsel
New York State Department of
Environmental Conservation

[1] https://www.epw.senate.gov/public/index.cfm/press-releases-republican?ID=D957F5FF-D0FF-49D8-825E-24D9F9711EA4

IPAA appreciates your attention to this important issue. We request that this letter be submitted to the record for the August 16 legislative hearing on S. 3303.

Respectfully submitted,



Susan Ginsberg
Vice President
Crude Oil & Natural Gas Regulatory Affairs
202-857-4728

State of New York State
Office of the New York State Attorney General

August 15, 2018

Senator Kirsten Gillibrand
478 Russell Senate Office Building
Washington, DC 20510

Re: Water Quality Certification Improvement Act of 2018

Dear Senator Gillibrand:

We write to express the serious concerns of the State of New York and the Office of the New York State Attorney General about proposed bill S.3303, the Water Quality Certification Improvement Act of 2018. Under the guise of "improving" and "clarifying" Section 401 of the federal Clean Water Act, this legislation would instead curtail and limit the authority of New York and other states to protect their own water quality resources and the health, safety and welfare of their residents. Put another way, the Improvement Act undermines the balanced cooperative federalism intended by Congress in the Clean Water Act. Accordingly, we strongly oppose S.3303 and its unwarranted intrusion into the rights of the State of New York and other states, and urge you to do the same.

The Clean Water Act reflects a federal policy of preserving the states' primary right and responsibility to plan the development and use of water resources, and to prevent, reduce, and eliminate water pollution in cooperation with federal and local agencies. 33 U.S.C. §§ 1251(b),(g). The Act entrusts the states with the primary responsibility and authority to protect the waters within their borders, and reserves states' rights to implement more stringent measures if federal floors are not sufficient to protect their waters. 33 U.S.C. § 1370.

The balanced cooperative federalism directed by Congress is embodied in Section 401 of the Act. Section 401 requires an applicant for a federal license or permit to undertake an activity that may result in discharges into navigable waters to obtain a certification from the state in which the discharge would occur that the activity would comply with applicable water-quality standards. 33 U.S.C. § 1341(a)(1). A state may exercise its Section 401 authority to certify with conditions to ensure that impacts of the discharges are appropriately mitigated and will not impair the affected water resources. Indeed, the water quality impacts of federally-permitted projects are often localized, and are best assessed and managed at the state level by state resource experts. In this regard, the Clean Water Act recognizes the need for state-level review and entrusts state resource experts to protect their own resources.

The proposed legislation's broad-brush, one-size-fits-all approach would limit New York's ability to ensure the protection of its waters and residents with respect to a wide range of activities. First, it would exclude review elements that the state relies upon to determine whether a federally-permitted project would comply with the state's water quality standards. For

Senator GILLIBRAND. Thank you.

InterState pipeline projects often traverse hundreds or even thousands of miles, cross hundreds more streams and impact wetlands in ways to have a cumulative impact on the ability of the State to meet its water quality standards.

Some critics have pointed to a handful of high profile examples where States denied Section 401 certification for major interState projects. They argue that the States are abusing their role by issuing denials and therefore, the State's role should be restricted.

Those assertions ignore the fact that New York State has denied Section 401 certification only in those instances where the project failed to demonstrate compliance with water quality standards or failed to provide sufficient information to demonstrate compliance.

In 2017, New York State issued approximately 99.9 percent of all requested water quality certifications. Congress intended for States to have significant authority to protect their water quality under the Clean Water Act by setting standards more stringent than those set by the Federal Government. States have a responsibility to make sure those standards are enforced by setting conditions on federally permitted activities to protect State water quality.

I am concerned that the changes to the Section 401 certification process envisioned in the bill would create a situation where applicants are given Federal permits to violate State water quality standards. That should not happen.

I am also concerned that this bill would set an arbitrary and unrealistic 90-day timeline for States to determine whether an application is complete. This is inconsistent with State and Federal practices and ignores the fact that these projects often change during the course of the review requiring new or different information.

Additionally, the bill would prevent States from denying water quality certifications if an applicant fails to provide adequate information to the State. This is a heavy-handed approach designed to force States into approving potentially risky projects.

It punishes States for making decisions that some of my colleagues do not like undermining the State's role in trying the Clean Water Act and repeatedly upheld by the courts. This is not cooperative federalism. We should be listening to our States and working with them not against them.

Mr. Chairman, before I finish, I would like to ask unanimous consent to submit Ranking Member Carper's statement for the record.

Senator BARRASSO. Without objection.

[The prepared statement of Senator Carper follows:]

Statement of Ranking Member, Senator Thomas R. Carper
Committee on Environment and Public Works
"Hearing to Examine Implementation of Clean Water Act Section 401 and S. 3303, the Water Quality Certification Improvement Act of 2018"

August 18, 2018

I thank you, Mr. Chairman, for giving us the opportunity to think fully about the importance of the Clean Water Act's grant of authority to states under Section 401. And I appreciate, as well, the willingness of our witnesses to share their expertise and perspectives on this important question.

Mr. Chairman, this is a tough issue. I realize it's frustrating to developers when states have the capacity to say "no" to energy infrastructure projects.

I know from firsthand experience. Delaware was the favored site for a deepwater coal terminal on the Delaware Bay—a place of extraordinary beauty, ecological significance and economic value. As important as the project was to those who wanted an outlet for their coal, it was a horrible fit for my state.

The impact on our invaluable coastal wetlands would have been substantial and permanent. The resulting effect on coastal water quality, critical habitats, and the threatened, endangered and at-risk species—like the bald eagle and the red knot birds—that were dependent on these resources would have been, in a word, devastating.

The answer to this challenge is not to take away the voices and the power of the states. I say this not only as a recovering Governor, but also as someone who consistently tries to treat others the way I would want to be treated.

As I suspect everyone here understands, the Clean Water Act is a model of cooperative federalism—a theme very popular with the Trump Administration , as it was with our recently departed EPA Administrator. Section 101 of the Clean Water Act makes very clear Congress' intention to:

> "recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources, and to consult with the Administrator in the exercise of his authority under this chapter. . . . Federal agencies shall co-operate with state and local agencies to develop comprehensive solutions to prevent, reduce, and eliminate pollution in concert with programs for managing water resources."

And Clean Water Act Section 401 requires that an applicant for a federal license or permit provide a certification that any discharges from the facility or project will comply with the Act, including state-established water quality standard requirements.

It is because of this clear intent and the value of this authority to all the states in our union that the Western Governors' Association and nine other state-affiliated organizations wrote to the House and Senate "[urging] Congress to reject any legislative or administrative effort that would diminish, impair or subordinate states' ability to manage or protect water quality within their boundaries."

I realize the Western Governors and these other groups did not specifically address S. 3303 in their letter, but their letter was written before the Chairman introduced his bill. One thing is quite clear in reading this legislation, however; it diminishes, impairs and subordinates states' ability to manage or protect water quality within their boundaries.

For example, the bill assumes that a project's only water quality impacts are those related solely to the discharges associated with that project. I can assure you—as would others in Western and Eastern states alike — that is not the case with hydropower facilities, natural gas pipelines that can cross hundreds of streams along their path, or any other significant and complex infrastructure project.

At best, there seems to be some confusion that Section 401 only refers to discharges. But that is not at all the case. True, the project in question must have a discharge in order for Section 401 to apply, but once it does, Congress fully intended that states could set forth "any effluent limitations and other limitations. . ." necessary to assure that the applicant "will comply with any applicable effluent limitations and other limitations" under various provisions of the Act "and any other appropriate requirement of State law set forth in such certification." My quotes are directly from Section 401(d) of the Clean Water Act.

According to the Supreme Court in PUD v. Washington Department of Ecology (1994), this means that the law, as Congress wrote it, allows states to include "additional conditions and limitations on the activity as a whole once the threshold condition, the existence of a discharge, is satisfied."

In layman's terms, this means that the states are granted broad authority to condition certifications consistent with federal and state requirements as necessary to meet water quality standards. So, to be clear, replacing the word "activity" with the word "discharge," as this bill proposes, would undo Congress' original intent, and would severely clip our states' wings in their efforts to make our waters clean, safe, fishable and swimmable.

The bill would also require that states either grant or deny requests for certification within one year "after receipt of such request." It is unclear what "receipt" means, but in any event, given the complexity of some projects, the incomplete nature of many requests, and the inevitable back-and-forth required for agencies to fully understand the scope, implications, and options for mitigating impacts, this is a wholly unrealistic limitation on the states' abilities to make responsible decisions. A possible result is a vast increase in litigation over poor certification decisions or simply denial based on a state's reasonable determination that it does not have a sufficient basis upon which to certify or deny.

Similarly, restricting the time period for a state to request additional information to 90 days—while obviously a good intention to keep the process moving efficiently—also ignores the reality of complex and otherwise difficult cases. All we need to do to confirm this point is talk to our states.

There is much more about this bill that would serve oil and gas, coal, hydropower and other industries well. But doing so at the expense of states' abilities to protect themselves is a truly bad idea.

We find it so very easy to suggest that states know best how to manage the resources in their states—whether it's public lands or the critters that live there. Why is it, then, appropriate and acceptable for us to basically say to states in this context, "You really don't know best. We do. And this is what you're going to do."

I'll finish by going back to the story I told at the beginning of this statement, and ask the Committee to join me in thinking about this scenario.

What if my State of Delaware had no voice and no capacity to choose a thriving coastal environment and the fishing and tourism economy it supports over the presence of a major coal terminal on the shores of the Delaware Bay? Is it right to tell my state's regulators and citizens it doesn't matter what you think, here's your terminal?

No, it is not. And we should not move legislation that would make it so.

Thank you, Mr. Chairman.

Senator GILLIBRAND. I yield back.

Thank you.

Senator BARRASSO. Thank you very much, Senator Gillibrand.

Also along the same lines, Senator Inhofe is unable to be here today. I want to thank him for his support of S. 3303. I ask unanimous consent to enter his statement for today's hearing into the record.

Without objection, it will be entered.

[The prepared statement of Senator Inhofe follows:]

Senator James M. Inhofe Statement for the Record
U.S. Senate Committee on Environment and Public Works
Hearing to Examine Implementation of Clean Water Act Section 401 and S.3303, the Water Quality Certification Act of 2018
August 16, 2018

The bipartisan intent of Section 401 is laudable in its preservation of states' rights. It provides states with the opportunity to weigh in on federal permitting decisions for projects that could affect water quality within their borders and gives states a reasonable amount of time, not to exceed one year, to review and act on a permit application. This worked well for many years with little to no controversy.

Unfortunately, liberal environmentalists have hijacked the process and Congress' intent is no longer guiding the actions of a handful of states. Instead of an isolated instance or two, we are seeing a trend of states that are hostile to certain industries or projects use the 401 process to block them for non-water quality concerns, concerns that are not due to the project, or by gaming the one year review timeline.

There are several examples that come to mind highlighting issues with scope and timeliness of reviews. One example is the state of Maryland using the 401 process to hold a hydroelectric generator responsible for pollution they did not create – essentially pollution sourced from upstream of the dam. Now, I agree, the Conowingo Dam has been valuable at cleaning up the Chesapeake Bay – trapping sediment, nitrogen, and phosphorous before they reach the bay. But the dam's ability to act as a pollution sink has decreased over its lifetime – a natural occurrence – and the State of Maryland wants the dam's operator to pay $172 million per year to mitigate upstream pollution it is not responsible for. In short, Maryland is attempting to use 401 to force the dam's operator to pay so others can continue to pollute. This is clearly a perversion of the scope of reviews under 401 and punishes one party for another's wrongdoing.

In New York, the Constitution Pipeline – at the threat of having their 401 permit denied – has withdrawn and refiled the same application multiple times. This gaming of the one-year deadline in the existing statute effectively turned New York's 'review' – and I use the word 'review' loosely – into a three year process. Ultimately, as we all know, New York eventually denied 401 certification due to the political pressures of an upcoming election, hurting surrounding states.

We have an abundance of natural gas in America, but because of New York's actions, New England has had to import Liquefied Natural Gas (LNG) from Russia. This not only

supports our enemy, creating a national security concern, but it generates far more emissions than a pipeline does and hurts northeast consumers who are paying 151% more than the national average for electricity. New York is starving New England of an abundant, clean, cheap domestic source of energy – this is not federalism, it is one state dictating and blocking interstate commerce.

As there are clearly several problems with states' implementation of this statute, I joined the Chairman and several others in introducing S.3303, the Water Quality Certification Act of 2018. This bill preserves states' rights and clarifies that 401 certification should be about water quality impacts from the project itself. By also providing for transparency in the state process, applicants and the public will have a clearer picture of what goes into a state's decision and the concerns that the state has when making their decision.

This bill is a balanced approach that respects states' rights while providing clarity and focus to a sometimes murky process. I thank the Chairman for holding this hearing today and I look forward to reviewing today's discussion.

Senator BARRASSO. Additionally, there was reference to the Western Governors Association and their comments. We did visit with Todd Parfitt who is the Director of the Wyoming Department of Environmental Quality regarding this piece of legislation. He said he "recognizes the State's role in protecting water quality under the principles of cooperative federalism," which is what the Western Governors Association has said.

He goes on to say "This bill does not erode States' ability to protect water quality under Section 401."

With that, I would like to welcome my friend, Senator Daines, to the committee. Senator Daines, we are very grateful that you joined us. Thank you for your partnership in introducing the Water Quality Certification Improvement Act.

We welcome you to discuss the bill and introduce Mr. CJ Stewart who hails from Montana.

OPENING STATEMENT OF HON. STEVE DAINES, U.S SENATOR FROM THE STATE OF MONTANA

Senator DAINES. Chairman Barrasso and Senator Gillibrand, thank you for inviting me here today to introduce a very special guest from Montana.

CJ Stewart joins us today from the Crow Tribe in Montana. He is also Senator CJ Stewart. I knew CJ when he was a Senator who served 8 years as a Senator for the Crow Nation legislative branch.

He is an active and strong voice in his community and currently leads the National Tribal Energy Association. Mr. Stewart brings a very unique voice from Indian Country to the table during these discussions.

For perspective, on the Crow Reservation, the unemployment rate there is around 70 percent. When you engage with the people of the Crow Nation, they are pleading with us here in Washington to allow them to develop their natural resources and to provide opportunities and jobs for their people.

These jobs related to coal are critical. The unemployment rate has gone up because they have lost some of these critical coal mining jobs.

For those who are skeptics about what happens when we mine coal in Montana, I would invite you to come out sometime and see what reclamation looks like, how literally they restore the grounds with the original topography and grasslands. We are now seeing elk moving into these reclaimed areas, as well as mule deer, sage grouse and other native species.

As a member of the Crow Tribe, Mr. Stewart has firsthand experience in how Section 401 of the Clean Water Act has been abused and has hurt our communities throughout Montana.

Speaking of clean water, literally a week ago today at this very moment, I had a fly rod in my hand with my wife, Cindy, and our two dogs far in the Beartooth Absaroka wilderness of Montana. We hiked in about 12 miles.

There was not a boot print or a trail where we were, fishing for Yellowstone Cutthroat Trout with a little elk hair cactus.

I point that out because it is called the Baretooth Absaroka Wilderness. Absaroka is actually a word that ties back to the Crow Tribe. They are called the Apsaalooke people. We derive Absaroka

from that. Today, if you look on a map, you will see the Baretooth Absaroka Wilderness. These were the original grounds of the Apsaalooke people.

I discussed this with CJ earlier, this beautiful, pristine, clean water related to the Absaroka or the Absaalooke. They are called people of the large beak bird or the Crow Tribe, when you do a little translation. They know all about clean water, they cherish it.

Mr. Stewart has firsthand experience of how Section 401 of the Clean Water Act has been abused and hurt communities. The Crow Tribe is home to and surrounded by large coal deposits and the community has fought hard to bring high-paying energy jobs to their members.

This coal can be responsibly mined and can be responsibly exported to our Allies in the Asian Pacific. As the Chairman mentioned, Powder River Basin coal is Montana coal.

By the way, Montana has more recoverable coal than any State in the United States. You do not think about Montana as being a coal State. For those who do not understand our State, we are No. 1 in coal reserves in the Nation.

The reason our coal makes sense is because as we see what is going on in Asia, they are going to burn the coal but Montana coal, Wyoming coal, Powder River Basin coal is more environmentally sound and has a lower sulfur content. It is the right thing to do as relates to global stewardship of the environment versus Indonesian coal and Australian coal.

Japan wants our coal. Montana and the Crow Tribe can produce that coal. Unfortunately, while we are blessed with mountains and prairies, Montana does not have a coastline. We, therefore, depend on other States to get our resources to market.

That is why it is so important that we are having this hearing here today on legislation that Chairman Barrasso, other members of this committee, and I introduced. The Water Quality Certification Improvement Act simply clarifies that Section 401 certification should be based on clean water standards.

As part of the Clean Water Act, Section 401 should apply to clean water, not rail traffic or other unrelated issues, and, more importantly, should not be used for political reasons. I believe this is an important bill that will continue to give States a voice while also making sure certificates are based on the best available science.

I look forward to hearing more from this committee and my friend and Montana Native. Let me say there are Montana natives and then there are Montana Natives. That is my friend, CJ Stewart.

Again, thank you, Chairman Barrasso, for allowing me to be here today. Thank you for bringing Mr. Stewart to Washington, DC. to discuss the important impacts to our State and, importantly, our tribal communities.

Senator BARRASSO. Thank you, so much, Senator Daines. You are welcome to join us for as long as you are able. I know you have additional obligations on your schedule but we appreciate you being here with us today.

I would now invite all of the witnesses to please join us at the witness table. First, we have Mr. CJ Stewart, Board Director of the

National Tribal Energy Association. We also have Mr. Brent Booker, Secretary-Treasurer of the North America's Building Trades Unions and Mr. Anthony Willardson, Executive Director of the Western States Water Council.

We want to welcome all the witnesses and remind you that your full written testimony will be made a part of the original, official hearing record today. We would ask that you please keep your statements to 5 minutes so that we have time for questions. We have quite a number of Senators here interested in hearing what you have to say and asking questions.

I look forward to hearing your testimony beginning with Mr. Stewart. Mr. Stewart, please proceed.

STATEMENT OF CJ STEWART, BOARD DIRECTOR, NATIONAL TRIBAL ENERGY ASSOCIATION

Mr. STEWART. Thank you, Chairman Barrasso, Ranking Member Carper, and members of the Environment and Public Works Committee.

I appreciate the invitation and the opportunity to testify before this committee on examining implementation of Clean Water Act, Section 401 and your accompanying legislation.

My name is CJ Stewart. I am a Crow Tribal member, a board member and co-founder of the National Tribal Energy Association, NTEA. NTEA advocates for both tribes and industry to promote healthy and sustainable energy economies on Native American lands.

I am also currently in private practice as an energy consultant for Indian energy development and infrastructure. I previously served two terms as a Senator for the Crow legislative branch and as Chairman of the Crow Natural Resource & Infrastructure Development Committees from 2007 through 2015.

In 2016, at the request of Chairman Darrin Old Coyote, 21st Chairman of the Crow Nation, I held the position of Crow Nation Energy Advisor and Legislative Liaison. During this time, I was also appointed as Vice Chairman of Congressman Ryan Zinke's Natural Resource Advisory Committee.

Last, I worked for 10 years as a union coal miner hauling Crow coal and was the first Native American to be appointed to serve on the Montana Coal Board, where I was voted Vice Chairman.

Tribal economies face many obstacles to success, and currently the economy of the Crow Tribe is facing a critical crisis. While we are blessed with untold mineral wealth in oil, coal, and gas on the Crow reservation, regulatory roadblocks and political crises force us to languish in poverty.

The tribe currently has an unemployment rate of 70 percent or more and hopelessness is beginning to cast a shadow where there was once hope for a vibrant and prosperous future. Imagine having a trillion dollars in mineral wealth under your feet and yet your people are starving and destitute before you. It is a cruel nightmare that could be avoided if not for the Clean Water Act being weaponized against the Crow Tribal resource economy and the Crow people and culture.

Clean Water Act Section 401 was intended to provide States with a way to apply clean water quality protections to federally per-

mitted activities. However, certain States have misused the process to block Crow economic projects for political reasons that have nothing to do with water quality.

These States have hijacked the 401 certification process and used it as a means to interfere with tribal and international trade policy in violation of the Commerce Clause of the U.S. Constitution, including and specifically the Indian Commerce Clause.

The economic prosperity of tribal communities throughout the Country is dependent on the flow of goods to port facilities that is unencumbered by physical, commercial, or political roadblocks. Surely the founding fathers saw the necessity of the Indian Commerce Clause for tribal Nations against hostile and racist actors, be they private or public, who bore animosity against Native peoples.

Importantly, these laws were put in place to protect sovereign tribal economic activity, but recent and ongoing activity on the part of certain coastal States severely infringes on the rights of States and tribes without direct access to export facilities to engage in interState commerce.

The Crow Nation is deeply respectful of the need for States and tribes to be able to protect their own waters from projects that would degrade water quality and infringe upon water use. We are also needful of the same respect in terms of our commercial endeavors including our sovereign resource development and commercialization.

Unlike these aforementioned hostile actors who are so detrimental to the quality of life for the Crow people, we seek no power over or ill will toward them. We instead seek a legislative remedy that maintains equal and fair application of the law.

The Water Quality Certification Improvement Act of 2018 is such a legislative remedy and does not inhibit the ability of States and tribes to enforce their water quality laws. Rather, it provides necessary transparency and clarity to the 401 process, while preserving the central role of tribes and States in protecting local waterways.

The U.S. holds more of the world's coal reserves than any other Country, and the coal mined by the Crow Nation is preferred by high efficiency, low emission power plants that are in operation and being built around the world. However, even though our coal resources provide a critical component of U.S. export trade, our ability to get our coal to fast-growing Asian markets is being hindered by States on the West Coast who continue to refuse to grant needed approvals to build state-of-the-art export facilities for political, not water quality, reasons.

The Water Quality Certification Improvement Act of 2018 ensures that water quality certifications focus on their intended environmental purpose, the protection of local water bodies potentially impacted by federally licensed activities. It will therefore protect the health of local communities while simultaneously promoting the ability of tribes and land-locked States to exercise their right to engage in interState commerce and grow the economy.

[The prepared statement of Mr. Stewart follows:]

Testimony of CJ Stewart of
the National Tribal Energy Association

Senate Committee on Environment and Public Works
"Hearing to Examine Implementation of Clean Water Act Section 401 and S. 3303, the Water Quality Certification Improvement Act of 2018"

August 16, 2018

CJ Stewart's 401 Testimony

Thank you Chairman Barrasso, Ranking Member Carper, and Members of the Environment and Public Works Committee. I appreciate the invitation and the opportunity to testify before this Committee on examining implementation of Clean Water Act (CWA) 401 and your accompanying legislation.

My name is CJ Stewart, and I am a Crow Tribal member and a Board Member and Co-Founder of the National Tribal Energy Association, or NTEA. NTEA advocates for both tribes and industry to promote healthy and sustainable energy economies on Native American lands. I am also currently in private practice as an energy consultant for Indian energy development and infrastructure.

I previously served two terms as a Senator for the Crow Legislative Branch and as Chairman of the Crow Natural Resource & Infrastructure Development Committees from 2007-2015. In 2016, at the request of Chairman Darrin Old Coyote, 21st Chairman of the Crow Nation, I held the position of Crow Nation Energy Advisor and Legislative Liaison. During this time, I was also appointed as Vice Chairman of Congressman Ryan Zinke's Natural Resource Advisory Committee.

Lastly, I worked for 10 years as a union coal miner hauling Crow coal and was the first Native American to be appointed to serve on the Montana Coal Board, where I was voted Vice Chairman.

Tribal economies face many obstacles to success, and currently the economy of the Crow Tribe is facing a critical crisis. While we are blessed with untold mineral wealth in oil, coal, and gas on the Crow reservation, regulatory roadblocks and political crises force us to languish in poverty. The tribe currently has an unemployment rate of 70% or more, and

hopelessness is beginning to cast a shadow where there was once hope for a vibrant and prosperous future.

Imagine having a trillion dollars in mineral wealth under your feet and yet your people are starving and destitute before you. It's a cruel nightmare that could be avoided if not for the Clean Water Act being weaponized against the Crow Tribal resource economy and the Crow people and culture.

Clean Water Act Section 401 was intended to provide states with a way to apply key water quality protections to federally permitted activities. However, certain states have misused the process to block Crow economic projects for political reasons that have nothing to do with water quality. These states have hijacked the 401 certification process and used it as a means to interfere with tribal and international trade policy in violation of the Commerce Clause of the U.S. Constitution, including and specifically the Indian Commerce Clause.

The economic prosperity of tribal communities throughout the country is dependent on the flow of goods to port facilities that is unencumbered by physical, commercial, or political roadblocks. Surely the founding fathers saw the necessity of the Indian Commerce Clause for tribal nations against hostile and racist actors be they private or public who bore animosity against native peoples. Importantly, these laws were put in place to protect sovereign tribal economic activity, but recent and ongoing activity on the part of certain coastal states severely infringes on the rights of states and tribes without direct access to export facilities to engage in interstate commerce.

The Crow Nation is deeply respectful of the need for states and tribes to be able to protect their own waters from projects that would degrade water quality and infringe upon water use. We are also needing of the same respect in terms of our commercial endeavors including our sovereign resource development and commercialization. Unlike these aforementioned hostile actors who are so detrimental to the quality of life for the Crow people, we seek no power over or ill will toward them. We instead seek a legislative remedy that maintains equal and fair application of the law.

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The Water Quality Certification Improvement Act of 2018 ensures that water quality certifications focus on their intended environmental purpose – the protection of local waterbodies potentially impacted by federally licensed activities. It will therefore protect the health of local communities while simultaneously promoting the ability of tribes and landlocked states to exercise their right to engage in interstate commerce and grow the economy.

U.S. Senate Committee on Environment and Public Works
Hearing titled, *"Hearing to Examine Implementation of Clean Water Act Section 401 and S. 3303, the Water Quality Certification Improvement Act of 2018"*
August 16, 2018
Questions for the Record for Mr. Stewart

Ranking Member Carper:

1. You spoke in your testimony about states' refusals to grant needed approvals for infrastructure, and indicated their failure to do so was for political reasons.

    a. In the case of the Washington coal terminal, what do you view are the political elements of the state's decision that water quality impacts associated with the building of a very large coal terminal on the Columbia River should result in denying certification for this project?

Press statements made by the State of Washington at the time of the certification denial, as well as the fact that the state's own EIS for the project showed that there would not be any significant adverse water quality impacts from the project, make it clear that the State of Washington denied the Millennium Bulk water quality certification based on a general opposition to coal exports and a desire to impose the state's political climate change positions onto US export policy. One state's political views of a particular export should not be able to override the ability of tribes to engage in interstate commerce, nor should it bind all states and tribes without their own international export capacity.

    b. Do you accept that the 11 different adverse water quality impacts identified by the Washington Department of Ecology are a sufficient basis for denial of the Clean Water Act certification we are talking about?

It is my understanding that the state's own EIS showed that there would not be any significant water quality impacts from the project, and that with respect to the potential water quality impacts identified in the certification denial, the state stated that it purportedly did not have enough information to decide (despite the findings of the EIS) – not that there would be a likelihood of harm to water quality.

    c. How, in your opinion, would S. 3303 make that project acceptable given the substantial impacts on water quality the State of Washington identified?

The state did not identify substantial impacts to water quality that would result from the project, and in fact determined in its EIS that there would not be such impacts from the project. S. 3303 would allow the state to deny or condition certification upon identifying actual impacts to water quality, but would not allow – as was done here – unsubstantiated water quality concerns to form a post hoc justification for a decision that was, in fact, unrelated to water quality.

2. Do you believe that, under Section 401 of the Clean Water Act, states have the authority to effectively "veto" projects by denying certification if they find that a proposed activity would impact water quality?

   If discharges into navigable waters allowed by a federal permit would cause or contribute to the violation of water quality criteria, Section 401 allows states and tribes to condition or deny certification for the permit of those discharges. S. 3303 does not diminish or weaken this authority.

   a. If not, how do you believe states should address water quality impacts when implementing the requirements of Section 401?

   N/A

   b. If states do not have autonomy in the water quality certification process, does that effectively implement the "partnership" envisioned by Congress when enacting the CWA?

   N/A

   c. The Clean Water Act expressly provides that tribes are able to play essentially the same role in Indian country that states do. The Act authorizes EPA to treat eligible federally recognized Indian tribes in a similar manner as a state for implementing and managing certain programs, including Section 401. Would you agree that when tribes are administering this program, they should be able to deny 401 certification if they have concerns that a project might damage water quality?

   Yes – as noted above, if discharges into navigable waters allowed by a federal permit would cause or contribute to the violation of water quality criteria, Section 401 allows states and eligible tribes to condition or deny certification for the permit of those discharges. S. 3303 does not diminish or weaken this authority.

   d. Are you aware if Washington state tribes weighed in with the state to express concerns that the construction of the proposed coal export project would harm water quality?

   No I am not aware of whether this happened.

3. In your experience in federal permitting (or in conversations with stakeholders, federal permitting officials, or state permitting officials) what factors beyond Section 401 have been cited as the source of delay in the process?

There are several factors that cause undue delays in obtaining federal permits. However, more detail is needed to fully respond to the question, as delays are caused by different factors depending on the type of permit required. For example, in addition to Section 401 certifications, the NEPA process and implementation of the 2008 Compensatory Mitigation Rule often cause additional significant delays in Section 404 permitting. It is important to

note, though, that in the case of the Millennium Bulk terminal, the state's unlawful actions precluded the Section 404 process from going forward at all.

4. Do tribes meet with state officials who are charged with issuing a Sec. 401 water quality certificate on projects of interest to them? What process should be followed to ensure that tribal concerns with the water quality implications of a particular project should be addressed?

States and eligible tribes that implement the water quality standards program for the waters impacted by the discharge are the appropriate authority to determine issuance of Section 401 certifications.

5. Are you concerned that by limiting the state's use of Section 401 certification, some states may establish new state permitting requirements independent of the Clean Water Act, resulting in an entirely separate permit or permits that will be required in order to ensure compliance with state statutes and regulations?

S. 3303 will not limit state use of Section 401 – it simply reiterates the appropriate role of the state certification process in federal licensing. Efforts by states to improperly usurp interstate commerce decisions are unlawful.

6. In order to address the concerns you raise in your testimony, would it make sense to include state 401 certification programs as part of NEPA compliance?

The CWA lays out the circumstances under which Section 401 certifications must be obtained. Not all projects that undergo NEPA analyses require Section 401 certifications, and not all permits that require a Section 401 certification are significant actions requiring an EIS. While there could be efficiencies gained when a state is looking at water quality impacts as part of a NEPA review and a 401 certification process, a one-size-fits-all approach may not be appropriate.

a. Would making that change improve permitting efficiency, since many of the issues that come up when a permit is applied for and 401 certification begins are typically included in the earlier NEPA reviews in which the state does not participate?

See above.

b. Would including states early (i.e., when the permit application that triggers 401 certification is submitted) lead to more efficient processing?

It is my understanding that states are notified early on in the process when a 401 certification is required, but to the extent that this does not already happen, then yes – including states early on in the process would help with efficient processing.

7. Narrowing 401 certification could result in the issuance of a federal permit that is out of compliance with state statutes and regulations that protect human health and safety and the environment.

    a. Is this result acceptable?

S. 3303 does not narrow the scope of Section 401 – it expressly preserves the right of states and tribes to protect human health and safety and the environment as related to water quality, which has always been the purpose of Clean Water Act Section 401.

Senator Merkley:

8. In your testimony, you indicate that you strongly support a rail line to transport Crow Nation coal through the ancestral lands of a number of tribes to the West Coast. However, the State of Washington cited 11 explicit water quality concerns that were shared by a number of sovereign tribal nations. Is it your position that the interests of the Crow Nation take precedence over the interests of tribes who rely on salmon fisheries and the water quality necessary to keep their fishery resources healthy?

    The rights of all tribes are important and must be respected. It is my understanding that the state's own EIS showed that there would not be any significant water quality impacts from the project, and that with respect to the potential water quality impacts identified in the certification denial, the state stated that it purportedly did not have enough information to decide (despite the findings of the EIS) – not that there would be a likelihood of harm to water quality.

9. The states perform critical roles protecting their environment and resources. How will limiting states from thoroughly reviewing the full range of impacts to their natural resources lead to better decisions?

    S. 3303 expressly preserves the right of states to fully review water quality impacts of a proposed federally licensed activity.

10. States are often critically underfunded, particularly their environmental quality agencies. Does S. 3303 increase funding to states to enable them to meet the arbitrary 90-day deadline to respond to water quality certifications? How does S. 3303 help the states better protect their resources and citizens?

    It is my understanding that S. 3303 is an authorizing bill, not an appropriations bill. S. 3303 preserves the rights of states and tribes to protect their resources and citizens while also ensuring that Section 401 is not abused for political purposes in a way that harms the economy and infringes on the Constitutional right of tribes, specifically under the Indian Commerce Clause, to engage in interstate commerce.

11. How will weakening a state's authority to review projects benefit or enhance cooperative federalism?

    S. 3303 does not weaken state's authority to review projects.

12. Water Quality Certifications allow states to look at a full range of the impacts of a project while federal agencies often limit the scope of their review. Is state review of projects the barrier to development, or are the environmental impacts themselves the actual barrier? Would this bill reduce the ability to properly identify and analyze those impacts?

    While frequently Section 401 is applied properly by states, the case of the Millennium Bulk terminal provides an example of how a state's political agenda – rather than any actual water quality impacts from a project, as shown by the state's own EIS – has unfairly blocked a project critical to the survival of the Crow Nation.

13. The tribes of the Northwest depend on the fish populations that in turn depend on healthy water quality. How will limiting the threshold of impacts analysis protect their treaty-preserved rights and interests?

    The Crow tribe depends on coal and is a true recognized treaty tribe that hasn't opted into the Indian Reorganization Act of 1934. Further, in 1825, the Crow tribe signed a friendship treaty with the US Government to exercise and protect trade routes that would enhance their Constitutional rights under the Indian Commerce Clause. Are you willing to violate the rights of the Crow tribe as a true treaty tribe, along with violating the Indian Commerce Clause in the Constitution, by taking away their ability to export their own coal? In addition, S.3303 does not limit the ability of states and tribes to protect water quality.

Senator BARRASSO. Mr. Stewart, thanks so much for being with us today. Thank you very much for sharing your testimony. After we hear from Mr. Booker, we will come back with some additional questions.

Next, Mr. Booker, thank you very much for being with us today. We appreciate that you are here to testify.

STATEMENT OF BRENT BOOKER, SECRETARY-TREASURER, NORTH AMERICA'S BUILDING TRADES UNIONS

Mr. BOOKER. Thank you, Mr. Chairman, Senator Carper and Senator Merkley for your leadership and continued efforts to address permitting reform.

As Secretary Treasurer of North America's Building Trades Unions, and on behalf of the three million skilled construction workers I represent, thank you for allowing me to share with you the impacts of project delays on the hard-working men and women who build and maintain America's energy, water, and transportation infrastructure.

NABTU is dedicated to creating economic security and employment opportunities for North American construction workers by safeguarding wage and benefits standards, promoting responsible private capital investments, investing in renown apprenticeship and training, and creating pathways to the middle class for women, communities of color and military veterans in the construction industry.

Because of these efforts, and others, collectively amongst all 14 NABTU affiliates, more than $1 billion dollars is spent annually on apprenticeship training at 1,600 domestic training centers. We now boast 135 apprenticeship programs to ready students for the academic and real-world challenges of being a union apprentice.

North America's Building Trades Unions support responsible regulations that protect the environment, public health and worker safety. We believe they are critical to responsible infrastructure development that lasts for decades and allows for future generations to use these invaluable assets.

What is concerning, however, is the tactic of project opponents using a constant stream of endless lawsuits to delay a project because they cannot defeat a project on the merits of the project itself. When projects are tied up or delayed because of court proceedings, not only are critical American infrastructure projects stalled, but also our members are not working, they are not putting food on the table, they are not providing for their families and they are not participating and contributing to the local economy.

In the Northeast region, this is the reality. Union construction workers stand ready to build necessary pipeline infrastructure to deliver Marcellus Shale natural gas to utilities, industry, critical infrastructure like our schools and hospitals, and most importantly, to our consumers. The region's notoriously high energy prices have met a perfect storm in the form of inadequate natural gas infrastructure being coupled with the delay of the Constitution and Northern Access Pipeline projects.

ISO New England recently highlighted that four gigawatts of natural gas-fired generation capacity, 24 percent of the region's gas-fired net winter capacity, was at risk of not being able to get

fuel when needed. A safe, modern, and affordable solution, the Constitution pipeline, was delayed from being built after already receiving FERC approval. This permit denial is still delaying about 2,400 direct and indirect jobs from the pipeline construction generating $130 million in labor income and economic activity for the region.

The decision continues to cost local governments approximately $13 million in annual property tax revenue. Unfortunately, the Clean Water Act Section 401 permitting process has resulted in needless uncertainty. This can stymie approval for years, or worse, halt a half-completed construction project in its tracks.

By some estimates, a 6-year delay in starting construction on public works, including the effects of unnecessary pollution and prolonged inefficiencies, costs the Nation over $3.7 trillion. Let me be clear. When lawsuits aimed squarely at killing projects are brought forth for politically motivated reasons, it hinders our ability to create jobs and prepare the next generation of construction workers for tomorrow.

These unnecessary delays thwart needed infrastructure progress, and impede NABTU members from working and earning a paycheck. We must have regulatory certainty and predictability.

North America's Building Trades Unions strongly supported the FAST–41 reforms because they lead us toward a path of standardization and finality in the permitting process. We have supported the thoughtful steps taken to reform the system while maintaining the underlying regulations that protect the health and safety of our members on the jobsite and the environmental and human impacts of projects on communities across the Country.

We will continue to be engaged with Congress and Federal agencies as sensible regulatory reforms are identified and implemented. Case in point, the reforms made by S. 3303 requiring States to tell an applicant whether they have all the materials needed to process a certification is commonsense.

The clarification that the scope of a Section 401 review is limited to only water quality impacts needs no explanation. We support reforms that reign in the legal challenges while thoughtfully protecting the environment, the public, and worker safety on the job.

On behalf of NABTU, our affiliates, and our 3 million members, thank you for the opportunity to testify. I look forward to any questions you may have.

[The prepared statement of Mr. Booker follows:]

BRENT BOOKER
SECRETARY - TREASURER
NORTH AMERICA'S BUILDING TRADES UNIONS

SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
TESTIMONY

August 16, 2018

Good Morning and thank you Senator Barrasso and Senator Carper for your leadership and continued efforts to address permitting reform. As Secretary-Treasurer of North America's Building Trades Unions, and on behalf of the three million skilled construction workers I represent, thank you for allowing me to share with you the impacts of project delays on the hard-working men and women who build and maintain America's energy, water, and transportation infrastructure.

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In the Northeast region, this is the reality. Union construction workers stand ready to build necessary pipeline infrastructure to deliver Marcellus Shale

natural gas to utilities, industry, critical infrastructure like our schools and hospitals, and to consumers.

The region's notoriously high energy prices have met a perfect storm in the form of inadequate natural gas infrastructure being coupled with the delay of Constitution and Northern Access Pipeline projects. ISO New England recently highlighted that four gigawatts of natural gas-fired generation capacity – 24% of the region's gas-fired net winter capacity – was at risk of not being able to get fuel when needed.

And a safe, modern, and affordable solution, the Constitution pipeline, was delayed from being built after already receiving FERC approval. This permit denial is still delaying about 2,400 direct and indirect jobs from the pipeline construction generating $130 million in labor income and economic activity for the region. The decision continues to cost local governments approximately $13 million in annual property tax revenue.

Unfortunately, the Clean Water Act Section 401 permitting process has resulted in needless uncertainty. This can stymie approval for years – or, worse, halt a half-completed construction project in its tracks. By some

estimates, a six-year delay in starting construction on public works, including the effects of unnecessary pollution and prolonged inefficiencies, costs the nation over $3.7 trillion[i].

Let me be clear. When lawsuits aimed squarely at killing projects are brought forth for politically motivated reasons, it hinders our ability to create jobs and prepare the next generation of construction workers for tomorrow. These unnecessary delays thwart needed infrastructure progress, and impede NABTU members from working and earning a paycheck.

We must have regulatory certainty.

North America's Building Trades Unions strongly supported the FAST-41 reforms because they lead us toward a path of standardization and finality in the permitting process. We've supported the thoughtful steps taken to reform the system while maintaining the underlying regulations that protect the health and safety of our members on the jobsite and the environmental and human impacts of projects on communities across the country.

We will continue to be engaged with Congress and federal agencies as sensible regulatory reforms are identified and implemented.

Case in point, the reforms made by S. 3303. Requiring states to tell an applicant whether they have all the materials needed to process a certification is commonsense. The clarification that the scope of a Section 401 review is limited to only water quality impacts needs no explanation. We support reforms that reign in the legal challenges while thoughtfully protecting the environment, the public, and worker safety on the job.

On behalf of NABTU and our affiliates, thank you for the opportunity to testify. I look forward to the committee's questions.

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[i] *Two Years Not Ten Years: Redesigning Infrastructure Approvals.* Common Good. Web. Accessed 12/7/15. (http://commongood.3cdn.net/c613b4cfda258a5fcb_e8m6b5t3x.pdf)

U.S. Senate Committee on Environment and Public Works
Hearing titled, "Hearing to Examine Implementation of Clean Water Act Section 401 and S. 3303, the Water Quality Certification Improvement Act of 2018"
August 16, 2018
Questions for the Record for Mr. Booker
Answers for the Record from Mr. Booker submitted on September 19, 2018

Ranking Member Carper:

1. Do you believe that, under Section 401 of the Clean Water Act, states have the authority to effectively "veto" projects by denying certification if they find that a proposed activity would impact water quality?
    a. If not, how do you believe states should address water quality impacts when implementing the requirements of Section 401?
    b. If states do not have autonomy in the water quality certification process, does that effectively implement the "partnership" envisioned by Congress when enacting the CWA?

The Congressional intent of the Clean Water Act is for federal and state agencies to work together to certify discharges under CWA Section 401 certification process. However, this "partnership" needs clarification.

Under Section 401, states have the opportunity to review activities, where there is a discharge, under federal review. During this review, states can identify reasonable conditions necessary to meet enforceable water quality standards. These conditions are then adopted by the federal agency, if it decides to authorize the activity. In this manner, Congress ensured that federal agencies work in partnership with states to protect water quality. Section 401 does not create an additional state or federal permitting requirement.

In many cases, our members' ability to work on projects requiring a Section 401 water quality certification is subjected to individual states misusing their regulatory authorities to effectively "veto" interstate projects that benefit multiple states.

1. What specific issues are we trying to address with the bill, S. 3303, that Chairman Barrasso has introduced?
    a. Is the 401 state water quality certification an example of cooperative federalism?
    b. Should states have a robust role in federal permitting and licensure that impacts waters within their State?

S. 3303 effectively clarifies the scope of the CWA Section 401 certification process for interstate/federally approved projects. In many states, the 401 water quality certification

process is an example of cooperative federalism where each side of the partnership works cooperatively to ensure that federally permitted activities protect water quality. This provides the certainty needed to execute interstate projects effectively. In turn, NABTU affiliates are able to train and provide the required workforce for said projects.

However, in some cases, such as the Constitution Pipeline denial in New York State, the cooperative federalism concerns have not been appropriately balanced.

2. How have reviewing courts interpreted states' denials of water quality certificates and conditioning of federal licenses/permits?

Several recent cases have indicated the time review for Section 401 certification begins when the applicant files, not when the state determines the application is complete. Section 401, and judicial precedent, allow federal agencies to proceed with their decisions on a proposed activity where a lead federal agency determines that a state has waived its review.

3. In your experience in federal permitting (or in conversations with stakeholders, federal permitting officials, or state permitting officials) what factors beyond Section 401 have been cited as the source of delay in the process?

The factors beyond Section 401 that are a source of delay include a gauntlet of numerous separate agency reviews and approvals. Too often the process has a lack of coordination, conflicting deadlines, and litigation exposure. Other types of reviews include NEPA and ESA.

4. In your estimation, what percent of energy-related infrastructure projects are stopped by state failure to grant 401 certification?
    a. Is it 50 percent? 10 percent? 1 percent? Or less than 1 percent?

Any stoppage of a project moving forward, including the denial of Section 401 certification, has a direct adverse impact on the livelihood of our members. The exact percentage of projects denied is different from state to state just as the size and scope of every project are different. Specifically, in my testimony, I cite the 2,400 direct and indirect jobs that would be created during construction of the Constitution pipeline generating $130 million in labor income and economic activity. This large project is one example of the increasing number of projects delayed or derailed by Section 401.

5. Is it your standard practice (or the practice of project sponsors your members work for) to meet with state officials who are charged with issuing a Sec. 401 water quality certificate before submitting an application for certification?

It is our practice to engage whenever possible in supporting projects which provide employment for our members. Our successful tripartite working arrangements with industry, government and labor continue to be the best mechanism to ensure safety and environmental concerns are adequately addressed.

6. Are you concerned that by limiting the state's use of Section 401 certification, some states may establish new state permitting requirements independent of the Clean Water Act, resulting in an entirely separate permit or permits that will be required in order to ensure compliance with state statutes and regulations?

This hypothetical scenario would increase the likelihood of delays that result in people out of work, not supporting their families, and not participating in the local economy. NABTU does not view S. 3303 as limiting states' valid use of the water quality certification process. Instead, the legislation addresses past abuses of the process.

7. In order to address the concerns you raise in your testimony, would it make sense to include state 401 certification programs as part of NEPA compliance?
    a. Would making that change improve permitting efficiency, since many of the issues that come up when a permit is applied for and 401 certification begins are typically included in the earlier NEPA reviews in which the state does not participate?
    b. Would including states early (i.e., when the permit application that triggers 401 certification is submitted) lead to more efficient processing?

NEPA review is broader than state review under Section 401. States should engage early in the NEPA process so that potential concerns regarding water quality issues are adequately addressed.

8. Narrowing 401 certification could result in the issuance of a federal permit that is out of compliance with state statutes and regulations that protect human health and safety and the environment. Is this result acceptable?

North America's Building Trades Unions support human health, safety, and environmental stewardship. S. 3303 would clarify the scope of section 401 review to be based on matters

associated with water quality only. We support states' ability to protect water quality. Specifically, the amendments clarify the conditions of a water quality certification under Section 401.

Senator BARRASSO. Thank you very much, Mr. Booker, as well as Mr. Stewart. We appreciate you being here. We will see if Mr. Willardson is able to arrive.

If I could, I will start with some questions for Mr. Stewart. In your testimony, you talked about some of the real world impacts from not being able to use the tremendous natural resources that we have in America, specifically in Indian Country. The Seattle Times newspaper reported that the Millennium Bulk Terminal project would bring $680 million in investments to Cowlitz County alone, the Washington county where the terminal project would be located.

What has the delay of this bulk terminal project done to the hardworking people in Indian Country and in States outside of Washington State such as your own?

Mr. STEWART. First of all, Mr. Chairman, I appreciate the question.

The delay of the permitting of the Millennium Bulk Terminal has cost loss of Federal, State and tribal mineral taxes, caused the loss of countless high-paying and highly skilled jobs which pay income and sales taxes in Montana, Wyoming, Colorado, Utah and other western States.

It has caused the loss of new equipment services for the ongoing management and expansion of mines which in turn have caused more losses in taxes at all levels. It has had a direct impact on the Crow Nation which has lost the opportunity to mine, sell and tax millions of dollars of coal over the years which has negatively impacted tribal education, housing, health and other services, but more importantly, jobs. Mr. Chairman, it is jobs.

Senator BARRASSO. Thank you very much, Mr. Stewart.

Mr. Booker, during the cold snap last winter when Massachusetts imported liquefied natural gas from Russia to meet its energy needs, Massachusetts took a dramatic step because like other New England States, it has insufficient pipeline capacity to import gas from nearby States like Pennsylvania or trying to move it there. They just do not have the pipeline capacity to do it.

The Boston Globe wrote, "The environmental toll this year was eye-popping. Greenhouse gas pollution exploded during this winter's cold snap, leaving generators to burn 2 million barrels of oil." Because they could not get natural gas through the pipeline, they went to oil.

The lack of pipeline capacity is causing real harm to the environment as well as to energy security, as well as to the economy. Could you talk a bit about how Section 401 has delayed gas pipeline projects such as the Constitution Pipeline in New York from moving forward? Are you concerned about the negative environmental impacts?

Mr. BOOKER. Yes, thank you for the question, Mr. Chairman.

For us, what you just described is what we are trying to prevent, importing natural gas from Russia or from other places outside of this Country to keep our houses warm and keep our businesses open and running.

When you have impacts and people using Section 401 not for what it is intended for, delaying these critical infrastructures and

pipelines, the immediate impact, as Mr. Stewart mentioned, is the jobs and for me, the people I represent to go to work.

The further consequence is the environmental impact of burning heating oil rather than burning clean, natural gas which is a domestic resource which we are burying the market not only in this Country but globally through LNG exports.

By having these delays and not having the needed infrastructure we have or that we need in the Northeast, we are further damaging the environment while we are not creating jobs that are absolutely needed in the Northeast and all over the Country.

Senator BARRASSO. Mr. Stewart, when the State of Washington denied the water quality certification for the Millennium Bulk Project, it claimed there would be environmental harm, but the State of Washington's own consultant concluded there would be a net environmental benefit in terms of emissions.

The consultant found that the mining and export of coal in America for use in Asia through the terminal would reduce greenhouse gas emissions globally over time. I would like to introduce a report into the record of today's hearing. It is a substantive report. Without objection, it will be submitted.

[The referenced information follows:]

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

September 26, 2017

Millennium Bulk Terminals-Longview, LLC
ATTN: Ms. Kristin Gaines
4029 Industrial Way
Longview, WA 98632

RE: Section 401 Water Quality Certification Denial (Order No. 15417) for Corps Public Notice No. **2010-1225** Millennium Bulk Terminals-Longview, LLC Coal Export Terminal – Columbia River at River Mile 63, near Longview, Cowlitz County, Washington

Dear Ms. Gaines:

The Washington State Department of Ecology (Ecology) has reached a decision on the Millennium Bulk Terminals-Longview request for a Section 401 Water Quality Certification for the proposed coal export terminal near Longview. After careful evaluation of the application and the final State Environmental Policy Act environmental impact statement, Ecology is denying the Section 401 Water Quality Certification with prejudice.

The attached Order describes the specific considerations and determinations made by Ecology in support of this decision to deny the Certification with prejudice. Your right to appeal this decision is described in the enclosed denial Order.

Sincerely,

Maia D. Bellon
Director

Enclosure

By certified mail [91 7199 9991 7034 8935 6995]

cc: Muffy Walker, U.S. Army Corps of Engineers
Danette Guy, U.S. Army Corps of Engineers
Glenn Grette, Grette Associates, LLC

National Mining Association is grateful for your leadership on introducing this much needed legislation.

Sincerely,

Hal Quinn

IN THE MATTER OF DENYING SECTION 401 WATER QUALITY CERTIFICATION TO Millennium Bulk Terminals-Longview, LLC in accordance with 33 U.S.C. §1341 (FWPCA § 401), RCW 90.48.260, RCW 43.21C.060, WAC 197-11-660, WAC 173-802-110, and Chapter 173-201A WAC	))))))))	**ORDER # 15417** **Corps Reference #NWS-2010-1225** Millennium Bulk Terminals-Longview, LLC Coal Export Terminal – Columbia River at River Mile 63, near Longview, Cowlitz County, Washington

TO: Millennium Bulk Terminals-Longview, LLC
Attention: Ms. Kristin Gaines
4029 Industrial Way
Longview, Washington 98632

On February 23, 2012, Millennium Bulk Terminals-Longview, LLC (Millennium) submitted a Joint Aquatic Resources Permit Application (JARPA) to the Department of Ecology (Ecology) requesting a Section 401 Water Quality Certification to construct a coal export terminal in Longview, Washington. Then on January 28, 2013, Millennium sent a letter to the U.S. Army Corps of Engineers (Corps) and Ecology in which Millennium withdrew the request for the Section 401 Certification. Millennium stated that it would submit a new request when the Environmental Impact Statement (EIS) process concluded. In addition, on February 6, 2013, Millennium submitted an Ecology Water Quality Certification Processing Request form stating that it wished to withdraw its request and would resubmit near the end of the EIS process.

On July 18, 2016, Millennium submitted a new JARPA and request for Section 401 Water Quality Certification. A notice regarding this request was distributed as part of a Corps joint public notice on September 30, 2016. On June 22, 2017, Ecology received a withdrawal/reapply form from Millennium, which triggered another public notice that was issued on June 27, 2017.

Millennium proposes to construct and operate a coal export terminal (Project) in and adjacent to the Columbia River (at approximately river mile 63) that would transfer up to a nominal 44 million metric tons per year (MMTPY) of coal from trains to ocean-going vessels. The completed coal export terminal would cover approximately 190 acres of the approximately 540-acre property. The Project would consist of two docks, ship loading systems, stockpiles and equipment, rail car unloading facilities, an operating rail track, rail storage tracks to park up to eight trains, associated facilities, conveyors, and necessary dredging. The Project would be constructed in two stages over several years.

- Stage 1 of the Project would consist of facilities to unload coal from trains, stockpile the coal on site, and load coal into ocean-going vessels at one of the two new docks. During Stage 1, Millennium would construct two docks (Dock 2 and 3), one ship loader and related conveyors on Dock 2, berthing facilities on Dock 3, a stockpile area including two stockpile pads, railcar unloading facilities, one operating rail track, up to eight rail storage tracks for train parking, Project site

ground improvements, and associated facilities and infrastructure. Once Stage 1 is completed, the Project would be capable of a throughput capacity of a nominal 25 MMTPY.

- During Stage 2, MBTL would construct an additional ship loader on Dock 3, two additional stockpile pads, conveyors, and equipment necessary to increase throughput by approximately 19 MMTPY, to a total nominal throughput of 44 MMTPY.

The main elements of Stage 1 development would include:

- Rail bed.
- Rail loop with arrival and departure tracks to include one operating track (turn around track) and eight rail storage tracks.
- One tandem rotary unloader (capable of unloading two rail cars) for operations, and one tandem rapid discharge unloader to be used during startup and maintenance.
- Two coal stockpile pads, Pads A and B.
- Two rail-mounted luffing/slewing stackers and associated facilities for Pads A and B.
- Two rail-mounted bucket-wheel reclaimers and associated facilities for Pads A and B.
- Two shipping docks (Dock 2 and Dock 3), with one ship loader and associated facilities on Dock 2.
- Conveyors, transfer stations, and surge bin from the stockpile pads to the ship loading facilities.
- In-bound and out-bound coal sampling stations.
- Support structures, electrical transformers, switchgear and equipment buildings, and process control systems.
- Upland facilities, including roadways, service buildings, water management facilities, utility infrastructure, and other ancillary facilities.

The main elements of Stage 2 development would include:

- Associated conveyors and transfer stations to the stockpile Pads C and D from the rail receiving station.
- Two additional coal stockpile pads, Pads C and D.
- Two additional rail-mounted luffing/slewing stackers and associated facilities.
- Two additional rail-mounted bucket-wheel reclaimers and associated facilities.
- One additional ship loader and associated facilities on Dock 3.
- Conveyors, transfer stations, and surge bins from stockpile Pads C and D to the ship loading facilities.

The Project proposes impacting over 32 acres of wetlands (24 acres of which will be new impacts) and almost 6 acres of ditches. To offset these impacts Millennium has proposed to

construct a wetland mitigation site that encompasses approximately 100 acres. The Project will also have 4.83 acres of new overwater coverage, and includes constructing an off-channel slough mitigation site to address those impacts.

I. AUTHORITIES

In exercising its authority under 33 U.S.C. § 1341, RCW 43.21C.060, and RCW 90.48.260, Ecology has examined this application pursuant to the following:

1. Conformance with applicable water quality-based, technology-based, and toxic or pre-treatment effluent limitations as provided under 33 U.S.C. §§ 1311, 1312, 1313, 1316, and 1317 (FWPCA §§ 301, 302, 303, 306, and 307).

2. Conformance with the state water quality standards contained in Chapter 173-201A WAC and authorized by 33 U.S.C. § 1313 and by Chapter 90.48 RCW, and with other applicable state laws.

3. Conformance with the provision of using all known, available, and reasonable methods to prevent and control pollution of state waters as required by RCW 90.48.010.

4. Conformance with applicable State Environmental Policy Act (SEPA) policies under RCW 43.21C.060 and WAC 173-802-110.

Pursuant to the foregoing authorities and in accordance with 33 U.S.C. § 1341, RCW 90.48.260, RCW 43.21C.060, Chapter 173-200 WAC, Chapter 173-201A WAC, WAC 197-11-660, WAC 173-802-110, and Chapter 173-201A WAC, as more fully explained below, Ecology is denying the Millennium Bulk Terminals-Longview request for Section 401 Water Quality Certification with prejudice.

II. STATE ENVIRONMENTAL POLICY ACT (SEPA)

The Final Environmental Impact Statement (FEIS) issued by Cowlitz County and Ecology on April 28, 2017, identified nine areas of unavoidable and significant adverse impacts that would result from the construction and operations of the Project. As analyzed in the FEIS, the detrimental environmental consequences related to these impacts cannot be reasonably mitigated. Further, the adverse impacts to the built and natural environments conflict with Ecology's SEPA policies found in WAC 173-802-110. These policies state:

> (1)(a) The overriding policy of the department of ecology is to avoid or mitigate adverse environmental impacts which may result from the department's decisions.
>
> (b) The department of ecology shall use all practicable means, consistent with other essential considerations of state policy, to improve and coordinate plans, functions, programs, and resources to the end that the state and its citizens may:

(i) Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

(ii) Assure for all people of Washington safe, healthful, productive, and aesthetically and culturally pleasing surroundings;

(iii) Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

(iv) Preserve important historic, cultural, and natural aspects of our national heritage;

(v) Maintain, wherever possible, an environment which supports diversity and variety of individual choice;

(vi) Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and

(vii) Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

(c) The department 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.

(d) The department shall ensure that presently unquantified environmental amenities and values will be given appropriate consideration in decision making along with economic and technical considerations.

A. Significant Unavoidable Adverse Impacts

1. Air Quality. The FEIS found a significant increase in cancer risk for areas along rail lines and around the Project site in Cowlitz County where diesel emissions primarily from trains would increase. The study found that residents in some areas in Cowlitz County, including those living in portions of the Highlands neighborhood, would experience an increase in cancer risk rate up to 30 cancers per million. These levels of increased risk exceed the approvability criteria in WAC 173-460-090 for new sources that emit toxic air pollutants. Although WAC 173-460 only applies to stationary sources, the health risks from mobile sources in this case, primarily locomotives, would be considered significant using the same approvability criteria. Thus, the FEIS concluded the emission of diesel particulate primarily from train locomotives would be a significant unavoidable adverse impact. As the FEIS explained, this impact could be mitigated, but not eliminated, by use of cleaner burning Tier 4 locomotives. However, use of such locomotives is outside the control of Millennium and may not

occur for decades because use of older locomotives is currently allowed under federal law. Other mitigation measures identified in the FEIS related to air quality, such as use of best management practices and compliance with permits, would not reduce diesel emissions from Project related locomotives.

The increased cancer risk associated with the Project is a significant adverse unmitigated impact that is inconsistent with the following substantive SEPA policies in WAC 173-82-110:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
- Assure for all people of Washington safe, healthful, productive, and aesthetically and culturally pleasing surroundings.
- Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences.

2. Vehicle Transportation. The FEIS found that there would be significant unavoidable adverse impacts to vehicle traffic from the proposed action when the Project reaches full operation in 2028 due to vehicle delays caused by increased train traffic that would block rail crossings in Cowlitz County. With current track infrastructure on the Reynolds Lead and BNSF Railway (BNSF) spur, Project-related trains in 2028 would increase the total gate downtime by over 130 minutes during an average day at the six crossings listed below. Project-related trains would cause these crossings to operate at Level of Service E or F[1] if one Project-related train traveled during peak traffic hours through the following crossings:

- Project area access opposite 38th Avenue
- Weyerhaeuser access opposite Washington Way
- Industrial Way
- Oregon Way
- California Way
- 3rd Avenue

[1] "Level of Service" is a report card rating based on the delay experienced by vehicles at an intersection or railroad crossing. Level of Service A, B, and C indicate conditions where traffic moves without substantial delays. Level of Service D and E represent progressively worse operating conditions. Level of Service F represents conditions where average vehicle delay has become excessive and demand has exceeded capacity.

Millennium and BNSF may make track improvements to the Reynolds Lead and BNSF spur that would allow trains to travel faster through these intersections and thereby reduce gate downtimes. However, even with these planned track improvements to the Reynolds Lead and BNSF Spur, the Project at full build out in 2028 would still adversely impact and add delays at four crossings, and cause the following crossings to operate at Level of Service E or F if two proposed Project-related trains traveled through them during peak traffic hours:

- Project area access opposite 38th Ave
- Weyerhaeuser access opposite Washington Way
- 3rd Avenue
- Dike Road

On the BNSF main line in Cowlitz County, the increased Project-related trains at full build out in 2028 could adversely impact vehicle transportation at two crossings during peak traffic hours. The following crossings would operate Level of Service E if two Project-related trains travel during the peak hours:

- Mill Street
- South River Road

Delay of emergency vehicles at rail crossing would also increase because of additional Project-related trains.

As described in the FEIS, Millennium has agreed or may be required to implement several mitigation measures to address these impacts. These measures include funding crossing gates at the intersection of Industrial Way, holding safety review meetings, and notifying agencies about increases in operations on the Reynolds Lead. However, these measures will not reduce or eliminate the vehicle delays identified in the FEIS. Vehicle delays could be reduced by further improvements to rail and road infrastructure, however, it is currently unknown when or if such improvements would occur. Therefore, when the Millennium Project is at full operation in 2028, unavoidable and significant adverse impacts would occur on vehicle transportation at certain crossings in Cowlitz County including delays of emergency vehicles. This impact is inconsistent with the following substantive SEPA policies:

- Assure for all people of Washington safe, healthful, productive, and aesthetically and culturally pleasing surroundings.
- Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences.
- Maintain, wherever possible, an environment which supports diversity and variety of individual choice.

- Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities.

3. **Noise and Vibration.** The FEIS found that there would be significant unavoidable adverse impacts to residences near four public at-grade crossings along the Reynolds Lead and BNSF spur from train-related noise. Train-related noise levels would increase from train operations and locomotive horn sounding intended for public safety.

Residences near the at-grade crossings at 3rd Avenue, California Way, Oregon Way, and Industrial Way would experience increased daily noise levels that would exceed applicable noise criteria per Federal Transportation Administration/Federal Rail Administration guidance.

Approximately 229 residences would be exposed to moderate noise impacts, and approximately 60 residences would be exposed to severe noise impacts. Although these impacts would be reduced near the Industrial Way and Oregon Way crossings if a grade-separated intersection is constructed there as currently proposed, the proposal has not yet received permits and its completion date is unknown.

As described in the FEIS, Millennium has agreed or may be required to implement several mitigation measures to address these train-related noise impacts. These measures include funding two "quiet crossings" at Oregon Way and Industrial Way grade crossings by installing crossing gates, barricades, and additional electronics. This proposed "quiet crossing" is not the same as a Quiet Zone, which requires the approval of the Federal Railroad Administration. The reduction of noise pollution from the proposed "quiet crossing" is unknown because Millennium trains may still be required to sound their horns at the intersections. Other measures include requiring Millennium to work with the City of Longview, Cowlitz County, Longview Switching Company, the affected community, and other applicable parties to apply for and implement a Quiet Zone that would include the 3rd Avenue and California Avenue crossings. However, as a Quiet Zone requires the approval of the Federal Railroad Administration, it is beyond the control of Millennium and it is unknown if it will ever be implemented. Consequently, Quiet Zones are not considered an applicable mitigation measure.

The FEIS states that, if the Quiet Zone is not implemented, Millennium would fund a sound-reduction study to identify ways to mitigate the moderate and severe impacts from train noise. However, it is unknown who would fund, implement, and maintain recommendations to mitigate moderate and severe noise impacts identified in the sound noise reduction study. The study itself does not mitigate the impacts. The Project's significant adverse impacts from noise are inconsistent with the following substantive SEPA policies:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.

- Assure for all people of Washington safe, healthful, productive, and aesthetically and culturally pleasing surroundings.
- Maintain, wherever possible, an environment which supports diversity and variety of individual choice.
- Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences.

4. **Social and Community Resources.** The FEIS found that social and community resources would be significantly and adversely impacted by increased noise, vehicle delays, and air pollution. Impacts from the construction and operation of the Project would impact minority and low-income populations by causing disproportionately high and adverse effects. Impacts from noise, vehicle delay, and diesel particulate matter inhalation risk would affect the Highlands neighborhood, a minority and low-income neighborhood adjacent to the Reynolds Lead in Longview, Washington.

a. Adverse Health Impact from Increased Cancer Risk Rate: Project-related trains and other operations would increase diesel particulate pollution along the Reynolds Lead, BNSF Spur, and BNSF mainline in Cowlitz County at levels that would result in increased cancer risk rates. The modeled cancer risk rate in the FEIS found a majority of the Highlands neighborhood would experience an increased cancer risk rate, varying from 3% to 10%. Use of Tier 4 locomotives, which produce less diesel pollution, by BNSF would reduce but not eliminate diesel particulate matter emissions and the associated potential cancer risk in the Highlands neighborhood. However, requiring Tier 4 locomotives is outside the control of Millennium and may not occur for decades. Therefore, the Project's disproportionately high adverse effects related to increased cancer risk rates from diesel particulate matter inhalation on minority and low-income populations would be unavoidable.

b. Adverse Noise Impact: The Project would add 16 trains per day on the Reynolds Lead and increase average daily noise levels, which would exceed applicable criteria for noise impacts and cause moderate to severe impact to 289 residences in the Highlands neighborhood. Approval, funding, and construction of Quiet Zones for four highway and rail intersections would reduce noise levels. However, there is no sponsor(s) identified to apply for, fund, and maintain Quiet Zones that would reduce noise levels at the four rail crossings. Quiet Zones are outside the control of Millennium and require approval from the Federal Railroad Administration. Therefore, Project-related trains would cause significant adverse unavoidable impacts to portions of the Highlands neighborhood and cause a disproportionately high adverse effect on minority and low-income populations.

c. Adverse Vehicle Traffic Impact: Project-related trains would increase vehicle delays at highway and rail intersections within the Highlands

neighborhood. With the current track infrastructure on the Reynolds Lead, a Millennium-related train traveling during the peak traffic hours would result in a vehicle-delay impact at four public at-grade crossings in or near the Highlands neighborhood by 2028. This would constitute a disproportionately high adverse effect on minority and low-income populations. If planned improvements to the Reynolds Lead are made, the adverse impacts related to vehicle delay could be reduced but not eliminated. However, rail improvements have not received permits and their completion is unknown. Therefore, Millennium's disproportionately high adverse effects to vehicle traffic on minority and low-income populations would be unavoidable.

5. **Rail Transportation.** The FEIS found that the Project would cause significant adverse effects on rail transportation that cannot be mitigated. At full build out of the Project, 16 trains a day (8 loaded and 8 empty) would be added to existing rail traffic. Three segments on the BNSF main line routes in Washington (Idaho/Washington State Line–Spokane, Spokane–Pasco, and Pasco–Vancouver) are projected to exceed capacity with the current projected baseline rail traffic in 2028. Adding the 16 additional Millennium-related trains would contribute to these three segments exceeding capacity by 2028, based on the analysis in the FEIS and assuming existing infrastructure. As described in the FEIS, Millennium would mitigate some of the impacts by notifying BNSF and Union Pacific (UP) about upcoming increases in operations at the Millennium site. This proposed mitigation measure is informational and does not commit BNSF or UP to take action to increase capacity.

BNSF and UP could make necessary investments or operating changes to accommodate the rail traffic growth, but it is unknown when these actions would be taken or permitted. Improving rail infrastructure is outside the control of Millennium and cannot be guaranteed. Under current conditions Millennium-related trains would contribute to these capacity exceedances at three rail segments on the main line and could result in an unavoidable and significant adverse impact on rail transportation, including delays and congestion.

This impact is inconsistent with the following substantive SEPA policies:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
- Assure for all people of Washington safe, healthful, productive, and aesthetically and culturally pleasing surroundings.
- Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences.

6. **Rail Safety.** The FEIS found that Millennium-related trains would increase the train accident rate by 22 percent along the rail routes in Cowlitz County and Washington. As described in the FEIS, Millennium would notify BNSF and UP about upcoming increases in operations at the Millennium site. However, this notification measure does not commit BNSF or UP to take action or make changes that would reduce accident rates.

To reduce some of the impacts to rail safety, the Longview Switching Yard, BNSF, and UP could improve rail safety through investments or operational changes, but it is unknown when or whether those actions would be taken or permitted. Improving rail infrastructure to increase rail safety is outside the control of Millennium and cannot be guaranteed. Therefore, the 22 percent increase to the rail accident rate over baseline conditions attributable to Millennium would result in unavoidable and significant adverse impacts on rail safety.

This impact is inconsistent with the following substantive SEPA policies:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
- Assure for all people of Washington safe, healthful, productive, and aesthetically and culturally pleasing surroundings.
- Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences.

7. **Vessel Transportation.** The FEIS found that the Project would have significant adverse effects on vessel transportation that cannot be mitigated. Millennium would add 1,680 ship transits to the current 4,440 ship transits on the Columbia River per year, for a total of 6,120 at full build out. Thus, the Project would be responsible for over one quarter of the traffic in the Columbia River.

Based on marine accident transportation modeling, the FEIS found the increased vessel traffic would increase the frequency of incidents such as collisions, groundings, and fires by approximately 2.8 incidents per year. While the chance that an incident would result in serious damage or spill is low, if a spill were to happen, the impacts to the environment and people would be significant and unavoidable.

An increase in vessels calling at the proposed new docks increases the risk of vessel-related emergencies, such as fire or vessel allision. An increase in vessels calling at the new docks also increases risk of spills from refueling ships at berth, although Millennium has stated there would be no refueling at the new docks. The FEIS proposes a mitigation measure that if refueling at the docks were to start, the company would notify Cowlitz County and Ecology. Another mitigation measure in the FEIS involves Millennium's attending at least one Lower Columbia Harbor Safety Committee meeting per year.

Although these proposed mitigation measures would support communication and awareness, they would not reduce environmental harm or the impact of an incident.

If a Millennium-related vessel incident such as a collision or allision were to occur, impacts could be adverse and significant, depending on the nature and location of the incident, the weather conditions at the time, and whether any oil were discharged. Although the likelihood of a serious Millennium-related vessel incident is low, the consequences would be severe and there are no mitigation measures that can completely eliminate the possibility of an incident or the resulting impacts. *See* WAC 197-11-794(2) (an impact may be significant if its chance of occurrence is not great but the resulting environmental impact would be severe if it occurred).

This adverse impact is inconsistent with the following Ecology SEPA policies:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
- Assure for all people of Washington safe, healthful, productive, and aesthetically and culturally pleasing surroundings.
- Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences.

8. Cultural Resources. The FEIS found that construction of the coal export terminal would demolish the Reynolds Metals Reduction Plant Historic District, which would be an unavoidable and significant adverse environmental impact. Construction of the Project would demolish 30 of the 39 identified resources that contribute to the historical significance of the Historic District. The anticipated adverse impacts on these resources would diminish the integrity of design, setting, materials, workmanship, feeling, and association that make the Historic District eligible for listing in the National Register of Historic Places.

A Memorandum of Agreement is currently being negotiated among the Corps, Cowlitz County, the Washington Department of Archaeologic and Historic Preservation, the City of Longview, the Bonneville Power Administration, the National Park Service, potentially affected Native American tribes, and Millennium in a separate federal process. The Memorandum may resolve this impact in compliance with Section 106 of the National Historic Preservation Act of 1966. However, there is no indication when or if this Memorandum will be signed by all parties. Without the Memorandum, the impacts to the Reynolds Metal Reduction Plant Historic District are considered adverse, significant, and unavoidable.

Demolition of historic properties without mitigation is inconsistent with the following Ecology SEPA policies:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
- Preserve important historic, cultural, and natural aspects of our national heritage.

9. **Tribal Resources.** The FEIS found that construction and operation of the Millennium coal export terminal could result in unavoidable indirect impacts on tribal resources. Tribal resources refer to tribal fishing and gathering practices and treaty rights. These resources may include plants or fish used for commercial, subsistence, and ceremonial purposes.

Construction activities such as building new docks, river bottom dredging, and pile driving would cause physical and behavioral responses in fish that could result in injury, and would affect aquatic habitat. Fish stranding associated with wakes from the additional 1,680 vessel trips per year would also cause injury. Eulachon would potentially be impacted by the initial and maintenance sediment dredging.

Fugitive coal dust particles generated by the Millennium operations and additional trains would enter the aquatic environment through movement of coal into and around the Project area and during rail transport. Fugitive coal dust and potential spills would increase suspended solids in the Columbia River.

These impacts could reduce the number of fish surviving to adulthood and returning to Zone 6 of the Columbia River, and could affect the number of fish available for harvest by Native American Tribes.

The increase in 16 additional Millennium-related trains per day travelling through areas adjacent to and within the usual and accustomed fishing areas of Native American Tribes would restrict access to 20 tribal fishing sites set aside by the U.S. Congress above Bonneville Dam in the Columbia River. There are additional access sites that are not mapped that would also be impacted.

To reduce impacts to tribal resources from construction, Millennium could be required to minimize underwater noise during pile driving, conduct advance underwater surveys for eulachon prior to in-water work, and conduct fish monitoring prior and during dredging.

These mitigation steps are inadequate because although noise impacts from construction would be reduced, they would not be eliminated, and fish behavior could be altered and affect the number of fish available for harvest by Native American Tribes.

Improving rail infrastructure for access to tribal fishing sites along the Columbia River above Bonneville Dam is outside the control of Millennium. The additional Project-related trains travelling through areas adjacent to and within the usual and accustomed fishing areas of Native American Tribes could restrict access to tribal fishing areas in the

Columbia River. Because other factors besides rail operations affect fishing opportunities, such as number of fishers, fish distribution, and the timing and duration of fish migration periods, the extent to which Project-related rail operations would affect tribal fishing is difficult to quantify. However, SEPA policies state that "presently unquantified environmental amenities and values will be given appropriate consideration in decision making along with economic and technical considerations." Consistent with this policy, Ecology concludes that Millennium at full operations would result in unavoidable significant adverse impacts to tribal resources.

Impacts to tribal resources are inconsistent with the following Ecology SEPA policies:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
- Preserve important historic, cultural, and natural aspects of our national heritage.
- The department shall ensure that presently unquantified environmental amenities and values will be given appropriate consideration in decision making along with economic and technical considerations.

III. SECTION 401 WATER QUALITY CERTIFICATION

Pursuant to Section 401 of the Clean Water Act, in order for Ecology to issue a water quality certification it must have reasonable assurance that the Project as proposed will meet applicable water quality standards and other appropriate requirements of state law. Consequently, an applicant must submit adequate information regarding a project for agency review before Ecology can determine compliance with the state water quality standards and other applicable regulations. Millennium's current application and supplemental documents fails to demonstrate reasonable assurance in the following areas:

A. Wetlands Impacts and Mitigation

The Project would impact (fill) 32.31 acres of wetlands, 8.1 acres of which occurred prior to Millennium's tenancy of the site, and 0.11 of which would be impacted at the mitigation site. The impacts include 28.32 acres of Category III wetlands and 3.99 acres of Category IV wetlands. For the reasons stated below, Millennium failed to demonstrate that the impacts and mitigation associated with the wetlands within the Project area will comply with Washington State water quality standards. Thus, Millennium failed to demonstrate reasonable assurance that the Project will meet water quality standards.

1. **Mitigation Plan.** The draft wetland mitigation plan is inadequate and does not demonstrate that the proposed mitigation will offset the Project's wetland impacts. Millennium submitted a conceptual mitigation plan to Ecology on June 8, 2017 (*Millennium Coal Export Terminal, Longview, Washington Coal Export Terminal including Docks 2 and 3 and Associated Trestle Conceptual Mitigation Plan—Wetlands and Aquatic Habitat*, dated May 25, 2017). In response to Ecology's questions,

Millennium submitted additional information on September 20, 2017. However, the submitted information continues to be deficient because it lacks an adequate credit/debit analysis, a boundary verification, and adequate hydrologic information regarding the mitigation site.

2. **Wetland Boundaries at the Impact Site.** Millennium has not demonstrated that the boundaries of the wetlands to be impacted have been verified by the Corps. There is no jurisdictional determination (JD) from the Corps stating whether the wetlands are waters of the United States or whether the Corps agrees with the boundaries as shown in the delineation report (Millennium Coal Export Terminal, Longview, Washington, Coal Export Terminal Wetland and Stormwater Ditch Delineation Report – Parcel 619530400, dated September 1, 2014). Millennium's application therefore does not adequately quantify the extent of the wetland impacts and does not adequately demonstrate that the proposed mitigation will offset those impacts.

3. **Credit-Debit Analysis.** This analysis is needed to determine whether proposed mitigation would adequately offset the Project's wetland impacts. It is especially important for a project of this scale, and where the impacted wetlands were rated using what is now an outdated version of the wetland rating system. The credit-debit analysis Millennium submitted to Ecology on September 20, 2017, did not include scoring forms for any of the wetlands to be impacted. Without these forms, Ecology cannot evaluate the credit-debit analysis. Millennium has not provided a complete analysis to Ecology, thereby failing to demonstrate that the proposed mitigation would be adequate.

4. **Hydrologic and Soil Investigations.** The conceptual mitigation plan states that: "The nature of this surface water will be further investigated as part of planned hydrologic investigations to support final Site design." The plan further states that "hydrologic data are being collected." The plan also states that: "Additional, site-specific soil investigations are planned at the Mitigation Site to inform final mitigation design." Millennium has not provided the results of these hydrologic and soil analyses to Ecology. In its September 20, 2017, responses to Ecology's questions about the proposed mitigation site, Millennium stated that it is still in the process of collecting hydrologic and soil data and that it will submit a technical report once compilation of the data has been completed. Because Millennium has not submitted detailed information supported by data about the hydrologic and soil conditions at the proposed mitigation site, Millennium has not demonstrated that the site is suitable and can provide adequate mitigation.

B. Stormwater and Wastewater

Sufficiently detailed information and analyses necessary to understand, evaluate, and condition wastewater and stormwater discharges are needed to assure compliance with Washington State water quality. Without complete information such as that noted below, Ecology does not have reasonable assurance that the Project will meet water quality standards.

1. **Wastewater Characterization.** Wastewater characterization information is necessary for Ecology to evaluate the impact of discharges from the Project on the receiving water (surface water, ground water, and sediments) and to determine the need for effluent limits, monitoring requirements, and other special conditions to ensure that the Project will meet state water quality standards. This information is typically required in an application for a National Pollutant Discharge Elimination System (NPDES) permit (WAC 173-220-040 and 40 C.F.R. § 122.21).

In response to Ecology's requests, Millennium submitted additional information on September 20, 2017. However, the submittals still do not provide detailed information to adequately characterize process wastewater and stormwater that will be generated at the site, including:

- Sources of wastewater (points of generation).
- Estimated wastewater volumes.
- Estimated pollutant concentrations.

2. **All Known, Available and Reasonable Methods of Prevention, Control and Treatment (AKART) and Engineering Reports.** AKART is required by three state statutes dealing with water pollution and water resources (Chapter 90.48 RCW, Chapter 90.52 RCW, and Chapter 90.54 RCW) and the state NPDES regulations that implement these laws (WAC 173-220). These laws and regulations state that in order to ensure the purity of all waters of the state and regardless of the quality of the waters of the state, discharges must be treated with all known, available, and reasonable methods of prevention, control, and treatment.

Chapter 173-240 WAC requires submittal of engineering reports and plans for new and modified industrial wastewater conveyance, discharge, and treatment facilities. Industrial wastewater includes contaminated stormwater. Ecology uses the information in the engineering report to determine whether AKART is being met and to ensure that effluent from the Project will meet applicable effluent limitations to protect aquatic life.

Millennium's submittals, including the submittal of September 20, 2017, did not provide sufficient information to determine whether AKART will be met for both process wastewater and stormwater generated from the Project. The following is a list of information deficiencies:

- The current AKART analysis does not address the wastewater generated during construction and operation of the Project (i.e., the current AKART analysis addresses only existing Millennium operations).
- Specific best management practices (BMPs) for stormwater management on site, at and near rail lines, and for rail car unloading were not provided.
- Engineering reports were not submitted for the following:

- Stormwater collection and treatment facilities (including dock and trestle).
- The new wastewater treatment system.
- Any proposed modifications to the existing wastewater treatment system.
- Changes to hydraulic loading through the existing wastewater treatment system and through the conveyance and outfall structures.

3. **Mixing Zone.** Ecology may authorize a mixing zone to meet water quality criteria once it has been determined that AKART has been met (WAC 173-201A-400). Water quality criteria must be met at the edge of a mixing zone boundary. Ecology uses the dilution factors determined for each mixing zone in analyzing the potential for violation of water quality standards and to derive effluent limitations as necessary.

Millennium's submittals did not provide updated mixing zone information, which Ecology would need in order to determine potential to violate water quality standards. Missing information includes a new mixing zone analysis to evaluate changes in dilution factors due to changes in the final effluent at Outfall 002A and updated receiving water information.

4. **Construction.** Contaminated stormwater and ground water will be generated during construction of the Project. Ecology needs sufficient information to evaluate the impact of construction activities and the discharges from these activities on waters of the state. This is information that is necessary for reasonable assurance and to demonstrate AKART as discussed above.

Millennium's submittals provided very little information concerning the unique construction of the Project. Missing information includes the following:

- How compaction of soils will potentially impact groundwater and surface water.
- Specific construction BMPs.
- Construction stormwater and groundwater characterization information, including estimated volumes and pollutant concentrations.
- Whether construction wastewater will be adequately treated.

5. **Antidegradation.** The Clean Water Act requires that state water quality standards protect existing uses by establishing the maximum levels of pollutants allowed in state waters. The antidegradation process helps prevent unnecessary lowering of water quality. Washington State's antidegradation policy follows the federal regulation guidance and has three tiers of protection. Tier II (WAC 173-201A-320) is used to ensure that waters of a higher quality than water quality criteria are not degraded unless such lowering of water quality is necessary and in the overriding public interest. A Tier

II analysis must be conducted for new or expanded actions when the resulting action has the potential to cause a measurable change in the physical, chemical, or biological quality of a water body.

Millennium's submittals did not include a detailed Tier II analysis for process wastewater and stormwater to determine whether the Project has the potential to cause measurable degradation at the edge of the chronic mixing zone.

Ecology notified Millennium during various meetings, conference calls, and site visits during 2017 (June 8, June 19, June 28, August 16, August 29, and September 8, 2017) that detailed information regarding the stormwater and process wastewater would need to be submitted to Ecology in order to provide reasonable assurance that the discharges from the Project would meet state water quality standards.

C. Water Rights

The Millennium proposal includes operational descriptions for ongoing reuse of stormwater for industrial dust control. If stormwater is collected and reused for a beneficial use, a water right permit would be required in accordance with Chapter 90.03 RCW.

The Millennium property formerly supported the Reynolds aluminum smelter. During the operations as an aluminum smelter, Reynolds had three water right claims and six water right certificates with a combined total annual quantity (Qa) of 31,367 acre-feet per year at a withdrawal rate of 23,150 gallons per minute (Qi). The Reynolds smelter closed in 2000.

These claims and certificates are now owned by Northwest Alloys, who purchased the property from Reynolds in the early 2000s. No information has been provided to Ecology that documents continued beneficial use of water since about the early 2000s.

In December 2016, Ecology met with Millennium and requested records and other relevant information to document what the current and recent water uses have been on the Millennium property. To date, Millennium has not provided this information. If these water rights have been partially or fully relinquished, Millennium would need to apply for and obtain the necessary water rights to legally put water to beneficial use at the Project site for its proposed operations.

As of September 26, 2017, no information has been provided by Millennium to Ecology in order to quantify the extent and validity (or continued beneficial use) of the existing water rights that are appurtenant to the property, and no water right application(s) have been received by Ecology requesting any new use of water or change in beneficial use(s) of water.

Without a water right, Ecology does not have reasonable assurance that Millennium will be able to legally carry out its proposal.

D. Toxics Cleanup

The proposed location for the Project is the former Reynolds Metals aluminum smelter site. This is a Model Toxics Control Act cleanup site. The principal contaminants are fluoride, polycyclic aromatic hydrocarbons (PAHs), cyanide, and total petroleum hydrocarbons (TPHs). Millennium and Northwest Alloys (a subsidiary of Alcoa) are potentially liable persons (PLPs) for the site. Alcoa owns the property. Millennium leases the property from Alcoa. The PLPs have been working to define the extent of the contamination at the site and evaluate the potential cleanup alternatives. Public notice of a draft cleanup action plan outlining the proposed cleanup was issued in March 2016. Ecology has been working with the PLPs to provide additional sampling along the Columbia River to address comments received on the draft cleanup action plan. To date, the cleanup action plan and consent decree have not been finalized.

Portions of the Project's infrastructure are located on contaminated soil and a historic landfill at the site. The majority of the site contains contaminated ground water. Proposed construction and operation of the Project would likely alter the migration of contaminated ground water at the site. The ballast that will be used during construction could force ground water to the surface with potential for discharge to the Columbia River.

Millennium's submittals do not provide sufficient information to evaluate the impact of the potential discharge of contaminated stormwater and ground water during the construction and operation of the Project. As a result, Millennium failed to demonstrate reasonable assurance that the Project will meet water quality standards.

YOUR RIGHT TO APPEAL

You have a right to appeal this Denial Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Denial Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do all of the following within 30 days of the date of receipt of this Order:

- File your appeal and a copy of this Denial Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Denial Order on Ecology in paper form—by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

ADDRESS AND LOCATION INFORMATION

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503 **Pollution Control Hearings Board** 1111 Israel RD SW, Suite 301 Tumwater, WA 98501	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608 **Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

Maia D Bellon, Director
Department of Ecology

9/26/17
Date

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

October 23, 2017

Kristin Gaines
Millennium Bulk Terminals – Longview
4029 Industrial Way
Longview, WA 98632

RE: Point of Contact for Communication between Millennium Bulk Terminals-Longview and Washington State Department of Ecology

Dear Ms. Gaines:

This letter responds to recent requests the Department of Ecology (Ecology) has received regarding technical assistance for additional permit applications for the Millennium Bulk Terminal–Longview (Millennium) proposed coal export terminal. One request came from Millennium's consultant at American Multinational Engineering Firm related to an air quality permit application, and the other request was from the Millennium team related to a National Pollutant Discharge Elimination System permit application.

As you know, on September 26, 2017, Ecology denied the Section 401 Water Quality Certification requested by Millennium. The denial of this permit was based on the Clean Water Act and the State Environmental Policy Act.

In considering future permit requests from Millennium for the proposed coal export terminal, Ecology would be required to follow all relevant underlying laws. Specifically, the State Environmental Policy Act would require consideration of the findings of the April 28, 2017, Final Environmental Impact Statement (EIS) prepared by Cowlitz County and Ecology. The EIS identified the following nine unavoidable, un-mitigatable and adverse impacts related to the Millennium proposal:

- Increases of train-related noise to residences near four public at-grade crossings along the Reynolds Lead and BNSF Railway spur.
- Vehicle delays caused by increased train traffic that would block rail crossings in Cowlitz County.
- An increase in cancer risk for areas along rail lines near the project site and in Cowlitz County from increased diesel emissions primarily from trains.

The Honorable Paul Ryan
The Honorable Mitch McConnell
The Honorable Nancy Pelosi
The Honorable Charles Schumer
August 9, 2018
Page 3

Karen White
Executive Director
Conference of Western Attorneys General

David Adkins
Executive Director / CEO
Council of State Governments

Edgar Ruiz
Executive Director
Council of State Governments – West

Tommie Cline Martin
President
Western Interstate Region of NACo

Dr. Laura Nelson
Chair
Western Interstate Energy Board

Tony Willardson
Executive Director
Western States Water Council

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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August 15, 2018

The Honorable John Barrasso
Chairman, Senate Environment & Public Works Committee
307 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Tom Carper
Ranking Member, Senate Environment & Public Works Committee
513 Hart Senate Office Building
Washington, DC 20510

Dear Chairman Barrasso and Ranking Member Carper:

The Washington State Department of Ecology has been falsely accused of denying a water quality permit to the Millennium project based on our agency's so-called philosophical opposition to the coal export terminal. This is frankly nonsense.

The facts of this denial are simple: Millennium failed to meet existing water quality standards and further failed to provide any mitigation plan for the areas the project would devastate—especially along the Columbia River. To approve this permit under the circumstances would not only have been irresponsible, it would have posed a serious health risk to impacted communities and the surrounding environment.

As you know, the Clean Water Act charges states with the authority and responsibility to protect water quality within their borders by issuing permits and licenses. In this case, as in all previous cases, the Department of Ecology acted within its legal responsibility and did its duty to apply the regulations and follow legal precedent in an evenhanded manner.

In the company's filings in its many legal challenges to the Department of Ecology's decision, Millennium has acknowledged the basis of the permit denial: At many stages, the applicant failed to provide reasonable assurance that the project would not cause irreparable harm to water quality. The company acknowledges these shortcomings, but claims for itself the right to ignore them. They simply resist playing by the same rules required of everyone else.

All you have to do is look at a list of the impacts from this project to understand its potential to damage Washington's water quality:

- Destroying 24 acres of wetlands and 26 acres of forested habitat.
- Dredging 41 acres of river bed.
- Driving 537 pilings into the river bed for over 2,000 feet of new docks, resulting in the loss of five acres of aquatic habitat.
- Increasing vessel traffic on the Columbia River by 25 percent – an additional 1,680 ship trips a year.

The sheer scale of the proposal poses obvious environmental challenges, regardless of the material being handled:

- 1.5 million tons of material stockpiled on site – picture an 85-foot-high pile of coal running the length of the National Mall, from the steps of the Capitol to the foot of the Lincoln Memorial.
- Contaminated stormwater running off those piles (in addition to the coal dust and spillage tied to moving material from rail to ship).
- Sixteen train trips a day, each over a mile long and pulled by four diesel locomotives.

In short, there are multiple, insolvable problems with the proposal. The company understood these problems when the Department of Ecology completed the environmental impact statement in partnership with Cowlitz County. Although the company did not challenge the findings of the environmental study, its leaders appear to believe that if they can only yell loudly enough, these environmental impacts will somehow disappear.

Though the Department of Ecology has been accused of being biased for its denial of this permit, it is not the first entity to reject a coal terminal in the Northwest. Two others have been proposed and rejected in recent years: One by the U.S. Army Corps of Engineers and one by the State of Oregon. Each of those proposed projects raised similar issues to this one.

We are confident in the work we have done to protect Washington waters from irreparable harm. The Columbia River is the beating heart of Washington State. It is our nation's fourth-largest river and home to endangered salmon. The health of this river is vital to our state's agricultural and manufacturing economies, central to our energy production, relied on by Washington's treaty tribes, and an irreplaceable link in the environment that Washingtonians treasure.

The Columbia River deserves the full protection of the law, and the Department of Ecology honored both the letter and the intent of the law in making our decision. The idea that the federal government can run roughshod over the decisions of those who know, live in, and love Washington is deeply troubling.

For more than a year, my agency has been falsely charged with every manner of malfeasance by the proponents of this project. Officials in states that would bristle at the hint of federal

Senator BARRASSO. Can you talk a bit about how the export of American energy can actually improve, not reduce, environmental protection?

Mr. STEWART. In general, when you talk about how it will improve the economy, look at Native America. We are the most regulated ethnic body on the face of God's green earth. We live in our areas for all perpetuity and we are going to continue to live there. We are not going to allow pollution to be something that will ruin our land, water and air.

When we are developing our resources, we make sure that our resources are developed in a responsible manner. I would rather have a better regulated product here in the United States than have to import unregulated product coming from someplace else.

With all due respect, Mr. Chairman, when you are closing the door on our ability to send out our product, what doors are the NGO's and States leaving open?

Senator BARRASSO. Thank you, Mr. Stewart.

I would like to welcome Mr. Anthony Willardson who has joined us. We are delighted to have you. He is Executive Director of the Western States Water Council. If it is appropriate, at this time, I would like to hear your testimony.

STATEMENT OF ANTHONY WILLARDSON, EXECUTIVE DIRECTOR, WESTERN STATES WATER COUNCIL

Mr. WILLARDSON. Thank you, Senator. I apologize for being tardy. I had a misunderstanding of the beginning of the hearing.

We want to thank you, Mr. Chairman, Senator Carper and also the other members of the committee for this opportunity to testify on the importance of the Clean Water Act Section 401 Certification Authority to the States.

We also appreciate your leadership on issues of water and public works as well as balancing environmental and economic interests, as well as balancing two Federal policies and programs and the role of our States in our Federalist system.

Federal agencies need to work together with the States. I would like to mention that we have a Western Federal Agencies Support Team with 12 agencies that work with the council on water policy issues. Our current, new Federal liaison will be John D'Antonio with the Army Corps of Engineers.

I would also like to mention that Congress has, in the past, recognized and deferred to the primary authority of the States to allocate their water resources as well as to appropriate, develop, conserve and protect those resources, both surface and in-groundwater, as well as water quality instream flows and protect aquatic species.

Section 8 of the Reclamation Act, Section 10 of the Federal Power Act, Section 101(g) and Section 101(b) as well as Section 401 all speak to State authorities.

The council supports the appropriate streamlining of permitting and processes, as well as the coordination of environmental and regulatory reviews to eliminate duplication where we can and reduce costs as well as reducing the cost of compliance, construction and ensure timely permitting processes.

The West enjoys a diverse and abundant stock of natural, renewable and non-renewable energy resources but water is often scarce.

The Council has specifically supported Federal legislative and administrative actions to authorize and implement reasonable hydropower projects. That is the area where we have the most experience with Section 401 consistent with State law and regulatory authorities.

The Federal Power Act, Section 27, declares that "Nothing herein contained shall be construed as affecting or intending to affect or in any way interfere with the laws of the respective States related to the control, appropriation, use or distribution of water." In California v. FERC, the State claimed authority to supplement minimum stream flows required by FERC. As I am sure you are aware, 49 States signed an amicus brief before the Supreme Court. We lost 9 to 0 in that case.

It was only 5 years later that in a case in the State of Washington over 401 that the Supreme Court restored authority to the States to mandate minimum bypass flows. That has been particularly important to the States since then.

At the time, the Supreme Court mentioned that Congress could change what they had done. We have supported legislation to assure that all applicants for hydropower licenses comply with States' substantive and procedural law, and that this was the original intent of Congress.

As Congress again considered legislation, the Supreme Court made changes to the way Section 401 has been applied. Again, in 2006, the Court recognized that 401 certification authority applied to more than just discharges under the Clean Water Act.

As I am sure you know, Section 101(g) was sponsored by Senator Malcolm Wallop of Wyoming who was a champion of regulatory efficiency and State water rights. In 2004, the council conducted a survey looking at the processes our States use for issuing 401 certifications and what, if anything, may amount to delays. The consensus of those States was that certification alone is not an obstacle to timely Federal permitting and, in most cases the majority of requests were processed within 40 to 90 days.

The delays were typically due to the submission of an incomplete application, not responding to the State's request for more information, incomplete study requirements or failing to comment on proposed project conditions. Substantive changes can happen.

We appreciate the opportunity to be here to testify on this issue and look forward to working with you, Senator, as Chair, and other members of the committee. Improvements can be made. We are willing to work with you on that.

I would suggest one first step is to consult with the States early and often. I think some of those entities have already expressed their opinion here as far as the Coalition of Western Governors, attorney generals, legislators and other State and wetland agencies.

Thank you.

[The prepared statement of Mr. Willardson follows:]

Testimony of the Western States Water Council

Submitted to the
Senate Committee on Environment and Public Works

Regarding State Authorities and
S. 3303 – Water Quality Certification Improvement Act

August 16, 2018

I. INTRODUCTION

My name is Tony Willardson, and I am the Executive Director of the Western States Water Council (WSWC). The Council is a government entity, instrumentality of each and every participating member state. A bi-partisan organization created pursuant to a Western Governors' resolution in 1965, we represent eighteen states. Our members are appointed by and serve at the pleasure of their respective Governors, advising them on water policy issues. Our mission is to ensure that the West has an adequate, secure and sustainable supply of water of suitable quality to meet its diverse economic and environmental needs now and in the future.[1]

Chairman Barrasso, Senator Carper and members of the Committee, we appreciate your leadership on issues related to water, public works, the environment and the economy, and particularly your efforts to achieve a balance between federal policies and programs and the role of the states in our federalist system. The Council represents a diverse set of States but find common ground in declaring that Western states have primary authority and responsibility for the appropriation, allocation, development, conservation and protection of water resources, both groundwater and surface water, including protection of water quality, instream flows and aquatic species.

The Congress has historically deferred to state water law as embodied in Section 8 of the Reclamation Act, Section 10 of the Federal Power Act, Section 101(g) and 101(b) of the Clean Water Act, and myriad other statutes. Any weakening of the deference to state water laws is inconsistent with over a century of cooperative federalism and a threat to water rights and water rights administration in all western states.[2] The Council has addressed many issues under the jurisdiction of this Committee.

The Council has called for leadership at all levels of government, in partnership with the public sector, to address the Nation's infrastructure and water needs as a public policy priority – and to work together with each other and with States to streamline permitting processes and coordinate environmental and other regulatory reviews to eliminate duplicative procedures, reduce costs of compliance and construction, and ensure timely completion, maintenance, or relicensing of authorized infrastructure projects so vital to the West and the Nation.[3]

This month, meeting in Newport, Oregon, the Council adopted two resolutions. One recognizing Congress stated policy in the Endangered Species Act Section 2(c)(2) that "Federal agencies shall cooperate with State and local agencies to resolve water resource issues in concert

with conservation of endangered species," and calling upon "federal agencies to engage is a substantive discussion of past, present and future efforts to work in concert with State agencies to implement Congress' intent…."[4]

The second reiterates our position that the transport of water through constructed conveyances to supply beneficial uses – without subjecting the water to intervening industrial, municipal, or commercial use – should not trigger federal NPDES permit requirements, simply because the transported water contains different chemical concentrations and physical constituents, and calls for the use of available State authorities to protect the water quality of the receiving water body in a water transfer. The Council supports EPA's current rule expressly excluding water transfers from regulation under the NPDES permitting program and supports the codification of 40 CFR 122.3(i) into statute.[5]

Lastly, the Council been working with its member states to revise and refine recommendations for redefining waters of the United States under the Clean Water Act and clarifying federal and state jurisdiction, recognizing that all waters are protected by the States, regardless of the extent of federal jurisdiction or limits thereof.

II. THE WATER/ENERGY NEXUS IN THE WEST

The Council has called for integrating water and energy resources planning and policy.[6] The West enjoys diverse and abundant energy resources, including renewable and non-renewable resources, but water is scarce in much of the region and may or may not be sufficient for all proposed uses. Maintaining adequate and sustainable supplies of clean water and energy present interrelated challenges given a growing population, increasing water and energy demands, and an uncertain climate subject to multi-year drought and other extremes. An integrated approach to water and energy resource planning, development, diversification, management and protection is necessary to achieve a thriving and sustainable future for the West.

The Council has specifically supported federal legislative and administrative actions to authorize and implement reasonable hydropower projects and programs that enhance our electric generation capacity and promote economic development, through streamlined permitting processes, while appropriately protecting environmental resources – also declaring that past, present and future hydropower development and operational changes should recognize and ensure consistency with state law and regulatory authority, including delegated authority under federal law.[7]

The Federal Power Act

Of note, Section 10 of the Federal Power Act (FPA) of 1920 directed the Federal Energy Regulatory Commission (FERC) to coordinate the development of hydroelectric projects as part of a comprehensive plan for improving our waterways. Section 10(a)(1) required that any plan "…shall be such as in the judgment of the Commission will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of waterpower development, for the

adequate protection, mitigation, and enhancement of fish and wildlife (including related spawning grounds and habitat), and for other beneficial public uses, including irrigation, flood control, water supply, and recreational and other purposes...and if necessary in order to secure such plan the Commission shall have authority to require the modification of any project and of the plans and specifications of the project works before approval."

Section10(a)(2) requires that the Commission shall consider the "...extent to which the project is consistent with a comprehensive plan (where one exists) for improving, developing, or conserving a waterway or waterways affected by the project that is prepared..." pursuant to federal law or the state in which the project is located. Moreover, FERC is to consider: "The recommendations of Federal and State agencies exercising administration over flood control, navigation, irrigation, recreation, cultural and other relevant resources of the State in which the project is located, and the recommendations (including fish and wildlife recommendations) of Indian tribes affected by the project."

Further, Section 27 states: "That nothing herein contained shall be construed as affecting or intending to affect or in any way to interfere with the laws of the respective States relating to the control, appropriation, use, or distribution of water used in irrigation or for municipal or other uses, or any vested right acquired therein.[8]

Balancing federal and state authority related to hydropower development has been a difficult and sometime contentious undertaking.

In 1983, FERC issued a license authorizing the operation of a hydroelectric project along Rock Creek in California, setting an interim minimum flow rate of water that must remain in the bypassed section of the stream rather than drive the generators. The State Water Resources Control Board (SWRCB) issued a state permit conforming to those federal requirements but reserving the right to set different permanent requirements. When SWRCB considered a draft with considerably stricter requirements, the licensee petitioned FERC for a declaration that FERC possessed exclusive jurisdiction to determine the project's minimum flow rates. FERC agreed, concluding that setting flow rates was "integral to its planning and licensing process" under the Federal Power Act, and that "giving effect to competing state requirements would interfere with its balancing of competing considerations in licensing and would vest in States a veto power over federal projects inconsistent with the FPA," as interpreted by the Supreme Court in *First Iowa*.[9] California sued.

California v. FERC reached the 9th Circuit Court of Appeals which found that "...one reading would construe the [Section 27] to limit state authority to the area of property rights involving water for irrigation, municipal use, and related activities. Under this reading, any aspect of operating a hydropower project not implicating these rights would fall under exclusive federal regulation. A second reading would construe the section much more broadly as an anti-preemption clause that gives the states final authority over all issues connected to the control and use of water...." California argued for the latter interpretation, but the 9th Circuit disagreed, and held that "...Congress intended to vest regulatory authority in FERC over most aspects of hydropower projects. Only control over certain limited proprietary rights remains in state hands."[10]

California appealed the decision to the Supreme Court, which granted certiorari.[11] The issue on appeal was "Whether the Federal Power Act preempts state regulatory water right laws otherwise applicable to hydropower projects licensed by FERC, or instead, whether Section 27 of the Act – which subjects such projects to state laws relating to control, appropriation, use, or distribution of water – precludes such preemption?" Forty-nine states supported California in an amicus brief. The Supreme Court unanimously affirmed the 9th Circuit's decision.[12]

The Supreme Court determined that the narrow reading of Section 27 of the Federal Power Act in *First Iowa* was not dicta but was necessary to the Court's holding and interpretation of the law. The Court declined to revisit *First Iowa* and disturb 44 years of precedent governing state and regulatory authority over hydroelectric projects, particularly where there had been no intervening change of law. "The California requirements for minimum streamflows cannot be given effect and allowed to supplement the federal flow requirements." The Court did, however, note that "...Congress remains free to alter what we have done."

The states unanimously viewed this ruling as an erosion of state authority over water resources. Shortly after the decision, the Idaho congressional delegation introduced legislation (S. 2805 and H.R. 5194) in the 101st Congress to restore states' primary authority for regulating water use related to hydropower projects. The WSWC subsequently supported federal legislation to "...assure that applicants for hydropower licenses comply with state substantive and procedural water law, thus restoring to the Act Congress' intent that state law govern water use associated with a hydropower project."

III. THE CLEAN WATER ACT

Within the year, the states were looking at amendments to the Clean Water Act to strengthen states' abilities to mandate minimum streamflows and protect designated uses through Section 401 certification.[13] Opposing interests sought to further limit state authority while streamlining the federal hydropower licensing process, proposing a bill.[14] to prohibit states from including any conditions for Section 401 certifications not directly related to water quality. The WSWC adopted a position supporting a balanced national energy policy that recognizes legitimate state water management and planning authority to balance competing water uses.

Ironically, as the Congress considered legislation, the Supreme Court in another case upheld States' authority delegated under Section 401 of the Clean Water Actress to impose bypass flows to protect water quality and fish and wildlife – the same requirements States had argued they had power to impose under state law in *California v. FERC*.

In 1994, the U.S. Supreme Court issued a 7-2 decision declaring that minimum streamflow requirements are a permissible condition of Clean Water Act Section 401 certifications. A Washington city and local utility district sought a license to build a hydroelectric project on the Dosewallips River. The proposed project would reduce the water flow below the state's minimum stream flow requirement to protect fish habitat, a state-designated use of the water under Section 303 of the Clean Water Act. The Washington

Department of Ecology issued a Section 401 certification imposing a minimum stream flow requirement as a condition of the hydropower license, and the applicants objected to the state's authority to impose water flow requirements. In *P.U.D. No. 1 of Jefferson County v. Washington Department of Ecology*, 511 U.S. 700 (1994), the Court upheld a state's authority to impose conditions under the Section 401 certification process where necessary to protect a designated use for fish habitat.[15]

The Court rejected the argument that water quality requirements were limited to discharges under the Clean Water Act, noting that Washington's instream flow requirement was necessary to enforce the designated use of the river. The Court said that the Clean Water Act preserves each state's authority to allocate water quantity between users and does not limit Section 401 to water quality concerns when protecting designated uses. Importantly, the Court also rejected an effort to read "implied limitations" into Section 401 based on a perceived conflict between Section 401 state certifications and FERC authority under the Federal Power Act and the *First Iowa* interpretation.

Again in 2006, the Supreme Court recognized that State 401 certification authority is "...essential in the scheme to preserve state authority to address the broad range of pollution."[16]

Clean Water Act Section 101(b) recognizes the states' critical role in protecting water quality and declares: "It is the policy of Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution...." Similarly, Section 101(g) further provides that the primary and exclusive authority of each state to "allocate quantities of water within its jurisdiction shall not be superseded, abrogated, or otherwise impaired by this Act...."

The latter, known as the Wallop amendment, was sponsored by Senator Malcolm Wallop of Wyoming, a respected rancher, conservative, and critic of regulatory red-tape.

Senator Barrasso we look forward to continuing to work with you and other Committee members to balance environmental protection and economic development needs, as well as the respective roles of state and federal agencies in the development, conservation and protection of our water resources – including protection of water quality, instream flows, aquatic species, and States' rights to allocate water and water rights.

Attached to my testimony is a letter summarizing a 2014 survey that addresses questions related to state administration of 401 certification authority that are sometimes raised by critics of the process. Section 401 State certification alone is not usually an obstacle in itself to timely federal licensing and permitting, provided that applications are complete and ancillary federal activities are complete or nearly complete. The majority of requests are processed within 40-90 days, some within a couple of weeks. The vast majority of states have no backlog of certification actions, but a few do. Delays are typically due to submission of an incomplete application, completion of necessary study requirements, and constraints on state resources, including staff limitations and turnover. Certifications may also be held up by the applicant not responding to States' requests for additional information or failing to comment on proposed project conditions. Often substantive details of the proposed action change requiring further review.

IV. CONCLUSION

In conclusion, the Western States Water Council reiterates its position that states have primary jurisdiction over water quantity and quality issues and should retain primary jurisdiction under the Clean Water Act for the integration of water quantity and water quality considerations through the water quality certification process set forth under Section 401.

The Council recently signed a joint letter together with western governors, legislators, attorneys general and various interstate associations of state water and wetland agencies recognizing the "importance of partnerships between states and the federal government," and that a "balanced system of cooperative federalism has enabled states to implement the CWA effectively and with flexibility.... A vital component of the CWA's system of cooperative federalism is state authority to certify and condition federal permits of discharges into waters of the United States under Section 401."

Again, as States, we look forward to working with the Committee to balance the sometimes competing interests surrounding our water and energy policy goals.

END NOTES

[1] http://www.westernstateswater.org/wp-content/uploads/2014/01/Revised-Rules-of-Organization_ 2015 July 10. pdf. The purpose of the Western States Water Council shall be to accomplish effective cooperation among western states in matters relating to the planning, conservation, development, management, and protection of their water resources, in order to ensure that the West has an adequate, sustainable supply of water of suitable quality to meet its diverse economic and environmental needs now and in the future.
[2] WSWC Position #406 – Regarding Preemption of State Law in Federal Legislation; http://www.westernstateswater.org.
[3] WSWC Position #419 – Supporting Water Infrastructure Funding.
[4] 16 U.S.C. 1531; WSWC Position #425 Regarding Endangered Species and State Water Rights.
[5] WSWC Position #424 – Regarding Water Transfers and NPDES Permits.
[6] WSWC Position #420 – Integrating Water and Energy Planning and Policy.
[7] WSWC Position #391 – Supporting Renewable Hydropower Development.
[8] Federal Power Act, 16 U.S.C. 791a et seq.; P.L. 114-94. Section 27 at 16 U.S.C. 821.
[9] FERC relied on a narrow reading of Section 27 of the Federal Power Act suggested by the Supreme Court in *First Iowa Hydro-Electric Cooperative v. Federal Power Commission*, 328 U.S. 152 (1946).
[10] *California v. FERC*, 877 F.2d 743 (9th Cir. 1989).
[11] In 1989, the WSWC passed a resolution supporting California's efforts to overturn the 9th Circuit's decision on appeal..
[12] On May 21, 1990.
[13] S. 3186 introduced in the 101st Congress on October 11, 1990; S. 106 and H.R. 649 introduced in the 102nd Congress on January 14 and 24, 1991.
[14] The National Energy Security Act (S. 341) introduced in the 102nd Congress on February 5, 1991.
[15] The *P.U.D. No. 1* decision effectively restored to the states authority under federal law to accomplish what the *California v. FERC* decision said they could not do under state law.
[16] *S.D. Warren Co. v. Maine Board of Environmental Protection*, 547 U.S. 370 (2006), citing 116 Cong. Rec. 8984 (1970).

WESTERN STATES WATER COUNCIL

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August 14, 2018

The Honorable Lisa Murkowski, Chairwoman
Energy and Natural Resources Committee
United States Senate
304 Dirksen Senate Building
Washington, DC 20510

The Honorable Maria Cantwell, Ranking Member
Energy and Natural Resources Committee
United States Senate
304 Dirksen Senate Building
Washington, DC 20510

The Honorable John Barrasso, Chairman
Environment and Public Works Committee
United States Senate
410 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Tom Carper, Ranking Member
Environment and Public Works Committee
United States Senate
456 Dirksen Senate Office Building
Washington, DC 20510

Dear Chairs and Ranking Members:

The Western States Water Council, a government entity advising western governors on water policy issues, supports collaboration and leadership at all government levels – federal, state, tribal, and local – and the private sector – to address the Nation's infrastructure needs and establish water infrastructure improvements as a public policy priority. The Council has supported federal investments in water-related infrastructure projects and programs, and called on the Congress and the Administration to continue to work together and with States to streamline permitting processes and coordinate environmental and other regulatory reviews to eliminate duplicative procedures, reduce costs of compliance and construction, and ensure timely completion, maintenance, or relicensing of authorized infrastructure projects so vital to the West and the Nation. Clean Water Act Section 401 State Water Quality Certification alone is not usually an obstacle in itself to timely federal licensing and permitting.

It should be noted that the Council has been a continuous advocate for the rights of States to conserve and protect their water resources, a primary responsibility often cited in state constitutions. States and federal agencies strive to work in concert as co-regulators to achieve water quality goals. The Clean Water Act (CWA) clearly recognizes the important role of the States. Section 101(b) declares: "It is the policy of Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution;" and Section 101(g) adds that the authority of the States to "allocate quantities of water within its jurisdiction shall not be superseded, abrogated, or otherwise impaired by this Act...."

Section 401 requires: "Any applicant for a Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the State in which the discharge originates or will originate...that any such discharge will comply with the applicable provisions..." of various CWA sections. This state water quality certification authority is a vital component of our federalist system for

protecting water resources, and any conditions deemed necessary by the States to ensure compliance are a mandatory addition to any federal license or permit.

In 2014, in response to criticism of States' actions under Section 401, including claims of unnecessary project delays, primarily as related to development of hydropower, the Council surveyed its membership to get a regional perspective on the certification process. Fifteen of our eighteen-member states responded and a summary is attached. The following are some of the highlights:

- *Provided that applicatians are complete and ancillary federal activities are complete or nearly complete (e.g. public notice, study requirements, a complete EIS, mitigation requirements, etc.), 401 certification is not usually an obstacle to timely federol licensing and permitting.*
- *401 certifications related to CWA Section 404 permitting dominate the number of requests. Many times certification requests are filed before the Corps has completed their assessment. Also, it is not uncommon for 404 permitting applications to be elevoted to Corps/EPA Headquarters for considerotion.*
- *States and the U.S. Army Corps of Engineers collaborate to expedite the process, but projects requiring an individual 404 permit can be time consuming.*
- *CWA 401 certifications ore also used to inform state 402 NPDES permits issued by stotes.*
- *Hydropower permitting-related requests vary with hardly ony in Plains Stotes, few in the Rocky Mountain States, while West Coast States face more permitting and 401 certification requests.*
- *The complexity and long duratian of the FERC licensing and relicensing process is o mojor contributing factar in those States with related 401 certification requests pending. FERC's Integrated Licensing Process (ILP) tokes a minimum of five years to camplete.*
- *All States oct on 401 certificotion requests within the one-year period ollowed by the CWA. The majority of requests, on overage, ore processed within 40-90 days, same in a couple of weeks.*
- *States report certification applications filed with missing signotures, illegible mops, ond/or locking required documents such os a CWA Section 404 opplication.*
- *Certifications may also be held up by the applicant not responding to Stotes' requests for additional informotion or failing to comment on proposed project conditions. Often substontive detoils of the proposed action change, requiring further review.*
- *States generally hove a process ond rules outlining a formal timetable or gool for action, but where there is not, every effort is made to issue the certification or a waiver in a timely monner.*
- *The vast mojority of states have no backlog of certification octions, but o few do. Delays ore typically due to submission of on incomplete application, completion of study requirements, and constroints on state resources, including staff limitations and turnover.*
- *Stotes have undertaken various process improvements, including coordinoting state and federal environmentol reviews, some through formol memoranda of understanding.*
- *Many Stotes provide informotion in advonce to assist appliconts in navigating the 401 certification process, including online resources.*
- *Most states do not onticipate o significant increase in 401 certificotion requests. Some do. Some states have octually seen significant declines in requests. Agoin, most requests oppear to be related to 404 permitting, which in turn increases with general economic conditions and related construction starts, oil ond gas development, etc.*

The 401 certification process is an important tool for States to fulfill their responsibilities to conserve and protect their water resources, and States are responsibly acting to execute their delegated authority in a timely manner. Ensuring federally permitted projects comply with state water quality standards is a proven process. Resources should be focused on reforming, streamlining, and expediting time consuming and costly federal requirements – such as the 404 permitting process. The Administration's efforts in consultation with the States to refine the definition of and jurisdiction over Waters of the United States holds greater promise of simplifying and expediting infrastructure project approvals.

We look forward to working with the Administration and the Congress to appropriately remove obstacles to timely action on infrastructure projects.

Sincerely,

Tony Willardson

Tony Willardson, Executive Director
Western States Water Council

Attachment

WESTERN STATES WATER COUNCIL
Summary of State Responses
Clean Water Act Section 401 Water Quality Certification Activities
April 2014

The Council surveyed its 18 member states. Responses have not yet been received from Nebraska, North Dakota and Washington.

Hydropower permitting-related requests vary widely by state as might be expected, with little or no hydropower development and related 401 certification requirements in most Plains States. Even in the Rocky Mountains there appear to be relatively few active requests. West Coast States have more certification and permitting actions.

It appears that 401 certifications related to CWA Section 404 permitting dominate the number of certification requests. Coordination and collaboration between the States and Corps often expedite the process, but projects requiring an individual 404 permit can be time consuming.

CWA 401 certifications are also used to inform state 402 NPDES permits issued by states, and would be required in those states without primacy to issue 401 permits, which would include Idaho and New Mexico.

1. In your opinion is State 401 certification authority a significant obstacle to timely federal licensing and permitting activities? Specifically hydropower licensing? Other permits (such as CWA Section 404 permits)?

States unanimously reported that the CWA 401 State Water Quality Certification is not usually an obstacle in itself to timely federal licensing and permitting, provided that all applications are complete and ancillary federal activities are complete or nearly complete (e.g. public notice, study requirements, a complete EIS, mitigation requirements, etc.).

States report certification applications filed with missing signatures, illegible maps, and/or required documents such as a CWA Section 404 application. Often substantive details of the proposed action requirement certification can also change. Many times certification requests are filed before the Corps has completed their assessment. Certifications may also be held up by the applicant not responding to requests for additional information, or failing to comment on proposed project conditions.

EPA and other federal agency comments, conditions and other actions can delay certification. It is not uncommon for example for 404 permitting applications to be elevated to Corps/EPA Headquarters for consideration.

The complexity and long duration of the FERC licensing and relicensing process is a major contributing factor in those States with related 401 certification requests pending. FERC's Integrated Licensing Process (ILP) takes a minimum of five years to complete.

Some States have separate environmental review requirements, such the California Environmental Quality Act (CEQA) process required for non-governmental entities (which can be time consuming). The federal NEPA process is the starting point for CEQA. Further, the California State Water Resources Control Board, consistent with maintaining a transparent and public process, provides a public comment opportunity on draft certification decision before issuance. As project licenses typically range from 3050 years, this is considered to be important, though this is not a required step.

Oregon has a separate state hydropower licensing process, in parallel to the federal process.

2. How long does it usually take for your State to act on a certification application? It there a specific goal or timeline for action?

This varies by state, but all are within the one year period allowed by law. The majority, on average, fall between 40-90 days, while some may process certification requests within a couple of weeks. Action on a request can depend on a number of factors, such as a 30-day public comment period requirement. Other reasons for delay are listed below under Question #3.

States generally do have a process and specific rules outlining a formal timetable or goal for action, but where there is not, every effort is made to issue the certification or a waiver in a timely manner.

Alaska has a goal of processing 401 certification requests within 10 days after the close of the public notice and comment period.

Similarly, the Texas Commission on Environmental Quality (TCEQ) reviews 401 certification requests in parallel with federal licensing and 404 permitting activities, and based on an memorandum of agreement (MOA) with the Corps Southwestern Division, TCEQ make a decision within 10 days of the Corps having reached a permitting decision (certification is required before a permit is issued).

3. Does the State currently have a backlog of certification applications? If so, what is the size of the backlog? What types of licenses or permits are most likely to be delayed? What are the primary reasons for delays (incomplete applications, study requirements, state staff or other resource limitations, etc.)?

The vast majority of states have no backlog of certification actions, but a few do. Delays are typically due to submission of an incomplete application, completion of study requirements, and constraints on state resources, including staff limitations. Often, 401 certification is a part-time duty for staff, assigned as needed. State turnover is another problem, and often entry level staff is assigned 401 certification responsibilities. Given the length of the FERC permitting process staff may change over time.

California reported the most delayed FERC projects and certification requests (only 2-3 staff are devoted to requests). California is working on certification for sixteen FERC licensed projects where their license has expired. Most should be completed within two years. Post-licensing monitoring of certification and

permitting conditions, which may involve continuing studies given the uncertainty regarding future conditions, also place an increasing burden on staff time.

Oregon does have two large hydropower projects which haven't been certified within one year of the original application, one due to ongoing federal activities, and ongoing mitigation studies have delayed the other.

At least one state will no longer accept 401 certification applications as complete until required federal actions have already been approved or completed.

4. What actions has the state taken to simplify or expedite the certification process (such as interagency MOUs, online applications, etc.)? Please provide references and copies.

States have undertaken various process improvements, including coordinating state and federal environmental reviews, some through formal memoranda of understanding.

The Alaska Department of Environmental Conservation has developed a waiver process applied to individual 404 permits issued by the U.S. Army Corps of Engineers. Criteria are based on the potential risk of a particular activity that may affect water quality, such as the size of the wetlands fill, the type of activity, the proximity to a waterbody and the particular wetlands functions and values.

On November 19, 2013, The California State Water Resources Control Board (SWRCB) executed a memorandum of understanding (MOU) with FERC that covers coordination of pre-application activities that include "consultation, environmental scoping, study planning, and submittal of and commenting on the applicant's preliminary licensing proposal." A copy of the MOU is available online at:

http://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/ferc_mou/index.shtml

Also, with the support of the California Hydropower Reform Coalition and FERC licensees, SWRCB is ramping up staffing resources and increasing fees. Three 401 certification requests were completed within an eight month period. Each project request is also assigned a back-up staff person to assure continuity. There are templates for standard letters and more common certification conditions, and SWRCB is developing a program manual and training staff on up-to-date techniques.

For large, complex projects the Colorado Department of Public Health and Environment works with applicants prior to formal filing of a certification request to streamline the review process and minimize requests for additional information. In 2010, Colorado executed an MOU with FERC, and also hired a contractor to identify a number of small projects that were reviewed and certified, but the contract was not renewed and FERC has not informed the State of new conduit or other small scale hydropower project licensing applications, though some potential projects have come to light through public information and conversations with Corps staff.

Idaho has used settlement agreements to develop FERC 401 certifications.

New Mexico has expedited the certification process through the use of general permits and established procedures. The "New Mexico Implementation Plan" governs the process for issuing NPDES permits.

Oklahoma meets regularly with the Corps to coordinate procedures for public notice and processing of permit and certification applications.

Oregon Department of Environmental Quality staff work with applicants on study design and data review early on to ensure a 401 request is complete. Oregon also has a statute outlining state review of hydropower relicensing in coordination with federal relicensing to avoid duplication through a Hydroelectric Application Review Team (HART) with staff from DEQ, the Department of Water Resources, and the Department of Fish and Wildlife. Other state agencies may participate as well.

HART may provide applicants with an estimate of costs for relicensing work, including certification, and one applicant entered into an agreement to pay the state agencies' costs. HART addresses relicensing, but state agencies coordinate as needed for any new project to reduce inefficiencies. Also, DEQ invoices all 401 certification applicants for costs incurred in processing, providing the revenue necessary for timely action, including reassigning staff work.

A Texas/Corps MOA implements a tiered classification system for projects that require an individual CWA 404 permit, which require certification reviews for proposed projects that directly impact aquatic resources of greater than three acres or 1500 linear feet of stream (Tier II projects). For Tier I projects (below that threshold), TCEQ waives certification if the permit applicant agrees to incorporate specific best management practices.

In Wyoming, electronic delivery of certification requests directly from the USACE (Corps) Wyoming Regulatory Office to the Department of Environmental Quality facilitates timely review and processing. WY DEQ encourages project proponents to contact the agency prior to submitting their 404 application to the Corps. Lastly, Wyoming has categorically certified several nationwide permits, further expediting the process.

5. What public information regarding 401 certification is available from the State (include state websites and addresses)?

Many states provide information in advance to assist applicants in navigating the 401 certification process, including online resources. This may include current program activity, staffing, current projectspecific webpages, 401 certifications issued, etc. FERC also posts 401 certification information on its website. Further, Corps Districts may post information on 404 permit applications.

AK: http://dec.alaska.gov/water/wwdp/wetlands/index.htm

AZ: http://www.azdeq.gov/environ/water/permits/cwa401.html

CA: http://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/

CO: http://www.colorado.gov/cs/Satellite/CDPHE-WQ/CBON/1251596872987

ID: http://www.deq.idaho.gov/water-quality/surface-water/standards/401-certification.aspx

This is Idaho's 401 certification website. The 401 certification list of projects is on these webpages:

NPDES: http://www.deq.idaho.gov/water-quality/surface-water/standards/401-certification/401certifications-npdes-permits.aspx

404 Permits: http://www.deq.idaho.gov/water-quality/surface-water/standards/401-certification/401certifications-dredge-fill.aspx

MT: All FERC related 401 water quality certifications are posted on the FERC website. Montana shares the public notice with the Army Corps of Engineers for individual 404 related 401 water quality certifications.

NV: http://ndep.nv.gov/bwqp/401cert.htm

NM: Section 404 program can be found at **http://www.nmenv.state.nm.us/swqb/404/** . The web site for the NPDES program can be found at **http://www.nmenv.state.nm.us/swqb/Permits/**.

OK: http://www.deq.state.ok.us/wqdnew/401_404/index.htm.

Public notices for the Section 404 permits are located on the U.S. Army Corps of Engineers, Tulsa District website: http://www.swt.usace.army.mil/Missions/Regulatory/PublicNotices.aspx

OR: http://www.deq.state.or.us/wq/sec401cert/hydro.htm

SD: http://denr.sd.gov/des/sw/401.aspx

TX: The TCEQ maintains several public web pages containing information about the TCEQ 401 certification program. Each page can be accessed from the following URL:

http://www.tceq.texas.gov/permitting/401certification UT:

http://www.waterquality.utah.gov/permits/index.htm

WA:

WY: The USACE Wyoming Regulatory Office website provides a link to the Wyoming Department of Environmental Quality website that contains information on specific State 401 certification.

6. Do you anticipate an increase in the number of 401 certification requests in the future, and what might be the impact on State administrative resources?

Most states do not anticipate a significant increase in 401 certification requests. Some do. Some states have actually seen significant declines in requests. Again, most requests appear to be related to 404 permitting, which in turn increase with general economic conditions and related construction starts, oil and gas development, etc.

[Expansion of CWA jurisdiction as may be proposed by new rules could have an undetermined impact on the number of requests related to any increase in Section 404 permitting requirements.]

California expects an increase in requests due to FERC relicensing, license amendments, and new projects. Further, as described post-licensing monitoring of conditions, as well as non-hydropower certification requests will significantly impact the State's administrative resources. FERC currently lists 115 non-federal hydropower projects in California, not including transmission line projects, with varying expiration dates. Since 2000, 22 FERC project licenses have expired, and another 26 will expire through 2029, necessitating either relicensing or surrender of the license. Decommissioning can also have water quality impacts. SWRCB is already involved in a number of relicensing pre-application activities. The Division of Water Rights Water Quality Certification Program also certifies non-hydropower projects that involve water rights.

Colorado does not anticipate a significant increase in the number of requests, but does anticipate 4-5 very large and complex project certification requests from water diversion and storage projects over the next 3-4 years.

Idaho does expect an increase in requests, as well as additional review requirements related to antidegradation reviews and analyses associate with federal permits, placing greater demands on static staff.

New Mexico noted drought limits the viability of hydropower projects.

Oregon has certified several projects through the federal relicensing process over the past several years. Currently there are only a few projects under relicensing review. Oregon anticipates ongoing interest in retrofitting both irrigation and drinking water systems with hydro turbines, but many will be exempt from licensing and no 401 certification will be required. Many preliminary permit applications have not proceeded to licensing, making certification requirements difficult to estimate.

U.S. Senate Committee on Environment and Public Works
Hearing titled, *"Hearing to Examine Implementation of Clean Water Act Section 401 and S. 3303, the Water Quality Certification Improvement Act of 2018"*
August 16, 2018
Questions for the Record for Mr. Willardson

Ranking Member Carper:

1. When does the Clean Water Act's requirement that the certification timeline begins upon the "receipt of a request for certification" begin?

   The Clean Water Act (CWA) does not provide guidance with respect to what constitutes the appropriate form or timing for "receipt of a request for certification," and the start of the certification timeline is generally determined by the federal agency issuing the permit or license. Consequently, this varies with the federal agencies' process for the different kinds of permits or licenses issued that are subject to water quality certification. The Section 404 program of the Clean Water Act, the Natural Gas Act and the Federal Energy Regulatory Commission (FERC) hydropower licensing programs are all different. It can also vary within one federal program from one part of the country to another. The Army Corps of Engineers' (Corps) regulations (33 C.F.R. § 325.2(b)(1)(ii)) require that applicants submit a "valid" request for certification before the prescribed timeline for state review commences. FERC now requires only evidence that a request has been submitted.

   Often, but not always, a certification request follows review of a federal permit application such as a 404 permit, which is by far the most common federal action triggering the need for State 401 certification. For a Section 404 permit the timeline may begin once the Corps publishes a Public Notice that a 404 application is complete, with the information needed for reviewing a permit. However, in some cases, the Corps issues a Public Notice with no information and the State may deny certification without prejudice pending receipt of adequate information to evaluate the project.

   In 1987, FERC issued Order No. 464 unilaterally and retroactively waiving Section 401 requirements for 227 hydropower projects in 32 States with requests pending for more than one year. FERC determined that States had not acted on requests within the time period required, whether or not the States considered an application to be complete. States were allowed 30 day to submit suggested project conditions. A number of States protested and requested a rehearing, which was denied. Federal legislation was also proposed to overturn the order, which passed both the House and Senate, but was never reconciled and enacted. Since then, States have usually denied rather than hold incomplete applications.

   In 1989, in City of Fredericksburg v. FERC, 876 F.2d 1109 (4th Cir. 1989), the Fourth Circuit Court vacated a license granted by FERC, for a hydropower project on the Rappahannock River in Virginia, granted by FERC under Order No. 464, after finding the developer, Commonwealth Hydroelectric, Inc. had refused to complete a 43-page

application required by the Virginia Water Control Board to inform a decision as to the project's impact on the river, Fredericksburg's drinking water supply.

*With respect to non-federal hydropower licensing, under the jurisdiction of the Federal Energy Regulatory Commission (FERC), in a 1992 case the Commission addressed the issue of incomplete applications and state waivers in Wyoming Valley Hydro Partners, 58 F.E.R.C. P61,219, 61693-61694, 1992 FERC LEXIS 421, *8-10 (F.E.R.C. February 27, 1992). FERC noted that (under their new determination) the one-year period begins when the certifying agency receives the request for certification. "As a result, it is no longer necessary for the Commission to determine whether the various state filing requirements have been met. As we explained in Order No. 533, the new rule [56 FR 23108] makes the states responsible for determining whether an applicant has complied with their procedural requirements. If an applicant fails to do so, the state agency has the power to deny the request for certification. The denial can be without prejudice to the applicant's refiling of an application that conforms to the state's requirements."*

In some States for some programs, the Section 401 certification review starts when the NEPA review or a States' equivalent environmental review of a project is complete. In others, it's triggered by the receipt of a complete 401 certification application by the state. In others, the review begins as soon as a 401 application is received, even if it is only a request without any information.

As noted, state and federal agencies sometimes have specific criteria that must be met before accepting a permit or certification application as complete.

Obviously, any Section 401 certification application must sufficiently define the scope of a project or action (and anticipated impacts) for a State to be able to adequately evaluate the effects on water quality standards and designated stream uses. A simple request for certification with little or no material information is not enough. Ideally, state agencies would be involved early in the federal review process so as to have access to all pertinent information and not unnecessarily delay a State's certification decision. As it now stands, if States don't have the necessary information, their options are to request the information needed, and if it is not submitted in a timely manner, the State denies the 401certification request.

2. Do states, on occasion, seek additional information from applicants to make certification decisions?

   Yes, States can and do request additional information in order to make sound informed decisions as to expected water quality impacts, and the viability of plans to monitor, avoid, or mitigate those impacts. The extent and timing of the studies, data and information requested largely depend of the size and complexity of a project or action, as well as what information is readily available.

   a. On such occasions, how long does it typically take for states to ensure they have the information they need?

This often differs based on the size and complexity of the project, the responsiveness of the applicant, and the involvement of the State in identifying the information needed prior to the start of the official receipt of a request for certification. With routine certification requests such as those often tied to a CWA 404 permit that the Corps has approved, little or no additional information may be necessary and certification may be waived or expeditiously approved, often within 30-days. The vast majority of State 401 certification requests are acted on within 90-days, well before the one-year mark.

b. In your experience, is 90 days sufficient for states to obtain the additional information they need from an applicant that has provided poor or insufficient information, or in cases involving of large or complex projects?

In the case of large and complex projects it is difficult to speculate as to what would be a reasonable period of time for a State to request and then acquire the information needed. Given the scope and impact of the project, 90-days may not be enough to determine all the information that may be needed, let alone obtain that information. Some of the types of information States require include topography, hydrology, and treatment processes. Other factors are important. The project may involve multiple discharges or other disturbances. Some waters may already be listed as impaired. Discharges may involve unusual contaminants of concern. There may be endangered species to protect. Compliance with state non-point source programs may be considered.

All the information needed may not be readily apparent upfront. This may be the case where the scope and impact of the project changes over time as the federal permitting and licensing process proceeds. Delays often arise when applicants or consultants do no respond to requests for additional information.

Further, States may require public notice and hearings related to certification requests. Issues may be raised or information presented that may result in additional information requests by the state agency.

A 90-day period may be sufficient, if States have been involved in any pre-application/pre-certification permit or license process. Several States and local federal offices have worked together to improve consultation on projects prior to 401 certification requests to better streamline the process. Some meet on a regular schedule to address concerns.

States for a variety of reasons may not be able to determine what information is needed within 90-days, and subsequently cannot make an informed decision on whether the project will meet or violate state water quality standards for designated uses and may deny certification on that basis.

Setting a hard and fast deadline for information requests would likely be arbitrary and possibly counter-productive, forcing States to deny requests.

c. Could limiting states to a 90-day window to obtain additional information from applicants impair a state's ability to make well-informed certification decisions?

Such a limitation could very well restrict a state's access to adequate information to make a reasoned decision related to large and complex projects, which are often subject to continuing changes in scope and anticipated impacts. In some specific cases where information needed to assess impacts to water quality was not provided, a 90-day limit would mean that a decision could not be made or a potentially uniformed decision (one that could lead to failure to meet water quality standards) would be made. In some cases, information needed can only be collected seasonally so the applicant cannot acquire the information until a different time of year. In addition, information collection can be iterative. The acquisition of information can lead to the need for additional information, or necessary changes to the project that would require a new evaluation of the impacts. Sometimes applicants also take a long time to respond or refuse to provide information. Securing access to private lands to gather information can also be an issue delaying reviews.

d. Could limiting states to this 90-day window lead to the denial of projects because the applications are incomplete, but would otherwise been approved but for the imposition of a 90-day deadline?

Yes. Such a limitation could very well force a state to deny a certification request, likely without prejudice, allowing an applicant to reapply once the required information is provided. An applicant may also elect to withdraw and later resubmit an application with the required information. It should be noted that the denial of Section 401 certification can also halt federal permitting procedures and lead to delays. Short inflexible deadlines for large, complex projects that may affect hundreds of streams and wetlands can be problematic for both applicants and States.

e. Should states be permitted to deny a Section 401 certification due to an applicant's failure to submit required information with an application?

Yes. States may only issue a water quality certification under Section 401 if the applicant can demonstrate that the proposed activity will comply with applicable sections of the CWA. Where applicants fail to fulfill this affirmative duty by failing to submit necessary information, States may lawfully deny certification. States must have the information required to assess whether or not there are water quality impacts to waters of the state. Without adequate information, States cannot make this determination and are and should be able to deny certification for this reason.

Recently, in <u>*Constitution Pipeline Co., LLC v. New York State Department of Environmental Conservation*</u>*, 868 F.3d 87 (2nd Cir. 2017), the State's denial of a certification request due to the lack of information on impacts to streams was*

upheld. State decisions to deny certification are often subject to either or both state administrative and state and federal judicial review.

Federal agencies have their own rules and regulations governing what information must be included in a federal application for it to be considered "substantially complete" and ready for review.

i. Would you consider such a denial to be unrelated to "water quality?"

No. Any denial based on the lack of information related to impacts on the quality of state waters (its water quality standards and designated uses) is, on its face, directly related to water quality. If information is not available for States to be able to evaluate whether there are or are not impacts and how they may be addressed by the applicant, then it is appropriate to deny the request to protect water quality.

3. Based on your survey of western states, are most 401 certification requests delayed?

Among our western States, and nationally, few requests are delayed and denials are rare.

a. Roughly how often—or in what percent of cases—are these decisions delayed beyond the year mandated in Section 401?

Certification decisions that extend beyond one year are rare and generally related to large, complex and sometimes speculative projects or actions. The vast majority of actions are taken in a timely manner, though there apparently are no statistics kept related to State actions regionally or nationally.

Responses from several States indicate that they have no projects that have been delayed due to Section 401 certification requests for at least the past five years, if not longer. However, this is not the case for all States, as some receive a high volume of complex applications and are working with the federal agencies to overcome backlog issues and improve streamlining of the overall application process.

It is important to note that several factors involved with the permitting and approval of projects, beyond state water quality certification under Section 401, contribute far more substantially to delays in the development of energy-related infrastructure. Such factors include delays within federal agencies, project financing issues, and logistical delays associated with planning construction.

4. In your estimation, what percentage of all energy-related infrastructure projects are stopped because a state does not grant 401 certification?

a. Is it 50 percent? 10 percent? 1 percent? Less than 1 percent?

I am unaware of any regional or national database with such information for Section 401 certification requests for energy or other projects. The number would likely be less than one percent, as most Section 401 certification requests are tied to CWA Section 404 permits, and there are tens of thousands of Section 404 permit applications annually. President Trump's outline of legislative goals on infrastructure (Feb 12, 2018) indicated that the Corps makes 59,000 jurisdictional determinations on Section 404 permits, annually.

The vast majority are relatively routine and granted in a timely manner. Given the very few Section 401 certification requests that take a year or more to complete, compared to the thousands of such requests, the percentage would be very small. Literally, hundreds of thousands of projects over the years have been approved by States.

However, in those relatively few cases where projects are large and complex, the delay can be significant and may or may not be avoidable. While there have been some recent high-profile projects where water quality certification was denied, those cases have well-documented water quality concerns and impacts identified by the States, some of which could not be mitigated, and in each case the denial has been upheld by reviewing administrative agencies and the courts.

With respect to the scope and timing of States' Section 401 review, there are opportunities to better coordinate state and federal environmental reviews to minimize necessary delays in Section 401 decision-making. Some States and federal agencies have worked toward such coordination with regular meetings to discuss pending project applications and memoranda of understanding to facilitate inter-agency processes.

5. One of the themes in the statements of your fellow witnesses and in some of the letters we have received from groups supporting this legislation is that the bill would not diminish water quality protection in any way.

    a. Do you agree with that assessment?

    The proposed legislation, as written, would substantially change States' ability to condition permits to satisfy state laws addressing water management and protection. Specifically, the bill would strike critical language in Section 401(d) which allows certification conditions imposed by States to ensure that the proposed activity complies with "any other appropriate requirement of State law." Because water management and allocation are under the primary jurisdiction of States and, therefore, controlled largely by state law, S.3303 would substantially interfere with (and likely preclude) States' ability to mandate streamflow requirements and other conditions not related to a "discharge" through the Section 401 certification process.

In 2008, in Oregon Natural Desert Association v. Forest Service, 550 F.3d 778 (9th Cir. 2008), the court notably determined "discharges" do not include non-point source pollution. The changes in S. 3303 would likely lead to more litigation questioning the definition of a "discharge" and the scope of States' authority. This includes authority to consider non-point source pollution, including stormwater runoff, the effectiveness of best management practices, proposed prevention or mitigation plans, minimum streamflow requirements, impacts on endangered species, streambed and bank alterations, and other water quality related considerations that are not "discharges" as defined under Clean Water Act Section 402 (as an addition of a pollutant from a point source). Similarly, conditions required to protect already impaired waters, address cumulative and downstream impacts, or proposed activities intended to improve water quality might be excluded.

S. 3303 Section 2(1)(D)(i) limits State authority to "any discharge into the navigable waters" [of the United States] by the applicant and strikes the broader language asserting States authority to consider "applicable effluent limitations or other limitations or other applicable water quality requirements."

Many state regulations for Section 401 certifications also tie in relevant state water quality statutes and state environmental statutes related to wetlands, fish and aquatic life protections. Consideration of State water allocation and water rights laws might also be precluded.

"State certifications under [Section] 401 are essential in the scheme to preserve state authority to address the broad range of pollution." S.D. Warren Co. v. Maine Board of Environmental Protection, 547 U.S. 370 (2006).

"[A]n overly narrow reading of section 401 would deprive the States of the ability to maintain the very beneficial uses that the Clean Water Act was designed to protect. Federal agencies could permit activities that would undermine a State's investment in pollution control efforts and impose a double standard for different activities affecting the same in-stream values. It makes no sense to authorize States to implement Clean Water Act programs designed to protect beneficial uses and yet leave them powerless to prevent a federally permitted activity from impairing those values. The comprehensive nature of State management of water quality and water quantity means that the States are best situated to determine whether a federally permitted activity will fully protect beneficial uses. The States have lead responsibility for protecting water quality under the Clean Water Act and for administering laws governing allocation of water quantity. Water quality and quantity are inextricably linked; both are essential to maintaining the integrity of the nation's waters." Clive J. Strong, Statement on behalf of the National Association of Attorneys General, in, U.S. Congress, Senate, Committee on Environment and Public Works, Subcommittee on Environmental Protection. Water Pollution Prevention and Control Act of 1991, hearings on S. 1081, 102d Congress, 1st session, Washington: GPO, 1991 (S. Hearing. 102-335), p. 805.

b. As you read it, would the language of this bill (S. 3303) allow western states—or any others for that matter—to mandate streamflow requirements through the 401 certification process?

As written, S.3303 could likely interfere with (and perhaps preclude) States' ability to mandate streamflow requirements through the Section 401 certification process. States now clearly have authority to broadly review and require mandatory conditions, including minimum streamflow requirements. Minimum streamflow requirements are essential to protect streams' designated uses, including fish and wildlife, recreation and other uses. States have required conditions regarding streamflow for hydropower projects.

At present, States' authority to broadly protect the quality of their waters under Section 401 is a well-established matter of law. In 1992, in United States Department of the Interior v. FERC, 952 F.2d 538, 548 (D.C. Cir. 1992,) the court held that "FERC may not alter or reject conditions imposed by the states through section 401 certificates."

In 1997, in American Rivers, Inc. v. Federal Energy Regulatory Commission, 129 F.3d 99 (2nd Cir. 1997,) the court rejected the position of FERC that it had authority to decide whether conditions of a state certification under § 401 of the CWA are unlawful and, therefore, not include such conditions as part of a hydropower license. Instead, the court held, that FERC "is bound by the language of § 401 to incorporate all state-imposed certification conditions into hydropower licenses and that the legality of such conditions can only be challenged by the licensee in a court of appropriate jurisdiction."

State authority over withdrawals and minimum bypass flows is essential to protecting streams designated for fish and wildlife and other uses, including recreation, as well as necessary water quality standards to support these uses and aquatic ecosystems, particularly as it relates to hydropower development, but any water resources diversion.

In 2006, in S.D. Warren Company v. Board of Environmental Protection, 547 U.S. 370 (2006), the Supreme Court held that States may consider a "discharge" from a hydropower project to include much more than a "discharge" as defined under Sec. 402 of the Clean Water Act that requires the addition of a pollutant. What may be considered a "discharge," should S. 3303 be enacted is unclear.

c. What other certification conditions would states be prevented from considering if S. 3303 were to become law?

The language changing "activity" to "discharge" and replacing "will violate applicable effluent limitations or other limitations or other water quality requirements, as well as "other appropriate state laws," and restricting the

States' authority to consider only discharges related to Sections 301, 302, 303, 306 and 307 would prevent States from conditioning project related activities that result may involve non-point source pollution, including stormwater runoff, minimum streamflow requirements, streambed alterations and other state water quality related requirements under state law.

They may also limit conditions set on construction activity during critical fish spawning periods, setting requirements on how high streamflow will be handled until completion of the project, requiring excess dredge and fill to be disposed in upland areas, establishing culvert placement criteria, requiring native material for in-stream structures and for structures to be built to withstand expected high flow periods, establishing bed and bank erosion criteria, and other streamflow-related requirements.

States may be limited in their ability to impose conditions that require: the installation of stormwater controls; water quality mitigation and monitoring plans and technologies; best management practices for non-point source pollutants; replacement of disturbed wetlands; erosion control and restoration and revegetation of disturbed areas; prohibition of non-native materials or refuse in fill materials; attention to aquatic habitat dependent on water quality; invasive species management plans; consideration of the impacts of temperature and dissolved oxygen for hydroelectric dams; downstream water users notification requirements during project construction; equipment inspections and reporting for petroleum leaks, refueling distances from streams, removal of stored fuels during predicted floods, and other spill prevention controls and countermeasures; limits on construction equipment fording and access points; set-back criteria; floodplain development permits; and adaptive management plans.

Further, States might be precluded from otherwise requiring general conditions that specifically support maintenance of designated uses of the state's waters (including environmental protection, but also agricultural, municipal, industrial, recreational, and drinking water uses). The changes could negatively impact the ability of some States to require flows of sufficient volumes of clean water for some drinking water intakes.

The changes could also negate the State's current ability to use complex, interwoven state and federal authorities to protect the States' water resources. States also have questions about whether and to what degree Section 401 will be applied under the Section 404 program, and conditions such as mitigation, if the bill were law. States have indicated that sometimes the only way to meet water quality standards and approve a project is through mitigation. The narrowing of States' 401 authority as proposed is likely to have uncertain outcomes that lead to unintended consequences.

The impact will also depend on past and future court determinations on the definition of "discharge," and States' authority, but might preclude consideration

of non-point sources of pollution such as stormwater runoff attributable to a project. Further, any indirect impacts on water quality attributable to the project would likely be excluded, including those related to secondary developments that Section 401 may or may not require a separate federal permit and subsequently a separate certification.

6. Regarding streamflow requirements, if 401 certifications were not available, what other avenues do states have to set streamflow requirements associated with hydropower facilities, for example?

   Several federal laws preempt state law and regulation, including the Federal Power Act (under which non-federal hydropower projects are licensed) and the Natural Gas Act (under which natural gas pipelines are licensed). Language in those statutes preserving state authority under Section 401 protects what is often States' only chance to review federally-permitted activities that would impact their waters. States may or may not have separate state statutes, including their own water quality, water allocation and water rights laws, and other statutes that might be used to require minimum streamflows.

   For example, the Federal Power Act of 1920, Section 27 reads: "That nothing herein contained shall be construed as affecting or intending to affect or in any way to interfere with the laws of the respective States relating to the control, appropriation, use, or distribution of water used in irrigation or for municipal or other uses, or any vested right acquired therein." (16 U.S.C. 821)

   States' assumed this protected States' ability to allocate water and mandate bypass flows related to hydropower projects to protect minimum streamflows and related designated uses, including fish and wildlife and recreation. However, in 1990, the Supreme Court in California v. FERC, 495 U.S. 490 (1990), determined States' authority to mandate minimum bypass flows was preempted.

   If Section 401 certification authority were no longer available to States, FERC, not States would be the arbiter "balancing" competing interests and determining whether or not to recognize state laws requiring minimum flows.

7. Critics of this bill have suggested it will lead to further restrictions being placed on facilities that are already subject to state permitting in order to address the shortfall created by limiting states' role in the federal permitting process. Do you share this concern?

   My primary concern is the potential for taking primary decision-making authority related to water quality protections out of the hands of States and state agencies with the greatest expertise and experience, and placing a distant federal agency, such as the Federal Energy Regulatory Commission or the Army Corps of Engineers, in charge of balancing state water quality protections against other national interests. It is likely that should States' Section 401 certification authority be diminished, other permitting and review

requirement under state and local law might be relied on to a greater extent to try to fill the void.

This may be particularly true in States that decide to develop new permitting requirements to replace lost authority to protect state waters. These potential disparate State requirements would likely add to the complexity of project approvals for applicants. Moreover, such additional permitting processes may result even more stringent requirements. In addition, the potential for litigation in response to changes to the federal statute and any new state requirements will likely lead to greater uncertainty.

8. Water is a precious resource that is best managed by those closest to the ground (i.e., states, tribes, and local governments). Does the denial of state certifications of two projects, one of which was upheld by the federal courts and the other of which is currently being litigated, justify a sweeping one-size-fits-all solution to a program that has been effectively implemented for 45 years?

   States have the on-the-ground experience and expertise to best address water quality concerns and streamflow needs and have responsibly exercised their delegated authority under Section 401. Limiting that authority is not in the best interest of efficient, distributed decision-making and conflicts with the fundamental principles of cooperative federalism. Certification denials by States are rare and carefully considered. The Section 401 certification process is well-understood, reliable and supported by case law. The proposed changes may have considerable adverse unintended consequences for water resources, water quality, human health, ecosystems, agriculture, industry, and state and local economies.

   Additionally, States and federal agencies recognize the importance of these projects, and on a regional or local level have worked together to identify problems and ways to improve and streamline the process. They have formed inter-agency agreements to facilitate the exchange of necessary information at earlier stages of the project application process and hold regular meetings (annually or semi-annually) to review pending projects and identify needs going forward. While this is not true of all States and local federal offices, it demonstrates the potential to address problems that may be unique to particular regions or States on a case-by-case basis rather than resorting to one-size-fits-all solutions. This sort of state-federal consultation and cooperation to accomplish the goals of the CWA, while balancing competing interests is precisely what was intended when the statute was enacted.

   The few projects denied certification are not examples of the failure of the system or of the States to appropriately apply Section 401 certification as the applicants either refused to provide requested information and/or neglected to take into consideration and/or were unable to address and mitigate critical water quality considerations identified by the States during the Section 401 certification process.

a. Are you aware of any other instance in which such sweeping changes to the CWA have been made to target such limited circumstances?

The CWA has not been significantly amended to change its regulatory scheme to accomplish its goals in partnership with States since it was enacted. Its carefully crafted cooperative federalism approach to water quality regulation has led to tremendous improvements in the integrity of the Nation's water quality.

Process improvements can be made through closer cooperation between State and Federal environmental reviews, but wholesale changes to Section 401 certification do not appear warranted in view of the limited denials. Curtailing States' review and mandatory conditioning authority will lead to less water quality protection. There should be greater recognition of States' ability to responsibly regulate the quality of their waters, including States' consistently responsible and timely implementation of Section 401 certification requirements.

9. Are you concerned that by limiting the state's use of Section 401 certification, some states may establish new state permitting requirements independent of the Clean Water Act, resulting in a patchwork of permit requirements that vary from state to state that would need to be met in order to ensure compliance with state statutes and regulations?

As described in my response to Question #7, it is likely that should States' Section 401 certification authority be diminished, other permitting and review requirements under state and local law would be relied upon, to a greater extent, to try to fill the void – and those requirements are likely to vary considerably among state and local jurisdictions. It is also likely some States will seek to fill the regulatory void with new state statutory or regulatory requirements in lieu of the use of Section 401, that may perhaps preclude current efforts to integrate state water quality and related program requirements with federal agency permit or license requirements. Some States may not take any action in response to the changes.

The resulting inconsistent regulatory approaches would likely lead to differences in compliance requirements between States and regions, which may lead to potential inconsistencies between and within individual projects, more so for projects that cross state lines. This is also likely to lead to further delays and increase permitting costs.

10. Have you, or any of the states with which you work, considered including state 401 certification programs as part of NEPA compliance?

Integrating Section 401 certification reviews as part of the federal NEPA review and/or as part of precertification/preapplication processes for specific federal permits or licenses for large, complex projects has been successfully done on a voluntary basis. Requiring early engagement with States would allow information required for completing Section 401 certifications to be communicated and changes and adjustments to the project to be addressed early. It could facilitate expedited Section 401 certification

approval. It is inefficient, with respect to the resources required of the applicant, to revisit issues addressed in NEPA/precertification/preapplication stages of a project, which is likely to occur with large, complex projects when the State is not included until after these federal processes have has been concluded.

The Western States Water Council supports appropriate streamlining of state and federal permitting requirements, including integration of environmental reviews. A lack of cooperation and collaboration limits information sharing and may unnecessarily delay Section 401 certification decisions. Consulting with States early and often as part of federal reviews and environmental impact analyses would be an effective approach to expediting Section 401 certification decision-making.

It is also important to note that some States require completion of their own environmental reviews under state law, before acting on a request for Section 401 certification. For example, the California Environmental Quality Act requirements must be completed before the State will act on a Section 401 certification request.

The Council is surveying its member States and has asked about their participation in NEPA reviews, and other efforts to expedite certification decisions.

a. Would making that change improve permitting efficiency, since many of the issues that come up when a permit is applied for and 401 certification begins are typically included in the earlier NEPA reviews in which the state does not participate?

   Yes, State participation early and often would help identify issues that should be addressed, information needed for sound decision-making, and appropriate study requirements. Early engagement with States would also clarify expectations related to Section 401 certification and advise applicants of related requirements.

b. Would including states early (i.e., when the permit application that triggers 401 certification is submitted) lead to more efficient processing?

   State involvement should allow for prompt processing of Section 401 certification requests, based on the information gathered cooperatively improving the efficiency and effectiveness of the environmental review process. Delays and denials due to a lack of adequate information would be minimized. With large and complex projects where federal pre-application processes exists, such as FERC's pre-licensing or relicensing application process, even earlier State consultation and involvement would be most effective and efficient.

   Early engagement provides States with the opportunity to address potential problems and barriers in advance through recommending project changes, or the use of specific practices, or provision of critical data to support decision-making, which would help avoid conflicts and delays. For large and complex projects in

particular this would require meaningful state engagement prior to when the Section 401 "receipt of a request for certification" occurs.

Senator Markey:

11. If Congress passed a bill that significantly narrows the scope of Section 401 of the Clean Water Act, could federal agencies permit projects that directly conflict with state water quality programs? Can you give any examples?

    Narrowing States' delegated authority to evaluate the full water quality impact of federal permitting decisions and their ability to require mandatory conditions would put federal agencies in the position of only considering limited impacts and would likely lead to instances where States' concerns are discounted in favor of advancing the federal agencies' missions. As noted earlier, most of the Council's experience has been with federal permitting of non-federal hydropower projects. As previously described, the Federal agencies have limited understanding of state water quality standards, particularly the complex way they are interwoven with other state and federal programs that support water quality. Without consideration of state requirements and conditions under all the components of state law that support water quality standards, many projects could be permitted that would be in violation of state water quality programs. States would then have to decide whether to pursue enforcement actions under State law or allow the pollution to continue unabated.

12. The Clean Water Act prioritizes states' role in protecting water quality within their states. In your opinion, would S. 3303 undermine state input in the process?

    In my opinion, States have responsibly exercised their delegated authority under Section 401 to protect water quality standards and designated stream uses. Moreover, the law currently recognizes that state water quality interests go well beyond what the Clean Water Act requires. That's why the current 401 statutory language doesn't just enumerate sections 301, 302, etc., but rather says applicable water quality requirements and other appropriate requirements of state law.

    Limiting States' broad authority under Section 401 is not in the best interest of efficient, distributed decision-making and cooperative federalism. Nor does it provide equivalent protections. A better option, in my opinion, to expedite certification decisions would be greater involvement of States earlier in federal environmental reviews as noted above in response to question #10.

    The role of States in protecting water quality is a critical component of the CWA and appropriately gives States the ability to protect state waters when federal permits or licenses are issued. Traditionally the States have had the primary role in ensuring water quality standards are met and in carrying out and achieving the goals of the CWA. Undermining State's historic role in both protecting water quality and States' primary role in allocating state water resources, is contrary to the concept of cooperative

federalism and unravels years of established law, and Congressional deference to States. Inhibiting the State's ability to ensure that historic designated uses and water allocations policies are supported for industry, agriculture, recreation, and wildlife is likely to have detrimental impacts on both the quality of the States' waters and specific economic interests in a state.

S. 3303, as written, would substantially undermine States' authority, autonomy, and input in the Section 401 water certification process. The proposed legislation would diminish water quality protection by unnecessarily limiting States' ability to gather information necessary for review; and unduly curtailing the scope of state review under Section 401.

13. Would requiring states to only look at water discharge, as S. 3303 would do, prevent states from seeing other ways that projects might affect water resources? Can you give any examples?

Limiting the scope of state review to any "discharge," by the applicant, instead of the overall proposed "activity" is a dramatic change from the interpretation of the U.S. Supreme Court, which has held that, under Section 401, States may regulate the impact of a project as a whole, rather than just the associated discharge. The conditions a state may require are not confined to the discharge itself but can also address a range of impacts. PUD No. 1 of Jefferson County v. Washington Department of Ecology, 511 U.S. 700 (1994). The ruling said that States may regulate the impacts of a project as a whole, so long as there is a discharge involved. Thus, the conditions a state may require are not confined to the discharge itself but can address a range of conditions as part of their certifications.

Narrowing States' review to only "discharges" will affect States' ability to comprehensively evaluate broad water quality impacts under both state and federal law, and has the potential to prevent States from conditioning project related activities that result in non-point source pollution, including stormwater runoff, as well as minimum streamflow requirements, narrative water quality standards, streambed alterations and other state water quality related concerns (See 5.c above).

If the States cannot condition a project to ensure water quality standards are achieved, then States may elect to deny more 401 certifications. Meeting water quality standards requires the flexibility to develop conditions that may ultimately lead to the decision to grant certification, or in the absence of such conditions to deny certification.

It is also important to recognize that States have built their programs around the current law, with the knowledge that Section 401 requirements could be applied to ensure States' water quality standards and designated uses are protected and other relevant state statutes are enforced. The limitations imposed by the legislation would narrow the ability of States to achieve water quality standards through 401 certifications, and many States would pursue other alternative strategies. As States now responsibly act within

their current authority, narrowing that authority will create confusion and likely further litigation.

14. Why might states care about the amount of water in a stream—also known as "minimum stream flow"? Would S. 3303 make it harder for states to manage minimum stream flow?

In the West, water quantity and quality are directly related, and minimum flows are required to maintain designated uses, which including protecting fish and wildlife, as well as achieving related water quality standards. If streamflow is stopped or is too low, fish habitat is adversely affected and fish kills may occur. In addition, low flows can lead to increased stream temperatures, which drive down dissolved oxygen levels threatening fish and other aquatic life.

Maintaining streamflow may be essential to achieving the downstream designated uses within the water quality standards, including agricultural uses, industrial uses, recreational uses and ensuring in some locations that there is sufficient clean water in streams to supply drinking water. The language of the bill could potentially result in federal agencies exerting expanded control over water allocation, which has historically been a state right, as recognized in both the Clean Water Act and the Federal Power Act.

Without the ability under Section 401 to mandate minimum stream flows, States' ability to require flows under state law would be preempted, pursuant to California v. FERC. This is not only a water quality and environmental protection issues, it is also a water rights and water allocation issue for the States.

15. Would a bill that narrows the scope of Section 401, like the Water Quality Certification Improvement Act, limit a state's authority to have hydroelectric dam operators better comply with modern water quality standards? Do you think this could undermine the goal of balancing the many uses of our waterways, which has been set in statute for the last 30 years?

Under the Federal Power Act (FPA), in licensing non-federal hydro-electric projects, FERC is directed to balance competing uses of a waterway, including agricultural, energy, environmental and municipal and industrial uses. However, despite FPA Section 27, addressing the rights of States to allocate their water resources, the Supreme Courts interpretation of FERC authority under the FPA means that narrowing States' Section 401 certification authority will impact States' ability to protect both the quality and the quantity of water in streams and rivers. It would shift more authority to FERC and away from States to weigh and balance competing uses and protect State designated stream uses and achieve related water quality standards.

As proposed, the legislative changes would greatly reduce States' authority to ensure compliance with water quality standards and would undermine the CWA's goals, including balancing the authority between States and the federal government to implement the statute.

Senator Merkley:

16. Water quality is especially important in the West—it has impacts on local economies through irrigation, recreation, maintaining fisheries, and drinking water supply. Hydropower projects in Oregon in particular have impacted surface waters in a positive manner, with 401 certification conditions for dams that address a multitude of concerns, such as water flow requirements, habitat concerns, and fish and wildlife effects. Can you give some examples of 401 certification conditions that may not be directly related to the discharge, but improve downstream water quality and uses?

    Please see the response to Question 5.c.

    Narrowing the scope of Section 401 from "activity" to "discharge" would limit a State's ability to condition certification to ensure water quality standards are achieved. Other provisions of the bill place constraints on how it would be used, as indicated in answers to previous questions. This is likely to lead to substantial uncertainty and litigation related to the changes in the law.

    One example of a consequence would be limiting a state's ability to prevent actions that destabilize streambanks leading to pollution from sedimentation and threats to aquatic life, as well as human safety and property, resulting from increased erosion and sedimentation.

    Another illustrative example is again the States' ability to mandate minimum bypass flows around hydropower facilities to protect downstream uses and manage instream temperatures, for the benefit of the aquatic environment, including fish and wildlife. Protection of swimmable and fishable streams is a basic purpose of the Clean Water Act, and States can and do designate streams for fishery purposes, both commercial and recreational, and set water quality standards to protect those fisheries and primary contact recreational uses. Section 401 conditions are used to protect these and other designated uses.

17. There are many benefits to 401 certification conditions that may not be directly related to the discharge, for water quality and other areas as well. Can you speak to some potential economic benefits for local communities that may result from 401 certification conditions?

    There are many economic benefits to clean sustainable water supplies. The WSWC was created to advise the governors on strategies to ensure that the West and adequate supplies of water of suitable quality for present and future uses. States protect watersheds that provide ecological and other services. Streams provide essential drinking water to communities, as well as aesthetic and recreational opportunities, including fish and wildlife benefits supporting tourism and related economies. Clean water protected by state standards for agricultural and industrial uses are also important

to state and local economies, as well as the national economy. In the West, the economic contribution of recreation and tourism is well documented. Degraded water quality also imposes costs related to water and wastewater treatment.

Water quality standards provide an important tool for States to balance economic uses, environment, and human health with respect to a state's water resources. As discussed in previous questions, the proposed changes to Section 401 could significantly reduce a state's ability to achieve that balance.

18. S. 3303 will limit state agencies to just 90 days in which to identify all necessary materials, information, or deficiencies in an application for 401 certification. What are some of the negative downstream impacts would you expect to see if a State were forced to act on incomplete or rushed applications?

As earlier described, large complex projects often change over time as the permitting and licensing process proceeds in response to any number of factors, some related to federal regulator requirements and other due to technological or economic obstacles. The 90-day requirement would not allow States to address any future changes in the scope or impact of a project on state water quality standards. As a result, States may deny more 401 certification requests. In addition to an increase in denials, some projects may be granted a federal license or permit in spite of possible violations of state water quality standards, which could eventually lead to enforcement action

States are concerned that the inability to have sufficient information to condition a permit or license to meet water quality would result in limiting the States' ability to ensure compliance with water quality standards and support state-designated uses, including agricultural, fish and wildlife, municipal and industrial, and recreational uses. Degradation of water quality may lead to more state waters being identified as impaired, which may subsequently lead to threats to human health, decreased property values (adjacent to the newly impaired streams) and loss of aquatic life, including highly valued game species such as rainbow and brook trout.

S. 3303 would unnecessarily and arbitrarily constrain States' ability to identify and gather all information necessary to make an accurate assessment of the potential impacts of a proposed project upon water quality. As a result, States would inevitably lack the information and time necessary to make informed, scientifically sound and legally-defensible determinations. States would be forced to deny a greater number of requests for certification, which would likely lead to increased litigation and delay development of projects requiring state certification.

An informed understanding of the scope and impacts of the proposed activity is necessary for States to identify what, if any, additional data or materials are necessary to make a decision. Early engagement can improve this flow of information for complex projects. This likely has the ancillary benefit of improving permit processing times by improving the overall quality of certification requests.

Senator BARRASSO. Thank you very much, Mr. Willardson. We are grateful you had the opportunity to testify today. We appreciate your words.

I have one question. Washington State cited reasons unrelated to water when it denied the water quality certification for the Millennium Bulk Terminal project. Do you agree Section 401 is about water quality, not about air emissions, noise or other non-water related impacts?

Mr. WILLARDSON. Section 401 is about water quality and not the other impacts. My understanding of that decision is that there were a number of other considerations included that came from the environmental impact statement.

It was denied with prejudice given they thought the impacts on water quality were clear and could not be mitigated.

Senator BARRASSO. Thank you, Mr. Willardson.

Senator MERKLEY.

Senator MERKLEY. Thank you, Mr. Chairman. Thank you all for your testimony.

On behalf of Ranking Member Carper, who is not here, I ask unanimous consent to submit letters and other materials for the record, including opposition letters from the following: the State of Maryland, Office of the Attorney General; the Environmental Council of the States; the Association of Clean Water Administrators; the Association of State Wetland Managers; a 139-member Coalition of Environmental River Keeper Groups; and the State of Washington Department of Ecology.

Senator BARRASSO. Without objection.

[The referenced information follows:]

August 15, 2018

The Honorable John Barrasso
Chairman
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510

The Honorable Thomas R. Carper
Ranking Member
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510

Dear Chairman Barrasso and Ranking Member Carper:

On behalf of our millions of members and supporters nationwide, we write in opposition to S. 3303, the "Water Quality Certification Improvement Act of 2018" and any other efforts to undercut state authorities under section 401 of the Clean Water Act (CWA).

In 2006, the United States Supreme Court unanimously ruled that "[s]tate certifications under [Section] 401 are essential…to preserve state authority to address the broad range of pollution." We agree, which is why we urge the Committee to reject S. 3303.

The Clean Water Act gives the states a key role in implementing water quality standards for direct discharges and non-point source pollution. Under section 401 of the CWA, states and tribal authorities enjoy the ability to ensure federal permits and licenses comply with state water quality standards and state law by requiring that permit applicants obtain state or tribal certification that their projects have met those conditions that would ensure the project's compliance with applicable federal, state, and tribal law. This legislation would undermine the ability of states and tribal authorities to ensure that proposed projects comply with state and tribal water quality standards.

The states and the federal government enjoy a special partnership for purposes of implementing the Clean Water Act. Congress specifically designated states and tribal authorities as co-regulators, recognizing state interests and authorities. As proposed, S. 3303 would run counter to the purpose of the Act and overturn decades of deference to state authority by diminishing the ability of states to manage or protect water quality, and in some cases quantity, within their boundaries.

S. 3303 could lead to an overly narrow reading of section 401 that would deprive states of the ability to maintain those beneficial uses the Clean Water Act was designed to protect. Federal agencies would be able to override state and tribal concerns and permit some activities and projects that would directly conflict with state and tribal efforts and investments in pollution control programs, fish recovery programs, temperature control mechanisms, minimum-flow requirements, and other essential activities. Because states have been authorized to implement Clean Water Act programs, it only makes sense that they have the power to ensure a federally permitted activity does not impair state waters, in accordance with the state standards.

This legislation subordinates the expertise of state and tribal regulators and the interests of state and tribal governments to the interests of the federal government. For example, when certifying a federal permit, some states may find it necessary to condition the certification on meeting state buffer

requirements to ensure state water quality standards are not impacted. S. 3303 would remove that state authority. Because S. 3303 limits the state analysis to discharges only, it could be interpreted to prevent a state from considering the impact of a project or activity on non-point sources of pollution, including increased impervious surfaces and associated impacts to water quality.

Furthermore, this legislation places unreasonable time constraints on states during the 401 certification process. By requiring states and tribal authorities to grant or deny a request for certification within one year, the state agencies may be forced to make a decision before they have all the relevant information or may rush their analysis in order to meet a deadline. Additionally, by limiting state agencies to 90 days in which to identify all necessary materials, information, or deficiencies in an application for certification, S. 3303 may force the states to make decisions without all of the relevant information. This creates a dynamic where, unless every step of the process proceeds seamlessly, agencies are faced with the impossible decision to either exercise their authority without necessary information (which exposes them to legal liability) or to fail to meet the schedule. This change will constrain federal, state, and tribal agency use of their independent authorities and rush decision making, potentially making it more difficult to protect water quality, recover threatened and endangered species, and manage tribal-trust resources and public lands. States, constrained by the proposed time limitations, may deny certifications more often because they will not have enough information for decision making. Last, federal agencies and developers may be incentivized to withhold information in order to get a decision within a certain period of time.

This proposed legislation would also impact a state's role in hydropower relicensing. Because hydropower licenses are issued for up to 50 years, many hydropower facilities that are now coming up for relicensing were first constructed before virtually all modern environmental laws were in place. It is during relicensing proceedings that the public gets the opportunity to ensure that dam owners make the necessary changes to comply with modern laws. The opportunity to mitigate for the damage to the environment, while still providing reliable electricity, only arises once in a generation or two. S. 3303 would significantly curtail state and tribal authority to ensure the licenses include conditions that protect state water quality standards and beneficial uses.

A vital component of the CWA's system of cooperative federalism is state authority to certify and condition federal permits of discharges into waters of the United States under Section 401. This authority has helped ensure that activities associated with federally permitted discharges will not impair state water quality. S. 3303 does not reflect the historic relationship between states and the federal government with respect to managing water, and instead would upend the careful balance between the states and the federal government inherent in the Clean Water Act. By seizing power from states and tribes, S. 3303 puts the interests of power companies, pipelines, railroads, and other developers ahead of the interests of the states and the public that wants to enjoy access to clean water.

We urge the Committee to reject S. 3303.

Sincerely,

American Rivers
American Whitewater
Clean Water Action
Earthjustice
Environment America
Environmental Protection Network
Friends of the Earth
Hip Hop Caucus
Izaak Walton League of America
League of Conservation Voters
National Audubon Society
National Latino Farmers & Ranchers Trade Association
National Parks Conservation Association
National Wildlife Federation
Natural Heritage Institute
Natural Resources Defense Council
PolicyLink
Quad Cities Waterkeeper Inc.
Rachel Carson Council
Sierra Club
Waterkeeper Alliance
Alliance for the Great Lakes
Religious Coalition for the Great Lakes
Environmental Law & Policy Center, *Midwest*
New England FLOW
Connecticut River Conservancy, *Northeast*
Waterkeepers Chesapeake
Appalachian Mountain Club, *Southeast*
Southern Environmental Law Center
Tennessee Riverkeeper, *Southeast*
Pacific Coast Federation of Fishermen's Associations (PCFFA)
Western Organization of Resource Councils
Black Warrior Riverkeeper, *Alabama*
One World Adventure, *Alabama*
Alaska Survival
Kenai River Watershed Foundation, Inc., *Alaska*
Susitna River Coalition, *Alaska*
California Sportfishing Protection Alliance
Environmental Protection Information Center, *California*
Humboldt Baykeeper, *California*
Klamath Forest Alliance, *California*
San Francisco Baykeeper, *California*
South Yuba River Citizens League, *California*

Animas Riverkeeper, *Colorado*
Delaware Nature Society
Potomac Riverkeeper Network, *District of Columbia*
Apalachicola Riverkeeper, *Florida*
Emerald Coastkeeper. Inc., *Florida*
Tampa Bay Waterkeeper, *Florida*
Altamaha Riverkeeper, *Georgia*
Chattahoochee Riverkeeper, *Georgia*
Coosa River Basin Initiative/Upper Coosa Riverkeeper, *Georgia*
Ogeechee Riverkeeper, *Georgia*
Idaho Rivers United
Kootenai Environmental Alliance, *Idaho*
Selkirk Conservation Alliance, *Idaho*
Holy Spirit Missionary Sisters - USA-JPIC, *Illinois*
Hoosier Environmental Council, *Indiana*
Indiana Wildlife Federation
Lower Ohio River Waterkeeper, *Indiana*
Northwest Indiana Steelheaders, *Indiana*
Wabash Riverkeeper, Banks of the Wabash, Inc., *Indiana*
Friends of the Kaw, *Kansas*
Atchafalaya Basinkeeper, *Louisiana*
Conservation Law Foundation, *Maine*
Friends of Merrymeeting Bay, *Maine*
Natural Resources Council of *Maine*
Audubon Naturalist Society, *Maryland*
South River Federation, Inc., *Maryland*
SouthWings, *Maryland*
St. Mary's River Watershed Association, *Maryland*
Upper Peninsula Environmental Coalition, *Michigan*
WasteWater Education 501(c)3, *Michigan*
Yellow Dog Watershed Preserve, *Michigan*
Minnesota Division Izaak Walton League of America
Save Our Sky Blue Waters, *Minnesota*
Pearl Riverkeeper, *Mississippi*
Upper Missouri Waterkeeper, *Montana*
Raritan Riverkeeper, New *Jersey*
Buffalo Niagara Waterkeeper, *New York*
Concerned Citizens of Cattaraugus County , *New York*
Genesee Valley Audubon Society, *New York*
Sierra Club Niagara Group, *New York*
WE ACT for Environmental Justice, *New York*
WESPAC Foundation, Inc, *New York*
Western New York Environmental Alliance
Broad River Alliance, a Waterkeeper Affiliate, *North Carolina*

Carolina Canoe Club, *North Carolina*
Catawba Riverkeeper Foundation, *North Carolina*
Coastal Carolina Riverwatch, *North Carolina*
Crystal Coast Waterkeeper, *North Carolina*
Green Riverkeeper, *North Carolina*
MountainTrue, *North Carolina*
Riover Guardian Foundation, *North Carolina*
White Oak-New Riverkeeper Alliance, *North Carolina*
Yadkin Riverkeeper, *North Carolina*
Watauga Riverkeeper , *North Carolina*
Winyah Rivers Foundation, *North Carolina & South Carolina*
Headwaters Chapter Izaak Walton League of America, *Ohio*
Junction Coalition, *Ohio*
Ohio River Foundation
Columbia River Estuary Action Team, *Oregon*
Deschutes River Alliance, *Oregon*
Friends of the Columbia Gorge, *Oregon*
Greater Hells Canyon Council, *Oregon*
KS Wild, *Oregon*
Oregon Physicians for Social Responsibility
WaterWatch of *Oregon*
Western Environmental Law Center, *Oregon*
Lower Susquehanna Riverkeeper Association , *Pennsylvania & Maryland*
Middle Susquehanna Riverkeeper Association, Inc., *Pennsylvania*
PennFuture
Pennsylvania Council of Churches
Audubon South Carolina, *South Carolina*
Friends of the Reedy River , *South Carolina*
Mountain Bridge Trout Unlimited, *South Carolina*
Naturaland Trust, *South Carolina*
Save Our Saluda, *South Carolina*
Spearfish Canyon Society, *South Dakota*
Bayou City Waterkeeper, *Texas*
Living Rivers & Colorado Riverkeeper, *Utah*
Rappahannock League for Environmental Protection, *Virginia*
Center for Environmental Law and Policy, *Washington*
Conservation Northwest, *Washington*
Kettle Range Conservation Group, *Washington*
Loo Wit Group of Sierra Club, *Washington*
North Cascades Conservation Council, *Washington*
Puget Soundkeeper Alliance, *Washington*
The Lands Council, *Washington*
Washington Environmental Council
Cacapon Institute, *West Virginia*

Sleepy Creek Watershed Association, *West Virginia*
West Virginia Rivers Coalition
Milwaukee Riverkeeper, *Wisconsin*
Superior Rivers Watershed Association, *Wisconsin*
Wisconsin Metro Audubon Society, *Wisconsin*
Wisconsin Trout Unlimited, *Wisconsin*
American Packrafting Association, *Wyoming*

Department of Environmental Quality

To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Matthew H. Mead, Governor

Todd Parfitt, Director

August 13, 2018

Chairman John Barrasso
United States Senate
Committee on Environment and Public Works
410 Dirksen Senate Office Building
Washington, DC 20515

RE: S. 3303, the Water Quality Certification Improvement Act of 2018

Chairman Barrasso,

Thank you for reaching out for feedback on S. 3303, the Water Quality Certification Improvement Act of 2018. Specifically, committee staff asked if the bill erodes states' ability to protect water quality. The Wyoming Department of Environmental Quality has reviewed the bill. It recognizes the states' role in protecting water quality under the principles of cooperative federalism. It does not erode states' ability to protect water quality under Section 401.

Please feel free to contact me at 307-777-7937 if you have additional questions.

Sincerely,

Todd Parfitt
Director
Wyoming Department of Environmental Quality

cc: David Willms, Governor's Policy Office

TP:jlp

200 West 17th Street · Cheyenne, WY 82002 · http://deq.wyoming.gov · Fax (307)635-1784

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EXHIBIT A

Chronology of Constitution Pipeline Company, LLC's application to the New York State Department of Environmental Conservation for a Section 401 Certification

This document provides a curated chronology of Constitution Pipeline Company, LLC's application to NYSDEC for a Section 401 Certification. All documents referenced in this document are included in an electronic appendix submitted concurrently with this chronology. The page number referenced in the citation column below refers to the page number in the electronic appendix.

All documents referenced and provided are from the administrative record that NYSDEC provided to the United States Court of Appeals for the Second Circuit. Although NYSDEC was required to file its decision, and an index of the record supporting it, with the Commission pursuant to 18 C.F.R. § 385.2014,[1] it failed to do so, so these documents are not currently in the Commission's records. Reference is also made to sworn affidavits provided to the Second Circuit by Constitution, but not considered by that court in its proceedings.

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[1] (a) For each Federal authorization—*i.e.*, permit, special use authorization, certification, concurrence, opinion, or other approval—required under Federal law with respect to a natural gas project for which an application has been filed for authorization under section 3 of the Natural Gas Act for a certificate of public convenience and necessity under section 7 of the Natural Gas Act, the Federal agency or officer, or State agency or officer acting pursuant to delegated Federal authority, responsible for each Federal authorization must file with the Commission within 30 days of the effective date of a final decision or action on a request for a Federal authorization or the expiration of the time provided by the Commission or by Federal law for a final decision or action, the following:

(1) A copy of any final decision or action;

(2) An index identifying all documents and materials—including pleadings, comments, evidence, exhibits, testimony, project alternatives, studies, and maps—relied upon by the agency or official in reaching a decision or action; and

(3) The designation "Consolidated Record" and the docket number for the Commission proceeding applicable to the requested Federal authorization.

(b) The agencies' and officers' decisions, actions, and indices, and the Commission's record in each proceeding, constitute the complete consolidated record. The original documents and materials that make up the complete consolidated record must be retained by agencies, officers, and the Commission for at least three years from the effective date of a decision or action or until an appeal or review is concluded.

(c) Upon appeal or review of a Federal authorization, agencies, officers, and the Commission will transmit to the reviewing authority, as requested, documents and materials that constitute the complete consolidated record.

* * *

Beginning with initial discussions in 2012, Constitution's application to NYSDEC for a water quality certification under Section 401 of the Clean Water Act was part of an intensely interactive multi-year process, which included weekly meetings, numerous field visits, written correspondence, emails, and conference calls, all in accordance with NYSDEC's historical and standard practice for processing applications. These meetings reflected a clear momentum toward issue resolution and support for NYSDEC's statements to Constitution that it was prepared to issue a Section 401 Certification in July or August 2015.

NYSDEC's denial ignores this multi-year dialogue.

* * *

Date	**Description**	**Citation / Appendix Page Numbers**
April 2012	Constitution began its pre-filing process with FERC to begin its environmental review of the project. NYSDEC actively participated in the FERC review process, submitting nine detailed comment letters to FERC between November 2012 and May 2014.	*See* FERC Docket No. PF12-9 *and* CP13-499; Appendix 000001 – 000021 (pre-filing request); 000027 – 000032 (NYSDEC letter); 000033 – 000040 (NYSDEC letter); 000041 – 000079 (NYSDEC letter); 000080 – 000122 (NYSDEC letter); 000175 – 000176 (NYSDEC letter); 000404 – 000406 (NYSDEC letter); 000407 – 000426 (NYSDEC letter); 000537 – 000539 (NYSDEC letter); 000542 – 000544 (NYSDEC letter).

Senator MERKLEY. Thank you.

Mr. Willardson, I understand that projects are often denied certification due to the lack of communication with key stakeholders. You mentioned incomplete applications being submitted or incomplete responses to requests for information. Were you using that as the primary reason there are delays in the process?

Mr. WILLARDSON. Only one of the reasons. From a State perspective, there are challenges related to staffing and staffing turnover. States have made adjustments. I know of at least one State that now assigns two people to work on any particular FERC licensing or relicensing given the length of time and the potential for turnover.

Senator MERKLEY. At least a significant share? I thought perhaps from your testimony that the majority of the 401 certification delays were the result of incomplete applications being submitted? Is that correct or incorrect?

Mr. WILLARDSON. That is correct. Where States have not been able to act in a timely manner, it is largely because the information has been received or not received.

Senator MERKLEY. That is something that certainly can be addressed within the existing law?

Mr. WILLARDSON. Yes. I think another area of interest obviously is the definition of one certification is requested. In the past, States were disappointed that the Federal Energy Regulatory Commission, on a hydropower issue, unilaterally tolled the time for the State to act in over 200 projects.

Since then, States have either denied up front a project that came in with an incomplete application as opposed to waiting until the end of the 1-year tolling period currently available under the law.

Senator MERKLEY. To expedite the process. You mentioned hydropower and that is a big deal in my State. We have a lot of dams. We have dams coming out that no longer serve existing purposes; that enhance fish passage; dams going in or hydropower going in on existing dams; electric generation; fisheries; recreation, many things that affect the local economy that people care a great deal about.

Are you aware of any hydropower projects in Oregon that have had significant problems with their 401 certifications?

Mr. WILLARDSON. I am not.

Senator MERKLEY. The types of things that Oregon has addressed to complement the Federal regulation have been things like protections for wetlands, shoreline regulation, water temperature, acidity, turbidity, levels of instream flow which can be essential downstream both to temperature, fish passage and water being drawn for drinking water, sediment excavation deposit, bacteria levels, dissolved oxygen and dissolved nitrogen, algae growth, chemical and waste management, data collection, public reporting transparency which is very important to the stakeholders in our State so we really know what is going on, and instream water construction procedures that affect all of the above.

Are those appropriate types of things for the public to be concerned about in terms of recreation activities, the health of the streams, fish passage and so forth?

Mr. WILLARDSON. Yes, there are many components related to water quality and protecting water quality more than just discharges under Section 402. Many of the States deal with those under not only the Federal law, but, as the law currently allows, under applicable State law. Oregon is one of the States that has its own Federal hydropower licensing process.

Senator MERKLEY. When we talk about discharge, is it clear that, as rewritten, discharge would encompass the impact on discharge during the process of construction as well as upon completion of the project?

Mr. WILLARDSON. I think in addition to just discharge, it does take many forms, the alteration of the bed and banks obviously are included, but the bypass flows themselves. As I said, most of our experience has been with bypass flows and the Federal Energy Regulatory Commission.

Maintaining those flows is important to water quality standards, total maximum daily loads and other components of the Act. Yes, there are many components.

Senator MERKLEY. Many components that might not be directly covered by just the word "discharge" or at least there would be a huge amount of lawsuits and adjudication to try to determine what discharge and how broad that is?

Mr. WILLARDSON. It would not be covered, in my opinion, by discharge.

Senator MERKLEY. Thank you.

Senator BARRASSO. Senator Capito.

Senator CAPITO. Thank you, Mr. Chairman. I want to thank the Chairman for his willingness to work with me in developing this legislation.

I thank the witnesses for being here today.

Mr. Stewart, I come from West Virginia, a proud, coal-mining State. I want to thank you for your years of coal mining. I know it is a tough job. I appreciate you coming today to give us your perspective.

I notice you are a member of the union, the MWA, I would suppose?

Mr. STEWART. It was Local 400 in Montana.

Senator CAPITO. They are good friends of mine.

Mr. STEWART. IUOE.

Senator CAPITO. Yes, thank you.

I would like to talk a little bit about some of the testimony we have already had today. Mr. Booker, you mentioned more than once in your testimony the importance of certainty around the regulatory process.

In West Virginia, this has been a challenge for us. We have three pipelines that have been permitted that are now on hold, not through the 401 process, but with FERC. You might have been following that.

I am going to start with that question. What does that uncertainty do to your members and membership? It also has to have some sort of residual impact as to your apprenticeships and who wants to get into the business of building and constructing when you don't know if you are going to be coming or going with the uncertainty of permitting and the regulatory.

Encompassing the 401 uncertainty, how are you seeing this play out in terms of these pipelines we are seeing put on hold right now?

Mr. BOOKER. The simple answer is people are not going to work. They are not earning a paycheck, are not able to provide for their families, and not able to support the local economy and participate in the local economy.

Specific to your question on training, we pride ourselves in our training. We invest a billion dollars a year in training. We have training centers in every State of this Country, multiples in every State of this Country.

We also have apprenticeship readiness programs where we try to appeal to under-served communities, whether it is veterans through our Helmets to Hard Hats Programs, women, people of color, to bring them into the construction industry. It is not an easy career. You have the ebbs and flows.

When you take away the predictability of the permitting process, it adds more unpredictability or more uncertainty to that. That means people are not going to work every day. Our training is based on working through the week, and taking classes at night as you graduate your levels of apprenticeship.

If you are not working, you are not getting enough hours to graduate your apprenticeship, gain the skills you need to be a journeyman or whatever craft you come from. It has a devastating effect on the growth of the future work force for us and to be able to keep our training centers operating.

Senator CAPITO. Absolutely.

Mr. Stewart, I feel this daily living in a State like ours that has quite a bit of coal mining, we live there, we breathe the air, we drink the water, we fish, we recreate in our areas, as you mentioned in your testimony, where you live. In my view, if there are any people more environmentally sensitive to their area, it is the people who live there. Striking that balance between working, the economy and the environment where you live, breathe and raise your family and your children go to school, I think is difficult.

If you could speak a little bit to the frustration, as you did in your opening statement, you feel that you cannot get out your message to say how impactful this is to you all and also, how deeply you feel about the environment you live in and are surrounded by.

Mr. STEWART. I appreciate the question, Senator Capito.

Coal mining is a brotherhood. It takes a special breed to be in the middle of the night sitting on a piece of equipment in the middle of nowhere on the mine site eating out of a box at lunchtime or in the middle of the day, when it is ice cold outside or else in burning heat.

You are sitting there running a shift whether on a dozer, truck or a piece of equipment, a dragline, whatever the case, but you are alone. You have a lot to think about. I also ran the reclamation dozer so I do a lot of the reclamation.

Senator CAPITO. Which is the environmental restoration of mining.

Mr. STEWART. Doing the reclamation side of areas of the mine. Coming from my previous life as an equipment operator when I was first taken out there and asked to do an interview to apply for

the position, I did not know where it started or where it ended. The reclamation was so great, it was beautiful.

I say it is almost kind of like a zoo because you see the best looking out there, you see the best looking deer. I don't care what anybody says, there are deer right there on the rail spur eating the grass right next to the rail.

I lived by the railroad tracks, maybe half a mile from the railroad next to I–90, for 44 years, all my life. It is a brotherhood. First and foremost, we help each other so we can come home safe so we are able to provide for our families and we take care of each other.

Senator CAPITO. Thank you.

Senator BARRASSO. Thank you, Senator Capito.

Senator Van Hollen.

Senator Van Hollen. Thank you, Mr. Chairman.

Welcome to all the witnesses.

A few weeks ago we had a hearing on legislation dealing with the Endangered Species Act. That legislation proposed to give the States more authority on the grounds that the States were in a better position to understand some of the local concerns. Now we have a piece of legislation that wants to take away authority from States when it comes to making some of these decisions.

There has been a lot of focus on the pipeline issue. Also, this legislation will have a negative impact in many other scenarios. For example, with respect to the Chesapeake Bay and protecting the waters that flow into the Chesapeake Bay, there is a dam on the Susquehanna River called the Conowingo Dam which is run by Exelon.

As I read this legislation, it would prohibit the State of Maryland from doing something we have done for a very long time which is, as part of that permitting process for the dam under 401 authority, required Exelon to provide, for example, fish passage because the dam interrupts fish migration up the river.

That has never been an issue. However, this legislation would take away the authority of the State of Maryland or other States to make that a condition. I would like to have all of your views on this starting with Mr. Willardson.

Mr. WILLARDSON. I think it would definitely reduce the State's authority to require minimum bypass flows or require releases from the dam to protect downstream water quality as well as aquatic species.

As far as the fish passage, that would be more related to the Interior and those authorities where they can mandate, under the Federal Power Act, fish passage facilities. It would definitely reduce State authorities.

Senator Van Hollen. With respect to sediment flow, another issue is when you put up a dam; it can have an impact on sediment which obviously can have an effect on waters as they go into the Chesapeake Bay.

Sometimes it captures and traps sediment, but when you have major storms, it has this overflow impact. As I read this, it would also take away the authority of a State to tie permitting for a dam project, for example, to the impact on sediment flows. Is that how you read it?

Mr. WILLARDSON. It obviously would limit it to discharges and however that might be defined in the future. There are many components besides discharges that impact water quality. We have been very strong proponents of the States' authority to regulate their water, both quantity and quality to meet their goals.

Senator Van Hollen. To the other gentlemen, you focused your comments on pipelines and I understand that testimony. It is not your intention, is it, to deprive States of the authority to require, for example, fish passage mechanisms as part of permitting for hydroelectric projects like a dam, is it?

Mr. BOOKER. No, that is correct. We support regulation but I think the current way the system has been, my testimony speaking specifically to the pipelines and Mr. Stewart's with the coal export, is that has been abused and misused to go beyond that which has caused these delays.

Senator Van Hollen. We can have an argument on the merits of what both you gentlemen talked about, but my concern is, as I read it, Mr. Chairman, that this is much broader in scope and impact and would deprive States of tools they have been using for a very long time or may reasonably want to use when it comes to things like sediment flows and things like that around the Conowingo Dam.

I look forward to continuing the conversation with all of you and the Chairman on that. Thank you.

Senator BARRASSO. Thank you very much, Senator Van Hollen.

My view on this is that the permitting process now has been weaponized to pick winners and losers. The State of Washington is acting in this case like the Secretary of State, the Secretary of Commerce, and the U.S. Trade Rep in trying to decide single-handedly what our Country is permitted to export.

As a result that there are six Attorney Generals from Wyoming, Kansas, Montana, Nebraska, South Dakota, Utah who are supporting the Millennium Bulk Project in litigation against the State of Washington. The State is preventing important interState commerce, violation of the Constitution.

I ask unanimous consent to enter their brief into the record.

[The referenced information follows:]

NEWS RELEASE

FOR IMMEDIATE RELEASE:
July 31, 2018

CONTACT:
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INGAA applauds effort to restore cooperative federalism

WASHINGTON— *Don Santa, president and chief executive officer of the Interstate Natural Gas Association of America, applauded a bill introduced today by Senators John Barrasso, Shelly Moore Capito, Steve Daines and Jim Inhofe to restore cooperative federalism in the review of infrastructure projects, such as interstate natural gas pipelines:*

> "INGAA supports this measure to bring clarity to section 401 of the Clean Water Act. In recent years, a handful of states have used this provision of federal law to disrupt or delay infrastructure projects, sometimes using justifications unrelated to water quality. Cooperative federalism is upset, interstate commerce is disrupted, and the interests of other states are undermined when individual states step outside the role defined by Congress in section 401. Providing clarity regarding the appropriate federal and state roles under section 401 can restore the cooperative federalism Congress intended in this section of the Clean Water Act."

###

INGAA represents the U.S. natural gas pipeline industry. INGAA's members operate approximately 200,000 miles of pipelines and serve as an indispensable link between natural gas producers and consumers.

September 12, 2018

The Honorable John Barrasso
Chairman, Senate Environment & Public Works Committee
307 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Tom Carper
Ranking Member, Senate Environment & Public Works Committee
513 Hart Senate Office Building
Washington, DC 20510

Dear Chairman Barrasso and Ranking Member Carper:

On behalf of Millennium Bulk Terminals-Longview LLC, (Millennium) please accept this letter in support of the *Water Quality Certification Improvement Act of 2018.* As you know, Millennium proposes to build a coal export terminal on the lower Columbia River. Based on our experience in being the only project proponent to have received a water quality certification denial "with prejudice" in Washington State, and the only project to have been denied a water quality certification on the basis of non-water quality factors, we share your belief that the Clean Water Act (CWA) is to be used to protect water quality, and should not be misused to block projects that might be unpopular to some. Congress never intended that the limited authority provided to *states* under CWA section 401 to weigh in on the propriety of a proposed *federal* permit would be used by states to veto projects based on political concerns having nothing to do with water quality.

To the contrary, as you well know, section 401 was promulgated to enable states to ensure that federally permitted projects would not result in water quality standards violations in state waters. Recent developments in Washington State demonstrate that the CWA, as presently worded, is susceptible to abuse by state actors who have little regard for the *cooperative* federalism imbedded in the statute, and who wish, instead, to dictate whether a federal permit should be issued (or not) by manipulating the section 401 certification process for their political purposes.

In addition to providing support for the proposed legislation, this letter responds to the comments of Washington State Department of Ecology (Ecology) Director Maia Bellon. Director Bellon's letter to Chairman Barrasso dated August 15, 2018, addressed both the Committee's proposed legislation and her decision to deny Millennium a section 401 certification "with prejudice." Director Bellon insists that she denied Millennium's section 401 certification because her agency found that Millennium "failed to

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meet existing water quality standards;" and because Millennium failed to propose any mitigation to offset adverse environmental impacts. As we demonstrate below, these statements are patently false.

First, her lawyers insisted-- -- based on sworn statements from Ecology staff-- that the agency's denial "with prejudice" was *not* based on CWA factors, but was instead based entirely on authority under the Washington State Environmental Policy Act (SEPA). Unless her lawyers and staff provided false testimony to the administrative tribunal, Director Bellon's letter to Congress is at best mistaken, or otherwise simply false.

Second, contrary to Director Bellon's letter, Millennium has both proposed and submitted to Ecology a host of mitigation plans for environmental impacts. We are providing the following information to clear up any discrepancy in the record Director Bellon's letter created concerning Millennium, and to highlight for the Committee the grossly unfair treatment we received from the Department of Ecology at the direction of Director Bellon, and thus, the need for your proposed legislation.

At Millennium, we are committed to protecting the water resources of the state and federal government and we take that responsibility seriously. We were heartened that the Final Environmental Impact Statement published by the state of Washington and Cowlitz County (SEPA FEIS) concluded that our project would not result in significant adverse impacts to water quality, wetlands, aquatic biota, or fish. Notwithstanding these favorable water quality conclusions in the SEPA FEIS, Ecology Director Bellon denied the water quality certification based largely on indirect impacts from trains and vessels, and specifically, impacts that included air emissions from locomotives, impacts on vehicular traffic, rail capacity concerns and train -caused noise and vibrations, among other non-water quality factors.

Millennium Coal Export Terminal

Millennium is proposing to locate a coal export terminal on a 190-acre brownfield site on the Columbia River near Longview, Washington. At full build-out, the project would be capable of shipping up to 44 million metric ton per year to markets in Asia. The site was selected after a review of more than 20 sites on the west coast of the US, Canada and Mexico for its existing infrastructure. The project would reuse a portion of an industrial site originally developed for the aluminum industry during World War II, coexisting with an operating bulk product terminal. Coal from the Powder River or Uinta Basins would be transported by unit trains to the site over existing rail lines. Two new docks would be constructed on the Columbia River, providing access to Panamax-sized vessels that can reach the site via the existing US Army Corps of Engineers dredged shipping channel.

The project site is located in Cowlitz County, Washington, a county with unemployment rates that far exceed other Washington counties. Cowlitz County residents have expressed a strong support for the family-wage construction and operation jobs that would come with the project, and would provide opportunities for workers to stay close to home rather than having to commute long distances to find work.

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Millennium's objective is to transform the former Reynolds smelter site into a new, economically vibrant and environmentally responsible world-class port facility. To accomplish this, we are actively and voluntarily working with state and local agencies in our cleanup efforts. Millennium, Northwest Alloys (Alcoa) and Ecology have entered a voluntary agreement to ensure the cleanup of the site follows all state rules and regulations. Evidence of localized contaminants from Reynolds' operations has been measured, and although the site has been classified by Ecology as low-risk, we are closely and carefully coordinating an extensive cleanup process. Cleanup costs are carried by the private entities and not the public. Reports on the progress of our efforts are regularly submitted to local and state agencies. By conducting a thorough investigation and developing cleanup plans in compliance with applicable laws and regulations, we are a step closer to our goal of building a world-class port facility in an environmentally responsible way.

Permitting History

Millennium applied for local (Cowlitz County), state, and federal permits for the project in February 2012, over six years ago. In order to provide full disclosure of all of the potential impacts of the project, we have provided the agencies with over 15 million dollars to pay for a third party consultant to write separate state (SEPA) and federal (NEPA) EISs. The 13,600 page SEPA EIS was completed in April 2017. The NEPA Draft EIS was published in September 2016.

Ecology's Denial of Millennium's CWA Section 401 Water Quality Certification

Director Bellon's letter attempts to defend her agency's actions in denying the project a Section 401 Water Quality Certification. According to Director Bellon: *"The facts of this denial are simple: Millennium failed to meet existing woter quality standards and further failed to provide any mitigation plan...."*

This statement is in direct contradiction to her department's reply brief to the Washington Pollution Control Hearing Board (PCHB) insisting that Ecology did not deny the certification "with prejudice" based on the deficiencies set forth in Section III (water quality) of the denial Order. That part of the Denial Order dealt with information that Ecology alleged was both missing and necessary for it to *first make* a determination as to whether it had "reasonable assurance" that the project would not violate water quality standards. In other words, Section III of the Order stated that Ecology simply could not determine based on the information it had, *whether or not* project discharges would comply with water quality standards.

Accordingly, the case she lays out in her letter to you is flatly contradicted by the plain language of the Denial Order itself. At best, it is inconsistent with both Ecology testimony during the appeal of the permit denial and the findings of the Washington PCHB (Decision at paragraph 19 concluding that the Denial "with prejudice" was based solely on SEPA), and at worst, is plainly disingenuous.

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Instead of properly relying on the CWA, Ecology insisted that Director Bellon *"decided to exercise Ecology's SEPA substontive authority on the first permit decision before her —the 401 certification-- and deny the certification with prejudice."* Ecology explained that *"the reason Ecology issued the denial "with prejudice" is that the significant, adverse, impacts identified in the EIS cannot reasonably be mitigated. Since they cannot be mitigated, there is no way for Millennium to address them and consequently no basis on which to continue keeping the section 401 process open."* In short, the record demonstrates that the denial "with prejudice" was based on anything other than water quality concerns, and in no way stemmed from any agency findings or conclusions that Millennium's proposed project would not be able to comply with water quality standards.

SEPA Findings and Proposed Mitigation

Similarly, Director Bellon's claims as to the impacts and risks that the project would pose are both contrary to testimony of her own lawyers and staff, and to the findings of the SEPA EIS. Her agency undeniably concluded in the Final EIS that Millennium's proposed coal export project will not have a significant adverse effect on water quality. Millennium is now appealing Ecology's certification denial, and the PCHB's decision upholding that denial, because both Ecology and the PCHB have inaccurately applied the CWA to our project. We are confident the law is on our side.

In her letter to you, and in other public statements, Director Bellon makes claims that are not supported by the SEPA EIS her own agency produced. Director Bellon wholly ignores the mitigation that Millennium has proposed to more than offset wetland and habitat losses. Among her claims, and the rebutting facts found in Ecology's EIS, are the following:

Bellon Claim:

> **The project would destroy 24 acres of wetlands on the site.**
>
> **FACT**: As stated in Section 4.3 of the SEPA FEIS, 24 acres of existing wetlands would be filled. Millennium submitted a Conceptual Mitigation Plan in May 2017 to the U.S. Army Corps of Engineers (Corps), Cowlitz County and Ecology. The Mitigation Plan identifies a nearby downriver site that is currently a ditched and drained agricultural pasture. The Plan would convert the pasture into 61 acres of wetlands, rehabilitate approximately 14 acres of degraded wetlands, and revegetate approximately 14 acres of upland buffer, providing a total of 88 acres of mitigation. This mitigation proposal provides more than what is required for wetland mitigation and is intended to insure against any unforeseen shortfalls in wetland creation. Neither the Corps nor the County has found the Plan to be inadequate. To the contrary, the County reviewed the plan, determined it to be adequate and issued a permit for that activity in July 2017.

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Section 4.3 of the SEPA FEIS concludes: *"Compliance with laws and implementation of the mitigation measures described above would reduce and compensate for impacts on wetlands. There would therefore be no unavoidable and significant adverse environmental impacts on wetlands."*

Most of the wetlands that will be impacted by the proposal (over 21 acres) are considered Category III wetlands, and only three acres are considered Category IV wetlands. Washington State ascribes this rating system to wetlands based on their functions. Washington State Wetland Rating System for Western Washington (Hruby 2006). Category I wetlands have the highest level of function, are afforded the widest buffers, and impacts on such wetlands require the largest amount of compensatory mitigation. Category IV wetlands, on the other hand, have the lowest level of function, are afforded more narrow buffers, and impacts on such wetlands require a lower amount of compensatory mitigation.

Millennium's proposed wetland mitigation plan would convert an existing ditched and drained agricultural pasture to a diverse habitat of emergent, forested and scrub-shrub wetlands within the historic, and now disconnected, floodplain of the Columbia River. The proposed mitigation would restore hydrology and historic forested and scrub-shrub wetlands, and provide potential habitat for wildlife such as Columbia white-tailed deer. In total, the mitigation would convert over approximately 61 acres of upland pasture to palustrine forested, scrub-shrub, and/or emergent wetlands, rehabilitate approximately 14 acres of degraded emergent wetlands and revegetate approximately 14 acres of upland buffer.

Bellon Claim:

Dredging 41 acres of river bed would damage Washington's water quality.

FACT: The dredging would be required to provide ships access from the US Army Corps maintained Columbia River shipping channel to the proposed new docks. As required by the Corps and other agencies, a sediment characterization report has been prepared. On August 25, 2017, Jennifer Sutter, Project Manager for Oregon's Department of Environmental Quality (DEQ), found that the dredge material would meet Class A criteria because the dredged spoils contain constituents at a level below detection levels for chemicals, metals and pesticides of concern to water quality. Dredge material that meets Class A criteria by definition does not impair water quality.

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Bellon Claim:

Driving 537 pilings into the river bed for over 2,000 feet of new docks would result in the loss of five acres of aquatic habitat.

FACT: Millennium has proposed to construct an aquatic habitat mitigation site by converting an existing, isolated pond to an off-channel aquatic habitat connected to the Columbia River. Our Conceptual Mitigation Plan for Wetlands and Aquatic Habitat was submitted to Ecology, Cowlitz County and the Corps in May of 2017. Cowlitz County has approved the plan and issued a Critical Areas Permit for the project in July 2017. Millennium proposes to construct the Off-Channel Slough Mitigation Site, which will provide seasonally-inundated off-channel habitat with associated emergent and riparian vegetation, by improving an existing pond and connecting it to the river. This habitat type was historically widespread but has since been vastly reduced throughout the lower Columbia River system. The pond is located along the shore, riverward of the levee, in the upstream portion of the Millennium lease area adjacent to the bulk terminal. As described below, approximately 12 acres of new habitat would be created to more than offset the loss of the five acres.

This compensatory mitigation will provide new off-channel aquatic habitat, which is highly valuable to juvenile salmonids of the lower Columbia River and has been disproportionately lost through development and management of the Columbia River. The proposed Site will achieve the following environmental goals:

- Provide off-channel aquatic habitat that is connected to the Columbia River.
- Ensure access to the off-channel habitat for juvenile salmonids.
- Provide structurally diverse native vegetation communities within the off-channel habitat.
- Provide structurally diverse native riparian vegetation on the outer berm.

Functional objectives detail how the goals of the mitigation action will be implemented. The functional objectives for the Aquatic Mitigation Action are as follows:

- Provide 7.0 acres of new off-channel aquatic habitat below OHW that incorporates emergent, shrub, and forested components.
- Provide an effective connection between the Columbia River and the off-channel habitat.
- Establish 4.5 acres of native emergent, shrub, and tree species within the off-channel habitat.
- Establish 0.75 acre of native riparian vegetation on the outer berm.

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Bellon Claim:

The application provided insufficient information on how contaminated wastewater and stormwater would be managed at the site during both construction and operations. The application did not provide sufficient information to demonstrate that wastewater and stormwater discharges would meet state water quality standards, including an inadequate description of the types and amounts of contaminants in the discharge, and an incomplete analysis of how the treated discharge would potentially impact the ambient water quality of the Columbia River. The application did not provide sufficient information on how contaminated wastewater and stormwater would be adequately controlled to minimize the discharge of pollution to the Columbia River.

FACT: Section 4.5 of the SEPA FEIS describes the best management practices proposed by MBT-Longview and the robust measures available and proposed for managing wastewater and stormwater during both construction and operations. The SEPA FEIS acknowledges that impacts could occur but that the level of impacts would be below benchmarks or applicable standards designed to protect water quality. The SEPA FEIS made repeated findings that the project would not result in significant adverse effects to water quality, wetlands, fish, and the aquatic environment more generally and anticipated that technology was available and would be implemented to ensure that any impacts would be mitigated in accordance with applicable water quality standards. Section 4.5 of the SEPA FEIS concludes: *"Compliance with laws and implementation of the measures and design features described above would reduce impacts on water quality. There would be no unavoidable and significant adverse environmental impacts on water quality."*

Millennium submitted detailed information to Ecology to demonstrate its ability to meet water quality standards sufficient for a section 401 certification, but Ecology decided not to work with Millennium to complete the certification process. Ecology and Director Bellon decided instead to abruptly terminate the process and deny the certification "with prejudice" to veto the project altogether, and in so doing, relied on non-water factors found in that same EIS.

Bellon Claim:

The company would need access to sufficient water supplies to manage coal dust and to suppress fires during normal operations at the site. The company could not demonstrate they had sufficient rights to use water wells on the site for these purposes.

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FACT: As stated on page 4.4-23 of the SEPA FEIS: *"Approximately 1,200 gpm during the wet season and 2,000 gpm during the dry season (approximately 2,034 AFY) would normally be required for dust suppression. On-site groundwater wells would provide approximately 635 gpm (1,025 AFY) to maintain minimum water levels in the storage pond to meet process water demands during the dry season. Water from the storage pond could also be used for the fire hydrant, sprinklers and deluge systems, watering of landscaping and other non-recyclable uses. Northwest Alloys holds water rights that originally authorized extraction of 23,150 gpm up to a total volume of 31,367 AFY." "The total demand accounts for less than 10% of the maximum pumping limit allowed under original water rights. Therefore, operation of the Proposed Action would have a negligible impact on groundwater supply. The Applicant would ensure that water rights are current before withdrawing any water for construction or operations; water rights would be maintained for ongoing groundwater use during operation of the Proposed Action."*

The Columbia River is not a closed basin, and new water rights can be obtained if needed.

Bellon Claim:

Because the site is a toxic cleanup site from past smelter operations, it has preexisting groundwater and soil contamination. The application needed to show how construction would affect this contamination and future cleanup work, and ensure that the discharge would continue to meet water quality standards. The application did not provide sufficient information to show that construction activities would be conducted in a way that would ensure that the existing contamination at the site would be properly contained and managed.

FACT: There has been an extensive (over 12 year) process to develop both a renewed NPDES permit for the site and a Remedial Investigation/Feasibility Study (RI/FS) on voluntary site cleanup. The cleanup site is ranked by Ecology as a 5 (on a 1 to 5 scale), which is the lowest risk ranking for both human health and the environment. As noted on page 4.4-18 of the SEPA FEIS, *"Construction of the Proposed Action could encounter previously contaminated areas currently identified in the MTCA Cleanup Action Plan, which could degrade groundwater quality. However, with the exception of two small areas—the eastern corner of the Flat Storage Area and the northeastern portion of Fill Deposit B-3 (Figure 4.4-5 in the FEIS)—cleanup actions are not recommended in the draft Cleanup Action Plan within the project area. For the Flat Storage Area and Fill Deposit B-3, construction and remediation activities would be coordinated to prevent spread of contamination or environmental impacts."*

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Waiver

As you know, under current law, the State was required to issue a final certification decision within one year of receipt of Millennium's application for a CWA Section 401 certification. 33 U.S.C. § 1341(a)(1)("if the state. . . fails or refuses to act on a request for certification, within a reasonable period of time (which shall not exceed one year) after receipt of such request, the certification requirements. . . shall be waived with respect to such Federal application."). To accommodate agency processes, Millennium applied for a CWA Section 401 certification three times over the last six years of permit processing. Millennium first applied for a CWA Section 401 certification on February 22, 2012 as part of its Corps permit application. At the Corps' request, Millennium withdrew the application to allow time for the completion of the EISs. On July 13, 2016, as the SEPA EIS neared completion, Millennium again submitted an application for a CWA Section 401 certification. To allow for additional time for Ecology to consider Millennium-provided reports and materials, and at Ecology's request, Millennium withdrew this application once again on June 21, 2017 and reapplied for the third time on June 27, 2017. Therefore the State was required to issue a final decision on that application by June 27, 2018.

Although Ecology issued an initial decision on September 26, 2017 denying Millennium's certification, the record demonstrates that the State has waived its right to issue a CWA section 401 certification in two separate and independent ways. First, more than one year passed between Ecology's receipt of the application and the PCHB's issuance of the final 401 certification decision. During the ensuing appeal of Ecology's certification denial, Ecology told the Superior Court in Cowlitz County that its Denial Order was not final until the PCHB reviewed and decided Millennium's administrative appeal. The PCHB's decision was made more than one month after the expiration of the one year statute of limitations period set forth under CWA section 401.

Second, even if this final decision was timely (and it was not), the certification decision made by Ecology and affirmed by the Board, is not the certification required by 33 U.S.C. §1341(a)(1). Pursuant to CWA section 401, the State was required to determine whether a facility's discharge will violate "the applicable provisions of sections 1311, 1312, 1313, 1316 and 1317" of the CWA. 33 U.S.C. § 1341(a)(1). The State did not make this determination. Instead the State decided to answer a different question: whether Ecology should deny the project based on SEPA, R.C.W. §43.21C.060. But Congress did not authorize states to certify whether a proposed project should be denied under SEPA either in CWA section 401 or anywhere else in the CWA.

Conclusion

Millennium is committed to operating in a responsible manner. We value our natural environment and the safety of our employees. Our employees have lived in and around Cowlitz County for generations. They understand the unique opportunities offered by the Columbia River and the responsibility that comes with protecting the air, water and land that surround it.

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Senator BARRASSO. Senator Fischer.

Senator FISCHER. Thank you, Mr. Chairman.

Mr. Stewart, thank you for your testimony this morning. I appreciate you appearing before our committee and sharing your experience about the challenges facing our States and constituents as a result of that cumbersome red tape and the needless delays we see under Section 401 and that process. It is due to reasons unrelated to water quality concerns.

Nebraska is the only triple land-locked State in the Nation. With an ag economy of $21.5 billion annually and a population of 1.9 million people, you can see how important it is for my State to export our high quality agriculture products around the globe.

To do so, Nebraska producers depend on ports. We depend on those ports located along our Nation's coastlines. However, when States with antigrowth agendas can unilaterally determine what commodities get to be exported as the result of project delays that are unrelated to water quality issues that raises concerns. Today, it is coal. Tomorrow, it could be corn or soy beans.

Mr. Stewart, what are the potential economic implications States, communities and families could face as a result of important export terminal project delays?

Mr. STEWART. Thank you, Senator Fischer.

First of all, when you bring it out like that, I thought he was going to give me a chance to answer him but I want to answer you as well.

First of all, I would be very alarmed. I would be very alarmed that first of all, they are coming after coal. Yes, tomorrow, it might be fish. Tomorrow it might be a different kind of fish. Tomorrow it might be GMOs, or might be non-electric cars. Whatever may be the case, whatever is the flavor of the month, someone is going to try to go after that.

When you talk about States' rights, I have no problem. I am not trying to interfere with States' rights. I am not trying to interfere with those areas, but you have to recognize that under States' rights, under the United States Constitution, there is something called the Indian Commerce Clause. There is something called equal trade, free trade, all these terms we freely throw around when it works to our benefit.

Like the Chairman said, we cannot pick winners and losers. We should not pick winners and losers. We should allow people and groups to work with each other to try to establish this economy.

In the U.S. Constitution and as a United States citizen, but first and foremost as a citizen of the Crow Nation, we have a phrase in the United States Constitution that says "pursuit of happiness." In Indian Country, that is called self-determination. That is a Federal act.

When we are being stymied or impeded, our ability to move our product through the ports or even to the domestic markets because as a Nation within a Nation, the Crow Nation has always been exporting. Now they are going to try to tell us we cannot send our product out of our Nation or cannot provide. I am going to bring it up again. If you are going to close the door, what doors are they leaving open?

I am not trying to blame anyone, I am not trying to point fingers but this is America. As a first American, I would be very alarmed. Right now, we have 70 percent unemployment. Do they care? Yes, we care about endangered species but there are only 14,000 Crows left. I believe we are endangered as well.

When you talk about 3 percent of the population in the United States and 60 percent of this Nation's good resources lie in Indian Country and only 88 percent of those resources have been tapped, only 12 percent of Native Americans has been able to tap their resources, there is something wrong with that picture. There are impediments in our way. There are 49 steps that stand in our way and four primary agencies. When we talk about coal, there is a fifth with OSM.

When we talk about these impediments and the 49 steps that we, as Native Americans have to go through as first Americans, we should be the first ones out of the gate. We have the most resources but we are the last ones at the dinner table.

With that much in resources we should be sitting at the table. We should have a place at the table. We should have our name at the table. We should not be giving the right to the States to break the law, to impede other nations from trying to feed their people. That is wrong. Not only is it breaking the law, but it is morally wrong. We need the ability to establish our jobs and have jobs, 70 percent.

To the good Senator, I appreciate your question.

Senator FISCHER. Thank you for a very wonderful answer to why we must have free commerce in this Country. I think you expressed it beautifully.

Thank you.

Senator BARRASSO. Thank you, Senator Fischer.

Senator ERNST.

Senator ERNST. Thank you, Mr. Chairman.

Mr. Stewart, thank you for being here. I am going to echo the Senator from Nebraska's thoughts as well. The fact that you have 14,000 members of your Nation and are endangered as well is a very powerful statement. That is extremely powerful.

So many of the questions I had have already been asked. I would like you to take this opportunity to visit with us a bit more. Understanding your presence here today really does suggest there are some important State and tribal interests being hurt when the Section 401 authority is abused. We appreciate you taking the time to join us today.

In a broad statement, do you think other States and tribes, those without coastlines, have reason to be concerned about what is happening in your particular situation as well? Do you think other tribes or States have a reason to be concerned, witnessing what has happened with your Nation?

Mr. STEWART. Yes. In fact, we have friends, brothers and sisters, friends and families from other tribes. If they are not watching this, they should be. In fact, I know the tribes that are watching these areas, for some reason the Crows always are at the forefront of a lot of these situations.

That is because, as I stated, the U.S. Constitution says the "pursuit of happiness." We are just trying to determine ourselves, try-

ing to extract our resources. When you own 10 percent of the Nation's coal reserves and 3 percent of the world's, only averaging 3 million tons of coal a year, roughly 125 workers out of 14,000 Crows, that is pretty tough, especially when we are not trying to break the obligations of our treaties because we are getting nothing for free. We prepaid in the giving and ceding of our lands ahead of time with our treaties.

When we have a general fund that is funded at 66 percent from our own resources, that our own people have mined and sent out to domestic markets, wanting to now send them out to export markets, talking with other countries, our allies, and wanting to expound on our opportunities in those areas and being told there is another step you are going to have to cross, another bridge you are going to have to cross, why is that?

In Indian Country, when they tell us to abide by a regulation or policy, we have to. We do not have the ability or luxury to move the goalpost because, guess what, that is breaking the law. When you establish 401 as a platform for other reasons and political agendas, not realizing you are messing with people's lives, I have to say something.

Senator ERNST. Yes, and I am glad you have.

Mr. STEWART. I have come out of my own pocket to be here. I am sitting right here speaking from the heart.

Senator ERNST. We are very glad for that.

You have done a very good job explaining the difficulties your Nation is facing right now. If we were to be forward looking and if Section 401 had been approved and you were moving forward with exporting your coal and your resources not only to the domestic market but to foreign markets as well, could you describe what the situation would be like then for your Nation?

Mr. STEWART. At the time when I was on the council, I participated in a decision where we reached out to Harvard for the Indian coal production tax credits but at that time. Harvard did the study we asked them to do and paid them to do. Right or wrong, we said, put together a study and let us look at the economic ripple that we provide for the region.

We had that study done and looked at it. There were the direct benefits and indirect benefits and as it ripples throughout the region, at a good year, we were averaging 5.5 million tons at our coal mine and about $21 million to our tribal coffers, roughly 66 percent of our general fund budget.

When we did that study, it showed in the hundreds of billions just from that one coal mine how it affected the region. To answer your question, Senator Ernst, if we get the ability, under the Indian commerce clause, the only ones that can regulate commerce between tribes is Congress. States cannot impede upon that.

When we talk about these issues trying to move forward in this arena and be a participant in the economy, it will not only be benefiting the Crow people or their jobs, it will be benefiting the region and the area. That is a lot of new money to the States and a lot of new jobs to the States.

To answer your question in detail, I didn't want to go into that too much but I had to say all that to get to this point to clarify that the jobs that could be created by the companies that are out

there, or lack thereof right now, and your entrepreneurs that could be created, the jobs that could be created, it is not a shift of wealth within the States. It is new money. It is new taxes. It is new opportunities. There is no telling what it is going to do like new roads, new bridges, new whatever, new opportunity.

It is about opportunity. Without that opportunity, like the Good Book says, "Faith is the substance of things hoped for, the evidence of things not seen." Without that hope, without that opportunity, a lot of people would lose faith.

Thank you.

Senator ERNST. God bless you, Mr. Stewart. Thank you for being here.

Thank you, Mr. Chairman.

Senator BARRASSO. Thank you, Senator Ernst.

Senator BOOZMAN.

Senator BOOZMAN. Thank you, Mr. Chairman. Thank you for holding the hearing.

We appreciate you all being here and testifying about this very, very important subject.

Mr. Booker, investment in energy infrastructure, including pipelines, provides good-paying jobs for American workers. I think we all very much agree with that.

I understand a recent study by the Institute for Construction Economic Research found pipeline construction supports more than 41,700 jobs for union workers, each year generating over $2.3 billion in wages.

Can you elaborate on the job opportunities in pipeline construction for your members?

Mr. BOOKER. Absolutely. Thank you for the question, Senator.

The pipeline industry, with discovery of the Marcellus Shale, the Utica Shale and the availability and technology that has allowed us to gain that natural resource, has been a tremendous benefit for all workers, union and non-union in the Northeast region from Ohio, Pennsylvania, West Virginia and on to the Northeast.

The discovery of that has allowed us to put a lot of people to work. If you look back at 2008 and 2009 when the economy crashed, the sector of the economy that kept going was in the pipeline industry and the discovery of the natural gas. It kept communities together, families together and people working.

The pipeline infrastructure, the lack of pipeline infrastructure is critically important. We need to modernize the pipeline infrastructure and build new pipeline infrastructure which is going to create the jobs for all Americans.

Senator BOOZMAN. When you have obstruction and delays for obstruction and delay's sake, what does that do to things regarding, as you say, union and non-union workers, tribes, and non-tribes?

Mr. BOOKER. We look for predictability just like the owner of the pipeline does and the end user. When you go home at night, you want to turn on the light, turn on your air conditioner and make sure it works.

For us, when unnecessary delays happen, when we have planned and done the training for the work force to build that necessary infrastructure, to then have them be ready to go to work in that community and then they are back in the unemployment line. Their

wages dramatically decrease and they are not able to contribute to the local economy.

It affects our training and our capacity to train tomorrow's workers as well.

Senator BOOZMAN. I think you make a great point. You can play with good rules and you can play with bad rules. If you do not know what the rules are, it makes it very, very difficult to go forward. We appreciate that.

Mr. Stewart, I really do not have a question for you. I think you have answered all the questions in a very good way. I am glad you paid your way here to contribute. I want to go on record as agreeing with you that certainly States and tribes should have the ability to regulate water infrastructure. We need to work hard and I think this type of legislation reaffirms the importance of that.

Again, thank you very much for being here.

Mr. STEWART. Thank you.

Senator BOOZMAN. Mr. Booker, it is clear that the implementation of Section 401 has created confusion resulting in delays of important infrastructure projects and we discussed the uncertainty.

Do you believe the Water Quality Certification Improvement Act helps restore predictability and certainty while balancing State and Federal authorities?

Mr. BOOKER. I do. In my testimony, we believe in the States' rights. We believe there should be regulation. It has to be predictable though. You cannot change the rules of the game halfway through the game.

I think this is a necessary change that puts everyone in a predictable and certain way as to here are the rules, here is what you have to follow. If you can check every box, you will be able to build your project. If you cannot, then you are not. We support that.

Senator BOOZMAN. Do you want to comment on that, Mr. Stewart? I know the tribes certainly are kind of the classic as far as uncertainty, rules changing and this and that?

Mr. STEWART. Oh, yes. Since I only have a little bit of time, we can sit down later and talk about this.

To answer your question, when we are trying to be good actors, provide for our families, and try to do the things that need to get done, as a man and soon to be grandfather, I have to think about the generations before me, those that are coming.

We do not want to continue to move this goalpost. Water quality certification should mean certification of water quality, not what the Sierra Club wants or what this club or that club wants. It should mean what it says it is supposed to mean.

As a man, I was always taught that what you say is very precious. You cannot take it back. That falls in line with the integrity of a person and the integrity of the law. When we allow different entities, folks or States to break the integrity of that law, then we are violating the intent.

Those ramifications are very detrimental to not only the present generation but generations to come. It is something we just cannot play with. We have to be true to our word. Water quality certification should say what it says plain and simple.

Senator BOOZMAN. We appreciate that. Certainly those are simple truths. As a fairly recent grandfather, you are going to enjoy that. That will be a very, very positive thing in your life.

Thank you, Mr. Chairman.

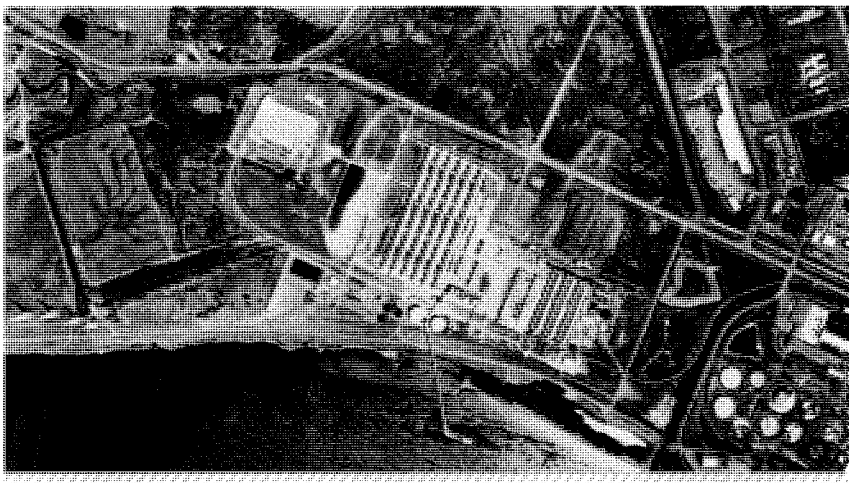
Senator BARRASSO. Thank you, Senator Boozman.

Before turning to Senator Cardin, I would submit to the record something Mr. Willardson referenced, which was the environmental impact statement for the Millennium Bulk Terminal. In that document, the State of Washington itself concluded that there would be no significant impacts to water quality, wetlands, surface waters or flood plains.

The State of Washington denied the project for political reasons. The State itself found these impacts were not problematic in its own environmental impact statement.

I am going to submit that for the record. Without objection, so ordered.

[The referenced information follows:]



MILLENNIUM Bulk Terminals—Longview

Environmental Impact Statement

State Environmental Policy Act
Final Environmental Impact Statement

Volume I: Final Environmental Impact Statement

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DEPARTMENT OF ECOLOGY State of Washington

Chapter 4

Natural Environment: Existing Conditions, Project Impacts, and Proposed Mitigation Measures

4.0 Introduction

For the purposes of this Final Environmental Impact Statement (Final EIS), environmental resource areas have been divided into three categories: the Built Environment, the Natural Environment, and Operations (Chapters 3, 4, and 5, respectively). The purpose of this chapter is to provide a discussion of the natural environment resource areas assessed for the Millennium Bulk Terminals—Longview project (Proposed Action).

Information contained in this Final EIS was extracted from technical reports prepared specifically for the Proposed Action. Provided in Volume III of this Final EIS, the technical reports are incorporated by reference and include the determination of study areas, analysis methods, existing conditions, and potential impacts.

Data sources used for this analysis are briefly discussed with each resource. In addition, a detailed list of sources is provided in Appendix A, *References* of this Final EIS.

4.0.1 Natural Environment Resource Areas

Chapter 4, *Natural Environment: Existing Conditions, Project Impacts, and Proposed Mitigation Measures*, evaluates the natural habitat and biological communities near the Proposed Action. The resource areas reviewed as part of the natural environment analysis include geology and soils; surface water and floodplains; wetlands; groundwater; water quality; vegetation; fish; wildlife; and energy and natural resources (Table 4.0-1). Additional detailed information about these resources can also be found in their corresponding technical reports in Volume III of this Final EIS.

In addition to these resource areas, Chapter 6, *Cumulative Impacts*, discusses cumulative impacts resulting from the Proposed Action combined with other past, present, and reasonably foreseeable actions.

Table 4.0-1. Resource Areas and Corresponding Final EIS Chapters

Chapter	Section Number	Environmental Resource Area
Chapter 3, Built Environment: Existing Conditions, Project Impacts, and Proposed Mitigation Measures	3.1	Land and Shoreline Use
	3.2	Social and Community Resources
	3.3	Aesthetics, Light, and Glare
	3.4	Cultural Resources
	3.5	Tribal Resources
	3.6	Hazardous Materials
Chapter 4, Natural Environment: Existing Conditions, Project Impacts, and Proposed Mitigation Measures	4.1	Geology and Soils
	4.2	Surface Water and Floodplains
	4.3	Wetlands
	4.4	Groundwater
	4.5	Water Quality
	4.6	Vegetation
	4.7	Fish
	4.8	Wildlife
	4.9	Energy and Natural Resources
Chapter 5, Operations: Existing Conditions, Project Impacts, and Proposed Mitigation Measures	5.1	Rail Transportation
	5.2	Rail Safety
	5.3	Vehicle Transportation
	5.4	Vessel Transportation
	5.5	Noise and Vibration
	5.6	Air Quality
	5.7	Coal Dust
	5.8	Greenhouse Gas Emissions and Climate Change

4.0.2 Alternatives and Timeframe for Analysis

This chapter analyzes the impacts that could occur as a result of construction and operation of the Proposed Action. The analysis contained in this chapter assumes construction beginning in 2018 and full operations[1] occurring by 2028. Throughout this chapter, the 190-acre coal export terminal site is referred to as the *project area*. The impacts identified for 2028 would occur for the lifetime of the Proposed Action. Proposed mitigation measures are intended to apply for the lifetime of the Proposed Action.

This chapter also analyzes impacts that could occur if the Proposed Action were not approved (the No-Action Alternative). Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, of this Final EIS provides a description of the Proposed Action and No-Action Alternative.

[1] Full operation means the coal export terminal would have a maximum throughput of up to 44 million metric tons of coal per year, as described in Chapter 2, *Project Objectives, Proposed Action, and Alternatives.*

4.0.3 Study Areas and Type of Impacts Analyzed

Each resource area has its own study area depending on its physical characteristics or regulations that oversee the resource area. Two types of study areas were identified—a direct impacts study area and an indirect impacts study area. Table 4.0-2 explains the differences between these two study areas. In some cases, both study areas are the same.

Table 4.0-2. Types of Impacts

Type of Impact[a]	Description	Description of Impacts Categories
Direct	An impact resulting from either construction or operation of the Proposed Action that occurs in the project area.	• **Construction:** Temporary impacts within the project area that are resolved or mitigated by the end of construction activity, or permanent impacts that result from changes to the project area due to construction of the coal export terminal. • **Operation:** Impacts occurring in the project area resulting from rail unloading, coal storage, machinery operations, equipment, vessel loading, etc.
Indirect	An impact resulting from either construction or operation of the Proposed Action that occurs beyond the project area.	• **Construction:** Impacts from activities beyond the project area during construction, such as vehicle and rail traffic. • **Operation:** Impacts from activities beyond the project area during operations, such as rail, vehicle, and vessel traffic.

Notes:
[a] Washington Administrative Code (WAC) 197-11-192.

Table 4.0-3 provides a summary of the direct and indirect impacts study areas by Chapter 4 resource.

Table 4.0-3. Direct and Indirect Impacts Study Areas by Resource

		Indirect Impacts Study Area	
Section and Resource	**Direct Impacts Study Area**	**Cowlitz County**	**Washington State (beyond Cowlitz County)**
4.1, Geology and Soils	Project area	Project area and the broader geologic environment in the surrounding area that could influence the project area	No additional study area[a]
4.2, Surface Water and Floodplains	• Surface Water: Columbia River and stormwater drainage ditches in the project area • Floodplains: Project area	• Surface Water: Stormwater system drainage ditches adjacent to the project area and the Columbia River 1 mile downstream from the project area • Floodplains: Project area and surrounding 500-year floodplain on the north side of the Columbia River in the vicinity of the project area	No additional study area[a]
4.3, Wetlands	Project area	Project area and the immediate vicinity, where wetlands might be affected by construction or operation of the coal export terminal	No additional study area
4.4, Groundwater	Project area	Applicant's leased area	No additional study area[a]
4.5, Water Quality	Project area and the area extending 300 feet from the project area into the Columbia River, and potential in-river dredged material disposal sites plus the area extending 300 feet downstream of each disposal site	Project area, stormwater system drainage ditches adjacent to the project area, the Columbia River up to 1 mile downstream of the project area, and potential in-river dredged material disposal sites plus the area extending 300 feet downstream of each disposal site	No additional study area

Section and Resource	Direct Impacts Study Area	Indirect Impacts Study Area: Cowlitz County	Indirect Impacts Study Area: Washington State (beyond Cowlitz County)
4.6, Vegetation	Project area plus additional elements (e.g., access roads, docks, and rail line)	The area within 1 mile of the project area for potential impacts from coal dust deposition from operations in the project area; the lower Columbia River for Proposed Action-related vessels; rail routes for Proposed Action-related trains	Rail routes for Proposed Action-related trains[a,b]
4.7, Fish	Main channel of the Columbia River 3.92 miles upstream and downstream of the project area	Columbia River downstream from the project area to the mouth of the Columbia River for Proposed Action-related vessels; rail routes along the Columbia River for Proposed Action-related trains	Rail routes for Proposed Action-related trains[a,b]
4.8, Wildlife	• Terrestrial Species and Habitats: Project area and up to 0.5 mile from project area • Aquatic Species and Habitats: Main channel of the Columbia River to 5.1 miles upstream and 2.1 miles downstream of the proposed docks for potential underwater noise impacts; surface and stormwater ditches, ponds, and wetlands in the project area	• Terrestrial Species: Rail routes for Proposed Action-related trains for potential coal spill and wildlife strike impacts • Aquatic Species: Columbia River downstream from the project area to the mouth of the river for potential impacts on marine mammals	• Terrestrial Species: Rail routes for Proposed Action-related trains[a]
4.9, Energy and Natural Resources	Project area	Area within 0.25 mile of project area	Not in the study area

Notes:

[a] Appendix F, *Rail and Vessel Corridor Information*, provides additional information for the Proposed Action-related rail and vessel corridors from the *Tesoro Savage Vancouver Energy Distribution Terminal Facility Draft Environmental Impact Statement* (Washington State Energy Facility Site Evaluation Council 2015).

[b] Study area for potential impacts related to coal spills only.

4.0.4 Mitigation Measures Development Approach

Applicable regulations, potential permit conditions, and required planning documents were evaluated to determine if they would address potentially significant adverse environmental impacts identified in this Final EIS. When applicable, each section describes specific measures identified by the Applicant to be implemented during construction and operations. When potential significant adverse environmental impacts remained, other proposed mitigation measures were identified that would reduce the identified impact (Applicant Mitigation). Mitigation measures included in permit conditions would become legal requirements of the Applicant. In addition to the proposed mitigation measures identified in each section of this chapter, the following measure is proposed.

- The Applicant will provide to Cowlitz County and the Washington State Department of Ecology an annual report of compliance with mitigation requirements of an issued permit. Mitigation compliance reports will be part of the public record.

Proposed mitigation measures were identified as required by the Washington State Environmental Policy Act (SEPA) consistent with Washington Administrative Code (WAC) 197-11-660, which states that mitigation shall be reasonable, capable of being accomplished and imposed to the extent attributable to the identified adverse impact of the proposal.

The thresholds of significance and proposed mitigation measures were determined by the co-lead agencies (Cowlitz County and the Washington State Department of Ecology). Additionally, when applicable, each section identifies mitigation measures that could be implemented by other agencies, groups, or companies (Other Measures to be Considered) to reduce potential Proposed Action-related impacts that are beyond the Applicant's control or authority.

4.1 Geology and Soils

Geology and soils are resources with defining characteristics (such as soil structure, composition, or geologic formations) that are unique or valuable or support unique habitats. Geology and soils can also influence the potential for geologic hazards, such as landslides, earthquakes, seismic effects (e.g., surface fault ruptures, strong ground shaking, liquefaction, lifting and lowering of the surface, and tsunamis), and volcanic activity. Understanding the types of soils and the underlying geologic conditions is important in determining whether a project would be exposed to increased risks related to these conditions.

This section describes the geology and soils in the study areas. It then describes potential impacts on geology and soils that could result from construction and operation of the Proposed Action and under the No-Action Alternative, as well as the geologic conditions that exist in the study areas that could pose a risk to the project area. This section also presents proposed measures identified to mitigate impacts resulting from the Proposed Action.

4.1.1 Regulatory Setting

Laws and regulations relevant to geology and soils are summarized in Table 4.1-1.

Table 4.1-1. Regulations, Statutes, and Guidelines for Geology and Soils

Regulation, Statute, Guideline	Description
Federal	
Clean Water Act Section 402 Permit for Stormwater Discharges Associated with Construction Activities	Primarily deals with water quality but includes eroded soils potentially delivered offsite via runoff. Mandates that certain types of construction activities (and operations) comply with the EPA NPDES program. The EPA has designated Washington State Department of Ecology the nonfederal authority for the NPDES program in Washington State. Includes development of a stormwater pollution prevention plan.
Local	
Cowlitz County Critical Areas Protection Ordinance (CCC 19.15)	Designates geologically hazardous areas (including seismic, volcanic, erosion, and landslide hazards) and defines performance standards and specific requirements for development within these areas.
Cowlitz County Grading (CCC 16.35)	Grading plan requirement and standards including the protection of water quality from adverse impacts of erosion and sedimentation.
Cowlitz County Building Code (CCC 16.05)	Cowlitz County has adopted the 2012 International Building and Residential Codes.

Notes:
EPA = U.S. Environmental Protection Agency; NPDES = National Pollutant Discharge Elimination System; CCC = Cowlitz County Code

4.1.2 Study Area

The study area for direct impacts on geology and soils is the project area.

The study area for indirect impacts on geology and soils is the project area and the broader geologic environment in the area surrounding the project area that could influence the project area. These broader geologic influences include earthquakes (seismicity) and their associated impacts (ground shaking), as well as tsunamis (large earthquake-generated waves that can affect coastal zones and could travel some distance up large rivers) or landslides that might reach the project area. Figure 4.1-1 shows the study areas for the geology and soils analysis.

4.1.3 Methods

This section describes the sources of information and methods used to evaluate the potential impacts associated with the construction and operation of the Proposed Action and No-Action Alternative.

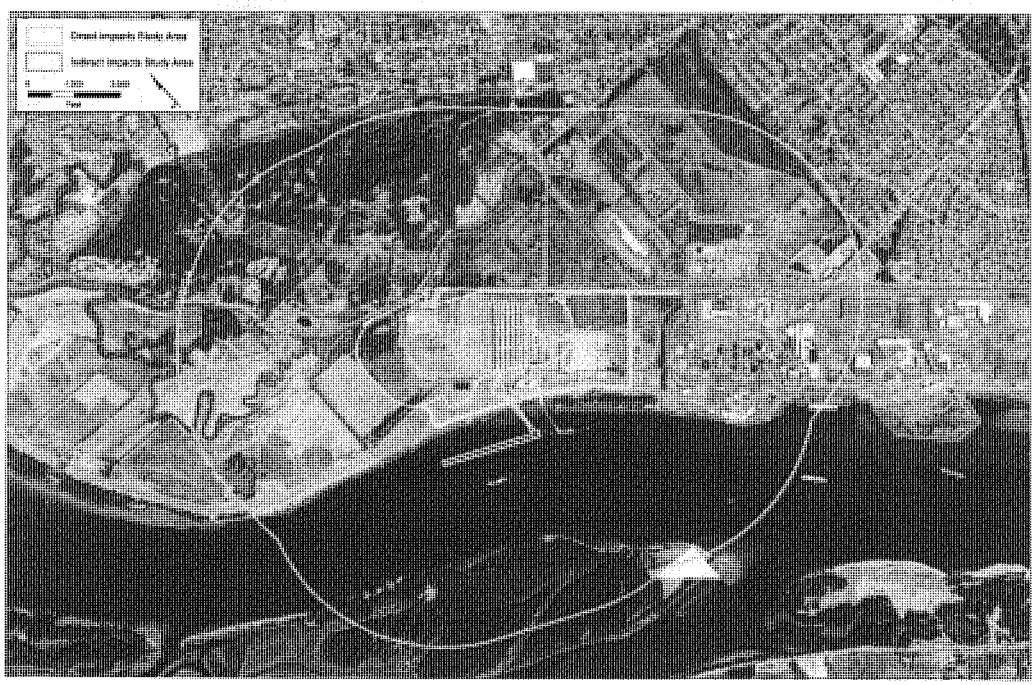
4.1.3.1 Information Sources

Information with respect to geology and soils was collected through review of information and reports provided by the Applicant as well as other sources of information and scientific literature, including Washington State Department of Natural Resources Division of Geology and Earth Resources materials, U.S. Geological Survey (USGS) maps and reports, U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) soil information, and geological and soil literature. Additionally, a site visit by a professional geologist conducted on January 29, 2014, provided an overview of existing conditions at the project area.

The following sources of information were used to identify the potential impacts of the Proposed Action and No-Action Alternative on geology and soils in the study area.

- USGS National Seismic Hazard Maps and associated report (U.S. Geological Survey 2013)
- Cascadia Region Earthquake Workgroup (2013) report on the Cascadia Subduction Zone earthquakes
- Washington State Department of Natural Resources Division of Geology and Earth Resources geologic mapping and geologic hazards of the Longview area (various)
- NRCS soil mapping (2013)
- Geotechnical engineering reports and geotechnical engineering data reports prepared for the project area (GRI 2011, 2012)
- Professional workshop and refereed scientific journal materials on tsunamis in the Columbia River
- Geology and soil report prepared for the project area by the Applicant (URS Corporation 2014)

Figure 4.1-1. Geology and Soils Study Areas



4.1.3.2 Impact Analysis

The following methods were used to evaluate the potential impacts of the Proposed Action and No-Action Alternative on geology and soils.

The analysis of potential impacts related to geology and soils reviewed the following.

- Regional and site characteristics (bedrock, unconsolidated sediment, and soil characteristics) and how they could influence site or structure stability through soil erosion, landslides, and settling.
- Potential ground shaking and ground settling that could occur due to earthquakes and the stability of the underlying materials.
- The potential for impacts related to volcanic hazards and tsunamis.

4.1.4 Existing Conditions

This section describes the existing environmental conditions in the study area related to geology and soils that could be affected by the construction and operation of the Proposed Action and No-Action Alternative. Broader geologic context is provided as a foundation for the site-specific analysis presented in the following section.

4.1.4.1 Geology in the Project Area and Vicinity

The project area is located on the north shore of the Columbia River, approximately 5 miles downstream of the confluence of the Cowlitz and Columbia Rivers (at approximately river mile 63 in the Columbia River). Levees were constructed along the river side of the project area (Figure 4.1-2) around 1920, and the area has been used as an industrial site since the 1940s (Anchor QEA 2011). The project area is relatively level with some steep slopes that descend into drainage ditches on the northern part of the project area and to the Columbia River on the south side. Soils consist mostly of alluvium (i.e., river deposits of gravel, sand, and silt) as well as human-made sources of fill. The project area is at an elevation approximately 16 feet above sea level.

The adjacent Columbia River navigation channel is approximately 43 feet deep at low tide (National Oceanic and Atmospheric Administration Chart 18524) and from 28 to 42 feet deep at low tide at the location of the proposed docks (Dock 2 and Dock 3). No unique geologic physical features, such as unique geologic formations, rock outcroppings, cliffs, or soil formations, occur at the project area.

The study area exhibits attributes that are typical of the lower Columbia River valley. The regional geology is dominated by events related to the eastward movement of the Juan de Fuca tectonic plate against the North American plate (Evarts et al. 2009; Parsons et al. 2005). As these plates shift, the Juan de Fuca plate descends below the North American plate and it liquefies at depth. The associated magma (lava) rises to the surface to form the volcanic Cascade mountain range.

Areas of exposed bedrock are present near the project area. These areas include Mount Solo to the immediate north of the project area (Figure 4.1-3) and Mount Coffin approximately 0.5 mile upstream of the project area (Washington State Department of Natural Resources 2014). The outermost bedrock on Mount Solo is mapped as volcanic rocks (basalt). At the study area scale, landslides are also mapped along the slopes of Mount Solo.

Figure 4.1-2. Levees in the Project Area and Vicinity

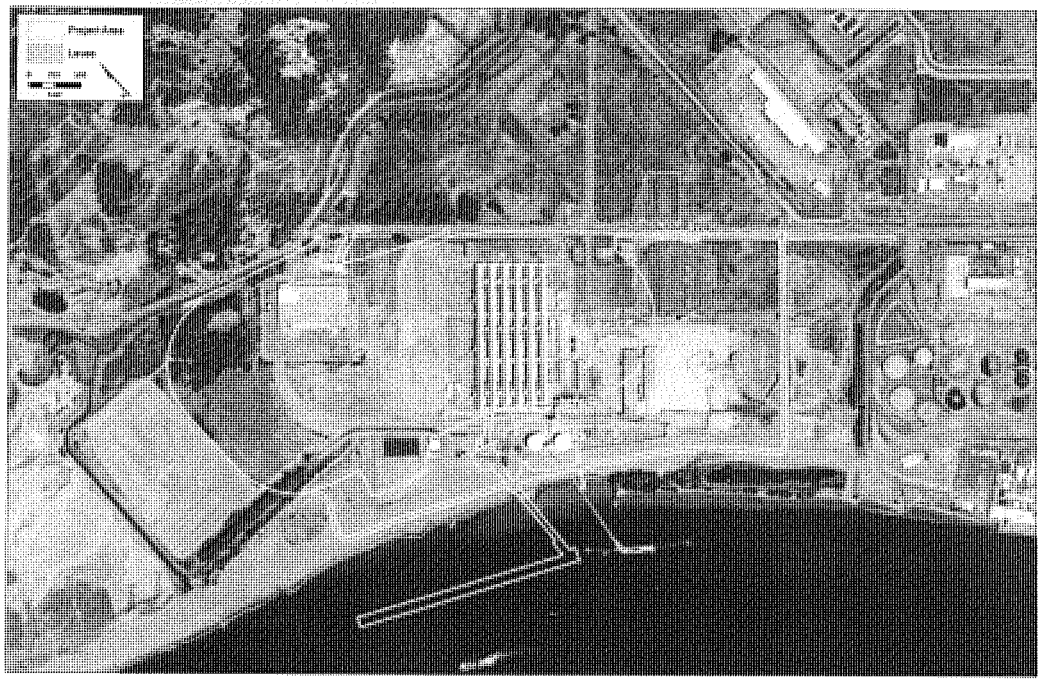


Figure 4.1-3. Landslides in the Project Area and Vicinity

Subsurface Conditions

The soil material beneath the project area is derived from the interaction of the river and the floodplain during high flow events that deposit sediments consisting of sand, silt, and clay, as well as areas of peat (Anchor Environmental 2007; Anchor QEA 2011; GRI 2012; URS Corporation 2014). Groundwater is found between 3 and 20 feet below the ground surface, so sediments have varying amounts of water content (Anchor QEA 2011, 2013; GRI 2012; URS Corporation 2014). Geotechnical investigations indicate that the surface and near-surface sediments are soft or loose (URS Corporation 2014). These conditions indicate the potential for some settlement under the weight of certain project features, such as stockpile pads, buildings, and rail loops. Field tests indicate the potential for relatively significant settlement of these underlying materials over a long period of time (URS Corporation 2014).

Because of saturated sandy soil conditions that exist at the project area, liquefaction of soils could result from an earthquake. Geotechnical reports prepared for a previously proposed asphalt plant at the site identified the potential for post-earthquake liquefaction of soils to cause settlement of 7 to 16 inches (GeoEngineers 2007) and 12 to 16 inches (Shannon and Wilson 2008).

Landslides and Slope Stability

Landslides were not identified as a potential risk for the Proposed Action in local slope instability reports or on-site investigations (Figure 4.1-3) (Fiksdal 1989; Wegmann 2006; Anchor Environmental 2007; GRI 2011, 2012). The project area for the Proposed Action is flat; therefore, there is a low likelihood of landslides occurring. Much of the shoreline of the Columbia River has been armored with riprap along the length of the levee adjacent to the Proposed Action. The riprap protects the levee from erosion, while the levee itself protects upland areas from flooding.

Landslides have been identified on Mount Solo. Fiksdal (1989) identified two landslide areas on the eastern flanks of Mount Solo, as well as one on the north side and another on the south side (Figure 4.1-3). More detailed mapping by Wegmann (2006) identified multiple landslides around Mount Solo. Wegmann (2006) also determined whether the features were inactive or active. One of the active landslides is on the south side of Mount Solo, meaning that it could affect the project area. This landslide is formed by the exposed bedrock that is discussed in Section 4.1.4.1, *Geology in the Project Area and Vicinity.* Landslides on Mount Solo could be caused by strong ground shaking from earthquakes or by saturated soil.

Seismicity

Pacific Northwest earthquakes are caused by one of four possible geologic events: movements between the tectonic plates on the coastal Cascadia Subduction Zone (CSZ), subduction of the Juan de Fuca plate sinking beneath the North American tectonic plate, shallow crustal movements in the North American tectonic plate, and movements related to volcanic activity.

No great earthquakes (magnitude 8.0 to 9.0[1] or higher) have occurred on the CSZ during the historical record but reconstructions from the geologic record show that more than 10 great

[1] The Richter scale is used to define the scale for earthquake magnitudes presented in this section.

earthquakes have occurred in Oregon and Washington over the last 5,000 years (Cascadia Region Earthquake Workgroup 2013; URS Corporation 2014). The interval in which these earthquakes reoccur is estimated at approximately 250 to 900 years with the last occurrence in 1700 (Atwater 1994; Jacoby et al. 1997).

Based on the historical record, plate movement due to the sinking of the Juan de Fuca plate under the North American plate is considered capable of causing earthquakes as large as magnitude 7.5 (URS Corporation 2014). These earthquakes generally do not have faults that reach ground level and the recurrence time is unknown. Earthquakes that were caused by this type of plate movement in Washington include the 1949 Olympia 7.1 magnitude, the 1965 Seattle 6.5 magnitude, and the 2001 Nisqually 6.8 magnitude. These earthquakes did not cause significant damage in the Longview area (Noson et al. 1988; Washington State Department of Natural Resources 2001; Washington State Seismic Safety Committee 2012; URS Corporation 2014).

Shallow earthquakes in the earth's crust occur over large areas. Based on data gathered and historical records in the Pacific Northwest, these earthquakes can be greater than magnitude 6.0 and perhaps as high as magnitude 7.0 to 7.5 (URS Corporation 2014). The 1872 North Cascade (Lake Chelan, Washington, area) magnitude 6.5 to 7.0 earthquake is considered the largest historical shallow crustal earthquake (Bakun et al. 2002; URS Corporation 2014). Shallow faults in southwestern Washington and northwestern Oregon have the potential to generate magnitude 6.0 and greater earthquakes (Wong et al. 2000; Lidke et al. 2003; Personius et al. 2003; URS Corporation 2014).

Volcanic earthquakes occur beneath the Cascade volcanoes; Mount St. Helens is about 40 miles east of the project area. These earthquakes are associated with magma movement or volcanic faults within the Mount St. Helens seismic zone. The largest recorded earthquake beneath Cascade volcanoes was a magnitude 5.1 earthquake in 1981 (U.S. Geological Survey 2013).

Surface Fault Rupture

No shallow crustal faults are active or potentially active within the immediate vicinity of the project area (Lidke et al. 2003; Personius et al. 2003; Barnett et al. 2009; Czajkowski and Bowman 2014.). The closest faults are the Portland Hills and Frontal Fault–Lacamas Lake Faults that are about 40 miles to the southeast near Portland, Oregon (Wong et al. 2000; URS Corporation 2014). The Mount St. Helens Seismic Zone is a fault line about 45 miles to the east and offshore faults are about 60 miles to the west.

Strong Ground Shaking

Between 1872 and 2014, earthquakes ranged in magnitude from 5.0 to 7.3 for all of Washington (URS Corporation 2014). Large earthquakes that would have affected the Longview area primarily took place in the Puget Sound area and Portland, Oregon. They range in magnitude from 5.0 to 7.1 (URS Corporation 2014). Large earthquakes would cause severe ground shaking in the Longview area including the project area.

The USGS National Seismic Hazard Maps determine earthquake ground motions for different seismic thresholds that are used for seismic requirements in building codes. These values come from evaluating all of the potential earthquakes (including their locations, depths, and likelihoods) that could affect an area. The maps display peak ground acceleration, the measure of the ground's acceleration from no motion at all to a peak motion during ground shaking. This acceleration causes

shaking and stress on structures. A peak ground acceleration in the range of 0.34 to 0.65 gravity (g) is regarded as severe shaking and could cause moderate to heavy damage to buildings or structures, depending on the duration of the event, the types of underlying materials, and the structural integrity of the affected buildings or structures (Petersen et al. 2014). The USGS map shows a peak ground acceleration in the study area of 0.4 to 0.5 g, which has a 2% chance of being exceeded in 50 years (Petersen et al. 2014).

Ground shaking is also stronger in areas of soft soils or loose deposits such as sand and silt. The Site Class Map of Cowlitz County, Washington, shows the project area as site class E, which has the softest soil conditions and highest level of potential ground shaking (Palmer et al. 2004).

Cascadia Region Earthquake Workgroup (2013) notes that underwater landslides, which could disrupt the Columbia River navigation channel and adjacent industrial and commercial berthing areas, also pose a ground shaking and liquefaction hazard to the area.

Secondary Seismic Hazards: Liquefaction and Subsidence

Liquefaction occurs when stress such as ground shaking causes saturated or partially saturated soil to lose its strength and act like a fluid. The project area has potential for liquefaction during ground shaking. The Liquefaction Susceptibility Map of Cowlitz County, Washington, shows the area as having high liquefaction potential (Palmer et al. 2004). The area is underlain by hundreds of feet of gravel, sand, silt, and organic layers. The sandy layers can liquefy during strong ground shaking and then could flow or lose stability, and no longer support the ground above them. The flowing layers could flow horizontally or vertically depending on the adjacent layers and whether the liquefying layer could exit the ground (e.g., by flowing out of an adjacent slope or river channel or coming out at the surface by forming one or more sand volcanos[2]).

The geologic record provides evidence of liquefaction potential along the Columbia River. Previous investigations at the site for a proposed asphalt plant resulted in similar estimates for settlement from liquefaction that range from 7 to 16 inches for a CSZ earthquake ranging from magnitudes 7.4 to 8.3, though this varies with location.

Volcanic Hazards

The main volcanic hazard at Longview is from airborne fragments, ash fall, and lahars (volcanic mudflows) reaching, and continuing down, the Columbia River. Active volcanoes within the Cascade Range lie to the east of Longview, with the closest active volcano being Mount St. Helens about 40 miles to the east. The project area does not lie within the Cowlitz County designated volcanic flowage hazard zone 1 (within a 5-mile radius of volcanic activity). USGS estimates the annual chance of ash fall greater than 4 inches at Longview to be between 0.01% and 0.02% or between 1 in 10,000 to 1 in 5,000 (Wolfe and Pierson 1995).

Lahars originating from the south flank of Mount Rainier in the upper Cowlitz River are unlikely to reach the lower Cowlitz River (Cakir and Walsh 2012). Lahars have been documented upstream along the Sandy River draining from Mount Hood in Oregon (Pierson et al. 2009) at approximately 55 miles upstream of Longview. Lahars from Mount Adams could reach the Columbia River via the

[2] A sand volcano is a cone of sand formed by the ejection of sand onto the surface from a central point. The cone looks similar to a volcano. The process is often associated with earthquake liquefaction and the ejection of fluidized sand that can occur in water-saturated sediments during an earthquake.

White Salmon River; its confluence is more than 100 river miles upstream of Longview. The Longview area is not within the Cowlitz County-designated volcanic flowage hazard zone 3, which would require an evacuation and emergency management plan.

Mine Hazard Areas

Mine hazard areas in Cowlitz County are mainly associated with historical coal mining and areas affected by mine workings such as adits, tunnels, drifts, or airshafts. There is no bedrock with coal along the Columbia River in the Longview area.

Tsunamis

Washington and Oregon tsunamis could result from CSZ earthquakes along their coastline or similar major earthquakes in areas such as southern Alaska, Japan, or Indonesia. Tsunami hazard and evacuation maps for Washington and Oregon only extend up the Columbia River to a point just east of Astoria, Oregon (river mile 15, approximately 50 miles downstream of the project area) (Walsh et al. 2000; Washington State Department of Natural Resources 2010; Oregon Department of Geology and Mineral Industries 2012). Modeling calculations found that an 18-foot-high tsunami at the Columbia River mouth decreased to less than 8 inches at Longview (Yeh et al. 2012).

Sea Level Rise

Sea levels are rising. However, some areas of the Pacific Northwest are experiencing uplift; by contrast, areas around Puget Sound are subsiding and experiencing larger-than-average impacts from rising sea levels. Sea level rise in the Pacific Northwest is expected to be as little as 5 inches or less to more than 4 feet by the end of the century. The project area is approximately 60 miles inland from the mouth of the Columbia River, and sea level rise at the project area is expected to be minimal. Further, the project area is behind Columbia River levees of approximately 36 feet above sea level, and since this is higher than the potential sea level rise, there would not be any impacts on soils on the project area or an increased risk of erosion. Sea level rise is discussed further in Chapter 5, Section 5.8, *Greenhouse Gas Emissions and Climate Change.*

4.1.4.2 Soils in the Project Area and Vicinity

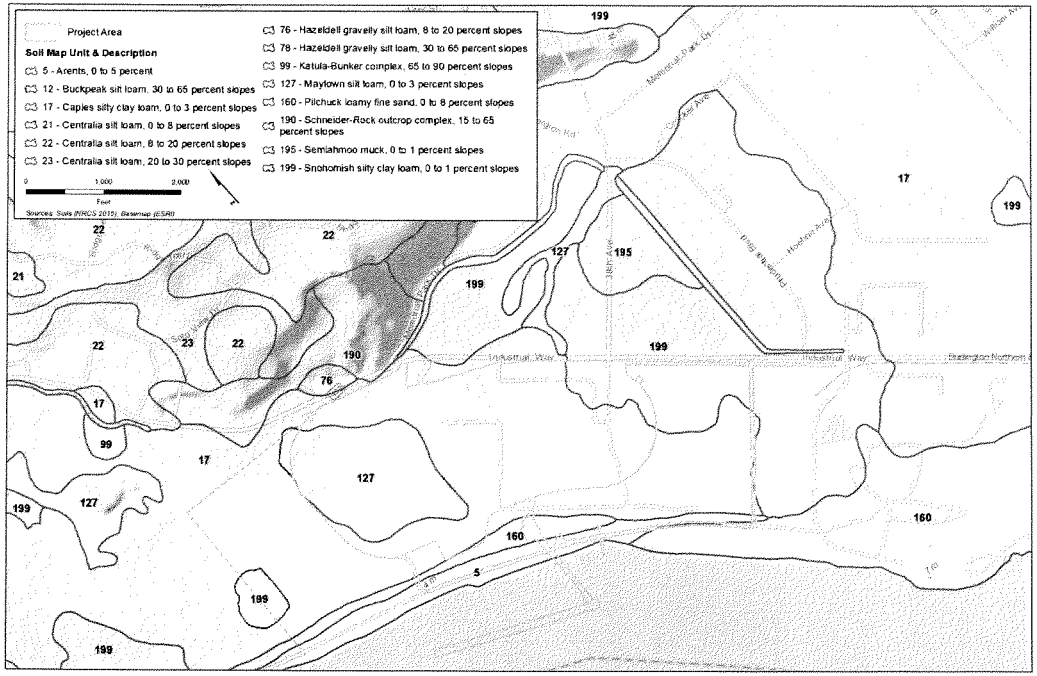
Cowlitz County soils have been mapped by NRCS (Natural Resources Conservation Service 2013). These soil units and some of their characteristics are shown in Table 4.1-2. Excluding water, five soil units are mapped at the project area (Figure 4.1-4). All of these soil units reflect the alluvial (river deposit) origin of the soil material and are relatively fine-grained.

The erosion hazard is considered slight for all of the soils in the study area. The K factor[3] indicates a soil's vulnerability to erosion. The higher the soil's K factor, the higher its erosion potential. Based on the K factor, the Caples silty clay loam (Map Unit Number 17), the Maytown silt loam (Map Unit 127), and Snohomish silty clay loam (Map Unit Number 199) have a higher erosion hazard under bare soil conditions. These soils have a low susceptibility to wind erosion.

The site soils are all moderate in regards to their potential for corrosion of concrete. Several engineering measures address concrete and steel corrosion, such as improving drainage and replacing native soil with fill (Washington State Department of Transportation 2014).

[3] K factor is a soil erodibility factor which represents both susceptibility of soil to erosion and the rate of runoff.

Figure 4.1-4. Soil Types in the Project Area and Vicinity



A soil's linear extensibility is the measure of its potential to expand during wetting and to contract during drying. The more a soil expands the more potential it has to affect overlying materials such as structure foundations. The soil expansion classes for the project area range from low (Arents, Pilchuck loamy fine sand), to moderate (Maytown silt loam, Snohomish silty clay loam), to high (Caples silty clay loam). The values in Table 4.1-2 are provided as a percent expansion and a descriptive classification (class).

The above discussion relates to the naturally occurring soils at the project area. However, the project area has been an industrial site since the 1940s and has had various amounts of surface disturbance and fill material (sand, silt, mixed silt and sand, large gravel, and crushed rock [Anchor QEA 2011; GRI 2011, 2012]) placement. Due to the industrial use, site-specific surface soil materials could vary from NRCS mapping. Data reports for the project area indicate varying areas of fill materials, particularly under existing structures.

Table 4.1-2. Soils and Soil Properties in the Project Area

Map Unit Number[a]	Soil Map Unit Name	Drainage Class	K Factor[b]	Erosion Hazard	Corrosion of Concrete[c]	Corrosion of Uncoated Steel[d]	Linear Extensibility (Class)
5	Arents, 0 to 5% slopes	Moderately well drained	0.28	Slight	Moderate	Moderate	1.5% (Low)
17	Caples silty clay loam, 0 to 3% slopes	Somewhat poorly drained	0.43	Slight	Moderate	High	7.0% (High)
127	Maytown silt loam, 0 to 3% slopes	Moderately well drained	0.49	Slight	Moderate	High	3.6% (Moderate)
160	Pilchuck loamy fine sand, 0 to 8% slope	Not defined	0.20	Slight	Moderate	Low	1.5% (Low)
199	Snohomish silty clay loam, 0 to 1% slopes	Poorly drained	0.37	Slight	Moderate	High	4.5% (Moderate)
263	Water	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

[a] Higher K factor values indicate greater potential for erosion: K factor values below 0.13 have low erosion potential; values 0.13 to 0.26 have medium erosion potential; values greater than 0.26 have high erosion potential.

[b] The potential for concrete corrosion increases decreasing water and soil acidity and increases in sodium, magnesium sulfate, and sodium chloride.

[c] The potential for corrosion of uncoated steel increases with soil water saturation, greater water acidity and conductivity.

Source: Natural Resources Conservation Service 2013

N/A = not applicable

4.1.5 Impacts

This section describes the potential direct and indirect impacts related to geology and soils that would result from construction and operation of the Proposed Action and the No-Action Alternative.

4.1.5.1 Proposed Action

This section describes the potential impacts that could occur in the study area[4] as a result of construction and operation of the Proposed Action.

Construction activities could affect geology and soils directly through ground disturbance associated with construction of the coal export terminal and preloading of the coal stockpile areas. Operational activities could affect geology and soils indirectly through exposure of people and structures to potential effects from catastrophic events

Construction—Direct Impacts

Construction-related activities associated with the Proposed Action could result in direct impacts as described below. As explained in Chapter 2, *Project Objectives, Proposed Action, and Alternatives,* construction-related activities include demolishing existing structures and preparing the site, constructing the rail loop and dock, and constructing supporting infrastructure (i.e., conveyors and transfer towers).

Enlarge Land, Affect a Unique Physical Feature, or Cause Substantial Soil Erosion

Construction of the Proposed Action would not result in the enlargement of land area by placing fill in the Columbia River or by depositing sediments in the Columbia River. There are no unique physical features at the project area that would be affected by the Proposed Action. Although steep slopes occur along drainage ditches and the Columbia River banks, there are no indications of instability and project activities are not expected to cause instability at these locations.

Construction of the Proposed Action would involve ground-disturbing activities such as grading, railroad construction, excavating for foundations, and road construction that would affect about 190 acres of land. Approximately 2.1 million cubic yards of material would be imported for compressing soils on site, as well as about 130,000 cubic yards of ballast rock for rail-related structures and infrastructure. Approximately 2.5 million cubic yards of material would be moved around the project area during the compression of on-site soils.

As discussed in Section 4.1.4.2, *Soils in the Project Area and Vicinity*, and shown in Table 4.1-2, although the soils in the project vicinity have a moderate to high potential for erosion, the on-site soils have a slight erosion hazard mainly due to the site's flat, low gradient. Bare soil could be exposed for varying periods of time due to construction activities over several years. This could lead to potential soil erosion due to rainfall or wind. Soil erosion would have the potential for off-site transport of eroded soil materials to waterways such as the Columbia River and adjacent ditches. Wind erosion potential would be limited—because of the precipitation levels that occur at the site and proposed dust suppression during construction to control wind erosion—but could occur during summer dry periods. Dust from coal stockpiles is addressed in Chapter 5, Section 5.6, *Air Quality*. When build-out is complete, the project area would be approximately 90% impervious surfaces, which would reduce soil erosion potential to near zero.

[4] Acreages presented in the impacts analysis were calculated using geographic information system (GIS) technology, thus, specific acreage of impacts are an estimate of area based on the best available information.

As described in Chapter 2, Section 2.2.3, *Proposed Facilities, Construction, and Operations*, dredging related to the construction of Docks 2 and 3 would be managed under the Section 401 Water Quality Certification. This could involve approval of flow-lane disposal of dredge material, which would avoid impacts on uplands. The Applicant could, if approved, also dispose of dredge materials in upland portions of the project area for preloading the stockpile area. Placement of this dredge material in the stockpile area would compact the underlying soil (see *Affect Project Structures from Soil Materials Underlying the Site*, below, for more information). Potential impacts of disposal of dredge material on water quality and surface waters are addressed in Section 4.2, *Surface Water and Floodplains*, and Section 4.5, *Water Quality*.

Affect Project Structures from Soil Materials Underlying the Site

As discussed in Section 4.1.4.2, *Soils in the Project Area and Vicinity*, and shown in Table 4.1-2, the on-site soils have moderate potential to corrode concrete, low to high potential to corrode steel, and have an expansion-contraction (wet-dry) class of low to high. Impacts related to corrosion of project-related structures and infrastructure would be avoided through standard engineering and construction methods. Washington State Department of Transportation (2014) uses a variety of standard engineering measures to address concrete and steel corrosion such as improving drainage and replacing native soil with fill. Such standard engineering measures would be employed by the Applicant to ensure potential soil related corrosion would not occur.

The sediments beneath the project area are relatively fine-grained and water-saturated, and the water table is near the ground surface. These characteristics make the sediments vulnerable to compaction from the weight of overlying materials and structures. This vulnerability is mainly a concern for the coal stockpile areas on the project area due to the coal's weight. Thus, preloading and installing wick drains is required to expel the groundwater and consolidate soils beneath the stockpile areas prior to operations. Compaction would be less of a concern for other project components because they involve much less weight.

Compaction and settlement of underlying sediments in the coal stockpile areas are addressed in the project design through preloading. Preloading involves importing material to compact the underlying soil to improve its load-bearing capacity. Approximately 2.1 million cubic yards of material would be imported into the coal stockpile areas in stages over a period of up to 7 years. Preloading would provide soil compaction to avoid potential impacts associated with soil settlement during operations.

Construction—Indirect Impacts

Construction of the Proposed Action would not result in indirect impacts on geology and soils because construction impacts would be immediate and would be limited to the project area. Therefore, no construction impacts would occur later in time or farther removed in distance from the direct impacts on the project area as discussed previously.

Operations—Direct Impacts

Operation of the Proposed Action would result in the following direct impacts. Operations-related activities are described in Chapter 2, *Project Objectives, Proposed Action, and Alternatives*.

Expose People or Structures to Potential Effects Involving Catastrophic Events

Operation of the Proposed Action could expose people or structures to potential effects involving catastrophic events such as; rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure (liquefaction), landslides, and tsunamis. Thus, potential effects from these types of catastrophic events were evaluated.

Earthquake Faults

There are no known earthquake faults in the study area that reach the ground surface. Therefore, no ground surface ruptures could directly damage structures or buildings in the study area.

Ground Shaking

The project area and surrounding area could be subject to strong ground shaking from earthquakes. The USGS National Seismic Hazard Map shows that there is a 2% probability of an earthquake with a peak ground acceleration of 0.4 g to 0.5 g, occurring over 50 years (Petersen et al. 2014). As a generalization, this means that in any 50-year period, there is a 2% chance that an earthquake could occur that would result in severe shaking. This amount of shaking could directly damage proposed structures and buildings. As per the Cowlitz County Critical Areas Protection Ordinance (Cowlitz County Code 19.15), construction of the Proposed Action would be required to comply with International Building Code 16.05 and Cowlitz County Grading Ordinance 16.35, as applicable. Additionally, a geotechnical report would be prepared as part of the Proposed Action and would inform project design and construction techniques, which would likely reduce potential impacts associated with ground shaking.

Seismic-Related Ground Failure (Liquefaction)

The study area could be subject to liquefaction during strong ground shaking. Palmer et al. (2004) characterizes the area as having high liquefaction susceptibility. An investigation of the area that was conducted for a previously proposed asphalt plant indicated that settlement after liquefaction would vary with earthquake location and earthquake magnitude. The investigations concluded that ground settling due to post-liquefaction settlement could damage the proposed structures and buildings. The Proposed Action would comply with the adopted International Building Code (per Cowlitz County Code 16.05 and 16.35 Grading Ordinance). Preloading the stockpile area would expel groundwater and consolidate soils in the immediate vicinity of the coal stockpile areas, which would reduce the susceptibility of the soils to liquefaction. This would also likely reduce the potential for damage to proposed structures that occur in the immediate vicinity of the preloading area. Preparation of a geotechnical report would identify the specific soil conditions pre- and post-project construction, and would inform project design and construction techniques to further reduce potential impacts based on the potential susceptibility of liquefaction.

Landslides

There are no existing landslides in the study area. Strong ground shaking associated with earthquakes would have minimal potential to cause new landslides in the study area, because the area is level and there is only about 40 feet of elevation difference between the site surface and the adjacent Columbia River bottom.

The project area is near the active deep-seated landslide on the south side of Mount Solo, but it is approximately 250 feet from the edge of the estimated greatest extent of the landslide, more than the 50 feet required by the Cowlitz County Critical Areas Ordinance 19.15 for landslide hazards. However, as with all landslides, periods of prolonged and intense rainfall (including multiyear periods) or earthquake-caused ground shaking could trigger this landslide. However, because the project area is approximately 200 feet beyond the minimum distance required by the Cowlitz County Critical Areas Ordinance (CCC 19.15) and it is physically isolated from the landslide, the Proposed Action would not increase the risk that a landslide would occur.

Tsunamis

Large earthquakes in the Pacific Ocean or on the CSZ could cause a tsunami, which could affect the coastal zone of Washington and Oregon. Large tsunamis have been detected as far up the Columbia River as Portland, Oregon. Modeling calculations found that an 18-foot-high tsunami at the Columbia River mouth decreased to less than 8 inches at Longview (Yeh et al. 2012). Tsunami levels at the project area would be similar and would not affect project-area structures or operations, including ships at the docks.

Operations—Indirect Impacts

Operation of the Proposed Action would not result in any indirect impacts on geology or soils because operations would not result in any further changes to soils or geology that may occur later in time of further removed in distance than the direct impacts.

4.1.5.2 No-Action Alternative

Under the No-Action Alternative, the Applicant would not construct the coal export terminal and ongoing operations in the project area would continue and additional storage and transfer activities might occur using existing buildings and structures and impacts on geology and soils related to the Proposed Action would not occur. The Applicant would continue with current and future increased operations in the project area. The project area for the Proposed Action could be developed for other industrial uses including an expanded bulk product terminal or other industrial uses. However, no activities that would require a U.S. Army Corps of Engineers permit or shoreline permit would occur as part of the No-Action Alternative. New construction, demolition, or related activities to develop the project area into an expanded bulk terminal could occur on previously developed upland portions of the area.

4.1.6 Required Permits

The Proposed Action would require the following permits for geology and soils.

- **Fill and Grade Permits/Building Permits—Cowlitz County**. Fill and grade permits and building permits would be required from Cowlitz County to ensure that final design and construction follow the County and engineering requirements.
- **Critical Areas Permit—Cowlitz County**. The Proposed Action would require a Critical Areas Permit to address compliance with Cowlitz County's Critical Areas Ordinance related to the presence and protection of Critical Aquifer Recharge Areas located on site.

- **Construction Stormwater Permit—Washington State Department of Ecology.** A Construction Stormwater Permit would be required from the Washington State Department of Ecology to address erosion control and water quality during construction.
- **Industrial Stormwater Permit—Washington State Department of Ecology.** An industrial Stormwater Permit would be required from the Washington State Department of Ecology to address erosion control and water quality during operations. The permit and stormwater pollution prevention plan control adverse impacts through the application of best management practices. Best management practices are defined as schedules of activities, prohibitions of practices, maintenance procedures, and structural and managerial practices, that when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts on waters of Washington State. The types of best management practices are source control, treatment, and flow control.

The following permit requirements would be required for construction of the Proposed Action.

- A qualified geologist or engineer would monitor the fill placement during construction and conduct appropriate field tests to verify proper compaction of the fill soils.
- A site-specific preloading plan would be developed prior to initiating construction of the Proposed Action by the geotechnical engineer working with the civil and structural engineers. The plan would include measures to maintain proper site drainage, collection and treatment of water generated, volumes, and sources of fill sources, and staging of fills, setbacks from existing structures. The plan would also consider the short- and long-term impacts on adjacent structures and features, including but not limited to, railroads, existing streets and utility connections, utilities, drainage features, landfills, existing hazardous materials, and buildings.
- Visual inspection would be conducted following abnormal seismic activity. These inspections would document whether the seismic activity resulted in changes to the surface conditions (i.e., soil settlement, structural damage).
- Best management practices would minimize the potential for erosion. A stormwater pollution prevention plan would be required and implemented. Clearing, excavation, and grading would be limited to the areas necessary for construction and would not be completed far in advance of facility construction.
    - **BMP C107: Construction Road/Parking Area Stabilization.** Roads, parking areas, and other on-site vehicle transportation routes would be stabilized to reduce erosion caused by construction traffic or runoff.

4.1.7 Proposed Mitigation Measures

No impacts on geology and soils from construction and operation of the Proposed Action have been identified that would require mitigation. Nor have impacts on the Proposed Action from geologic events been identified that would require mitigation. Thus, no mitigation measures are proposed for geology and soils.

4.1.8 Unavoidable and Significant Adverse Environmental Impacts

Compliance with laws and required plans described above would reduce impacts on geology and soils. There would be no expected unavoidable and significant adverse environmental impacts on geology and soils in the study area related to the Proposed Action.

4.2 Surface Water and Floodplains

Surface waters such as rivers, lakes, and coastal waterways provide natural beauty and sustain the health of human and natural communities. Floodplains are lowland areas adjacent to surface water features that are periodically inundated by water during flood events. Floodplains carry and store floodwaters. Floodplains often contain areas vital to a diverse and healthy ecosystem. Undisturbed, they have high natural biological diversity and productivity, and support many waterfowl species and migrating birds.

The quality of surface waters and floodplains refers to the physical, chemical, biological, and aesthetic characteristics of water, which are used to measure the ability of water to support aquatic life and human uses. Surface water and floodplain quality can be diminished by contaminants introduced by domestic, industrial, and agricultural practices.

This section describes the surface waters and floodplains in the study area. It then describes potential impacts on surface waters and floodplains that could result from construction and operation of the Proposed Action and under the No-Action Alternative. This section also presents the measures identified to mitigate impacts resulting from the Proposed Action.

4.2.1 Regulatory Setting

Laws and regulations relevant to surface water and floodplains are summarized in Table 4.2-1.

Table 4.2-1. Regulations, Statutes, and Guidelines for Surface Waters and Floodplains

Regulation, Statute, Guideline	Description
Federal	
Rivers and Harbors Act of 1899	Authorizes the Corps to protect commerce in navigable streams and waterways of the United States by regulating various activities in such waters. Section 10 of the Act (33 USC 403) specifically regulates construction, excavation, or deposition of materials into, over, or under navigable waters, or any work that would affect the course, location, condition, or capacity of those waters.
Clean Water Act (33 USC 1251 *et seq.*)	Establishes the basic structure for EPA to regulate discharges of pollutants into the waters of the United States and regulate quality standards for surface water.
Section 404 of the Clean Water Act	Regulates the placement of dredged or fill material into waters of the United States, including special aquatic sites such as sanctuaries and refuges, wetlands, mudflats, vegetated shallows, coral reefs, and riffle and pool complexes. EPA is the agency responsible for enforcing this act.

Regulation, Statute, Guideline	Description
Section 401 of the Clean Water Act	Requires that a Water Quality Certification be obtained from Ecology for any activity that requires a federal permit or license to discharge any pollutant into a water of the United States. This certification attests that the state has reasonable assurance that the proposed activity will meet state water quality standards.
Sections 301 and 402 of the Clean Water Act	Section 301 prohibits the discharge of any pollutant to a water of the United States without a permit. Section 402 (33 USC 1342) establishes the NPDES permitting program (40 CFR 122). The NPDES permitting program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. Authorized by the Clean Water Act.
National Flood Insurance Act of 1968	Established the NFIP, a federal floodplain management program designed to reduce future flood losses nationwide through the implementation of community-enforced building and zoning ordinances in return for the provision of affordable, federally backed flood insurance to property owners. FEMA is the agency responsible for enforcing the National Flood Insurance Act.
EO 11990, Protection of Wetlands	Applies to all agencies managing federal lands, sponsoring federal projects, or providing federal funds to state or local projects. EPA is the agency responsible for enforcing this EO.
EO 11988, Floodplain Management	Requires federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative (42 FR 26951). FEMA is the agency responsible for enforcing this EO.
State	
Water Resources Act of 1971 (RCW 90.54)	Sets forth fundamental policies for the state to ensure that waters of the state are protected and fully utilized for the greatest benefit. Ecology is the agency responsible for enforcing the Water Resources Act.
Water Pollution Control (RCW 90.48)	Policy to maintain the purity of waters of the state consistent with public health and public enjoyment, as well as propagation and protection of wildlife and industrial development of the state, and to that end require the use of all known available and reasonable methods by industries and others to prevent and control the pollution of the waters of the state.
Water Quality Standard for Surface Waters of the State of Washington (WAC 173-201A)	Establishes water quality standards for surface waters of the state of Washington.

Regulation, Statute, Guideline	Description
National Pollutant Discharge Elimination System Permit Program (WAC 173-220)	Establishes state individual permit program for discharge of pollutants and other wastes and materials to surface waters of the state.
Shoreline Management Act (RCW 90.58)	Regulates and manages the use, environmental protection, and public access of the state's shorelines. The SMA was passed by the Washington State Legislature in 1971 and adopted in 1972. Ecology is the agency responsible for enforcing the Shoreline Management Act.
Local	
Cowlitz County Stormwater Drainage Ordinance (CCC 16.22)	The Cowlitz County Stormwater Drainage Ordinance is a requirement of the NPDES Phase II Municipal Stormwater Permit issued to Cowlitz County by Ecology. The permit requires Cowlitz County to reduce stormwater runoff and pollution in unincorporated areas of Cowlitz County adjacent to the Cities of Longview and Kelso. The Proposed Action is not within the area affected by the NPDES Phase II Municipal Stormwater Permit.
Cowlitz County Phase II Municipal Stormwater Management Plan (CCC 19.22)	Requires Cowlitz County to develop a SWMP. The SWMP must incorporate best management practices to reduce the discharge of pollutants from the regulated area to the maximum extent practicable to protect water quality. Cowlitz County is responsible for enforcing the SWMP.
Cowlitz County Critical Areas Ordinance (CCC 19.15)	Requires Cowlitz County, in compliance with the GMA, to adopt development regulations based upon the best available science that assure the protection of critical areas such as wetlands, aquifer recharge areas, geologically hazardous areas, fish and wildlife habitat, and frequently flooded areas. Cowlitz County is responsible for enforcing this ordinance.
Cowlitz County Shoreline Master Program (CCC 19.20)	Requires Cowlitz County to provide for the enhancement of shorelines and protection against adverse effects to vegetation, wildlife, and waters of the state, and their aquatic life.
Cowlitz County Floodplain Ordinance (CCC 16.25)	Requires Cowlitz County to implement the Washington State Flood Control Zone permit program to regulate floodplain development. Cowlitz County adopted a revised floodplain ordinance and revised FIRM in December 2015.

Notes:
USC = United States Code; EPA = U.S. Environmental Protection Agency; Ecology = Washington State Department of Ecology; NPDES = National Pollutant Discharge Elimination System; NFIP = National Flood Insurance Program; FEMA = Federal Emergency Management Agency; EO = Executive Order; FR = *Federal Register*; WAC = Washington Administrative Code; RCW = Revised Code of Washington; SMA = Shoreline Management Act; GMA = Washington State Growth Management Act; CCC = Cowlitz County Code; SWMP = Stormwater Management Plan

4.2.2 Study Area

The study area for direct impacts on surface waters is the Columbia River and stormwater drainage ditches in the project area. The study area for indirect impacts on surface waters encompasses the Consolidated Diking Improvement District (CDID) #1 stormwater system drainage ditches adjacent

to the project area and the Columbia River downstream 1 mile from the project area. Figure 4.2-1 shows the study areas for surface water.

The study area for direct impacts on floodplains is the project area. The study area for indirect impacts on floodplains is the project area and surrounding 500-year floodplain on the north side of the Columbia River in the vicinity of the project area. Figure 4.2-2 shows the study areas for floodplains.

4.2.3 Methods

This section describes the sources of information and methods used to evaluate the potential impacts on surface waters and floodplains associated with the construction and operation of the Proposed Action and No-Action Alternative.

4.2.3.1 Information Sources

The following sources of information were used to define the existing conditions relevant to surface waters and floodplains and identify the potential impacts of the Proposed Action and No-Action Alternative on to surface waters and floodplains in the study areas.

- *Engineering Report for NPDES Application Millennium Bulk Terminals—Longview, LLC* (Anchor QEA 2011)
- *Engineering Report Update for NPDES Application Millennium Bulk Terminals—Longview, LLC* (Anchor QEA 2014)
- *Columbia River Basin: State of the River Report for Toxics* (U.S. Environmental Protection Agency 2009)
- *Diminishing Returns: Salmon Declines and Pesticides* (Ewing 1999)
- *Columbia River Estuary ESA Recovery Module for Salmon and Steelhead* (National Marine Fisheries Service 2011)
- Columbia River Estuary Operational Forecast System website
- *Designated Beneficial Uses Mainstem Columbia River 340-41-0101* (Oregon Department of Environmental Quality 2003)
- *303(d)/305(b) Integrated Water Quality Assessment Report* (Oregon Department of Environmental Quality 2012)
- USGS water-quality data, Columbia River Estuary, 2004–2005 (U.S. Geological Survey 2005)
- USGS water-quality data, Columbia River at The Dalles, Oregon, 2012 (USGS 14105700)
- *Stormwater Management Manual for Western Washington* (Washington State Department of Ecology 2012)
- Grays-Elochoman, Cowlitz River Basins Water Resource Management Programs (Washington State Department of Ecology 2014)
- Reports and analysis provided by the Applicant

Figure 4.2-1. Surface Waters Study Area

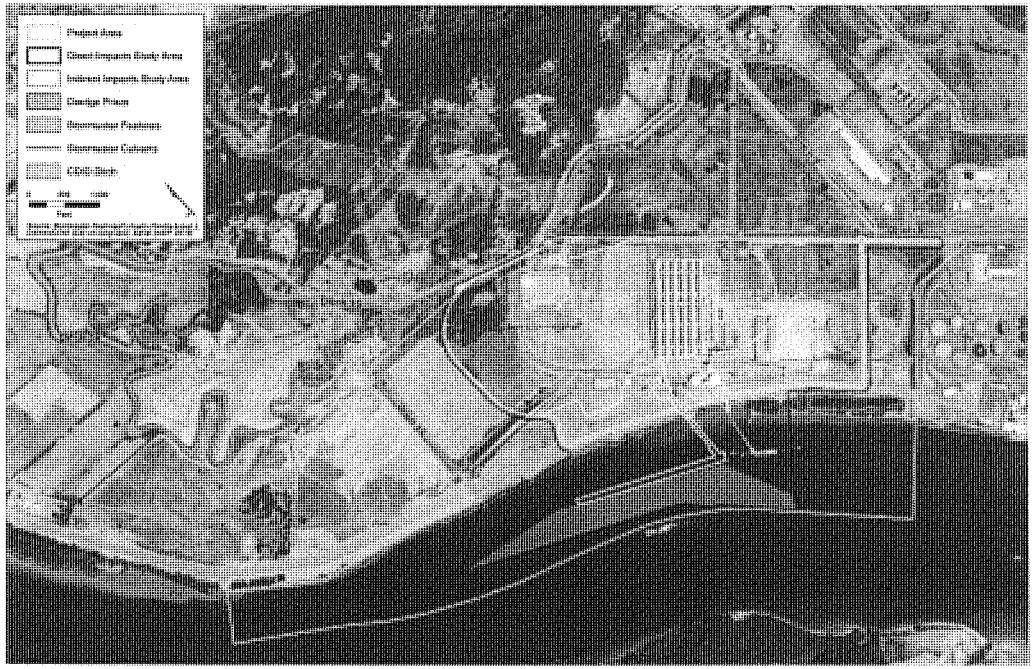
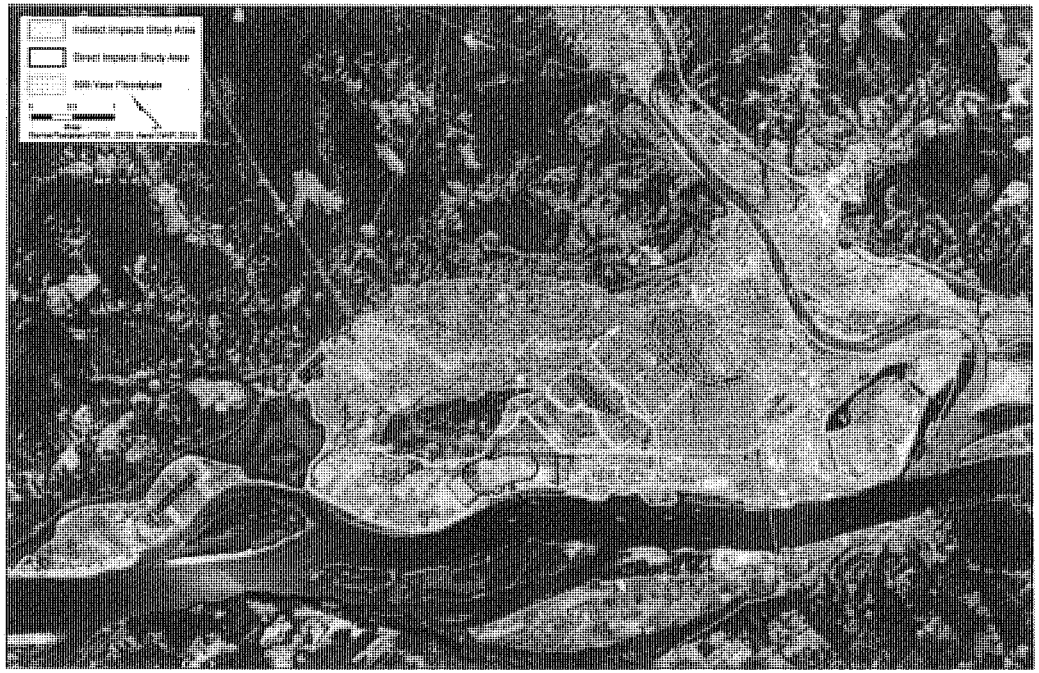


Figure 4.2-2. Floodplains Study Area



4.2.3.2 Impact Analysis

The following methods were used to evaluate the potential impacts of the Proposed Action and No-Action Alternative on surface waters and floodplains. The impact analysis also evaluated how surface water conditions could affect the study areas.

Potential surface waters and floodplains impacts have been evaluated regarding general parameters, such as changes to surface water drainage, surface water discharge, and floodplain connectivity, and how the Proposed Action and the No-Action Alternative could affect these parameters.

For the purpose of this analysis, construction impacts are based on peak construction period and operations impacts are based on maximum throughput capacity (up to 44 million metric tons per year). The assessment of impacts also considers regulatory controls, such as those required in the National Pollutant Discharge Elimination System (NPDES) Industrial Stormwater Permit and NPDES Construction Stormwater Permit required for the Proposed Action.

4.2.4 Existing Conditions

This section describes the existing environmental conditions in the study areas related to surface waters and floodplains that could be affected by construction and operation of the Proposed Action and the No-Action Alternative.

The project area is along the Columbia River near river mile 63 near Longview. The topography of the study areas is relatively flat; in the vicinity of the project area it is protected by a levee system operated and maintained by CDID #1, which also operates and maintains a series of ditches and pump stations in the vicinity of the project area. The Applicant operates and maintains independent stormwater and facility process water treatment and conveyance facilities for the project area.

4.2.4.1 Surface Water and Floodplain Features

Columbia River

The Columbia River basin comprises 260,000 square miles from its headwaters in British Columbia, Canada, to its mouth near Astoria, Oregon, bordering Washington and Oregon. The river's annual discharge rate fluctuates with precipitation and ranges from 63,600 cubic feet per second in a low water year to 864,000 cubic feet per second in a high water year (U.S. Geological Survey 2014). The Columbia River has been identified as a flow exempt waterbody, which means it is exempt from flow control requirements associated with the detention/retention and discharge of stormwater. Water quality criteria must still be met for all stormwater discharges.

The lower Columbia River is tidally influenced by the Pacific Ocean from the estuary near Astoria, to Bonneville Dam, located upstream of Portland (Bonneville Power Administration 2001). Tidal fluctuations are diurnal, meaning there are two high tides and two low tides in each 24-hour tidal cycle. Tidal ranges vary along the lower Columbia River and are reported to have a mean range of 3.78 feet at Longview. The Columbia River experiences seasonal variation in flow from year to year depending on snow mass in the upper watershed.

All surface waters from the study area are ultimately discharged to the Columbia River, either as groundwater, surface water, or treated stormwater discharge. The project area is on the right-bank floodplain of the Columbia River near river mile 63 near Longview (Figure 4.2-2). The project area is protected from Columbia River flooding by the CDID #1 levee (see *Columbia River Levee*, below).

Water Resource Inventory Area 25

A watershed generally has a topographic boundary that defines an area draining to a single point of interest. The Washington State Department of Ecology (Ecology) and other state natural resources agencies have divided Washington State into 62 Water Resource Inventory Areas (WRIAs) to delineate and manage the state's major watersheds. The project area is located in the WRIA 25 Grays/Elochoman Basin.

Consolidated Diking Improvement District #1

Other than the Columbia River levee, the study areas are surrounded and protected by the levees, ditches and pump stations of CDID #1. CDID #1 consists of 19 miles of levees; over 35 miles of sloughs, ditches, and drains for flood protection; a stormwater collection and routing system; and seven pump stations for removing and discharging stormwater to receiving waters outside of the levee system, such as the Columbia River. These pump stations are instrumental for removing stormwater and preventing local and area-wide flooding.

Columbia River Levee

The CDID#1 levee system can be divided into three major segments, but the study areas are primarily protected by the Columbia River levee. This levee protects the study areas from flooding along the Columbia River and from related backwater elevations in Coal Creek Slough. It extends from the main pump station and office complex around the western edge of Longview and unincorporated portions of Cowlitz County, up the Columbia River to its confluence with the Cowlitz River. The levee is a mixture of well-defined rural levees and overbuilt sections associated with urbanized levees through industrial areas.

Pump Stations

In addition to the CDID #1 levee, the study areas are surrounded and protected by smaller levees, ditches, and pump stations maintained by CDID #1 as described below.

The two pumps of primary interest in the project vicinity are the Reynolds Pump Station and the Industrial Way Pump Station.

- **Reynolds Pump Station.** The Reynolds Pump Station is located at the terminus of Ditch 14; this pump station draws water from Ditch 10 and pumps directly to the Columbia River. Total pumping capacity is 80,000 gallons per minute.
- **Industrial Way Pump Station.** The Industrial Way Pump Station is located adjacent to Ditch 5 and Industrial Way. It has a pumping capacity of 90,000 gallons per minute and pumps water a distance of nearly 0.5 mile, where it discharges to the Columbia River through the levee at the east end of the project area.

Ditches

CDID #1 maintains approximately 35 miles of sloughs, ditches, and drains that collect and convey stormwater to the CDID #1 pump stations. The ditches have a dual function, acting as a conveyance system to transport stormwater to the pumping stations and as a storage reservoir for intense rainfalls exceeding the capacity of the pumps. The Columbia River is the ultimate destination of the drainage water. Below is a description of the CDID #1 ditches that are on or adjacent to the project area (Figure 4.2-3).

- **Ditch 5.** Ditch 5 borders the eastern edge of Parcel 10213 and extends toward the south from 38th Avenue to the Industrial Way Pump Station along Industrial Way, which pumps water to the Columbia River via an underground pipeline. A second branch of Ditch 5 extends from the pump station toward the southeast along the north side of Industrial Way down to Washington Way. It connects with other drainage ditches (Ditches 1 and 3) and conveys flow to the pump station.
- **Ditch 10.** North of Industrial Way, Ditch 10 forms the northern boundary of Parcel 10213 and extends toward the west from 38th Avenue. It continues toward the west, crosses under Industrial Way through a culvert, and extends toward the northwest, eventually connecting to other segments of the drainage system including Ditch 14 and Ditch 16. Ditch 14 conveys flow to the south to the Reynolds Pump Station, which discharges to the Columbia River through an underground pipeline. South of Industrial Way, Ditch 10 is to the north of the former cable plant and remnant forested area. Ditch 10 intersects with Ditch 14 just north of the closed Black Mud Pond (BMP) facility.
- **Ditch 14.** Ditch 14 is located along the western boundary of the project area and consists of a trapezoidal-shaped drainage ditch that receives flow from Ditch 10 and Ditch 16 and other privately owned ditches located both on site (e.g., Cable Plant Ditch) and off site. During high water events, it conveys flow south toward the Reynolds Pump Station, which pumps water under the CDID #1 levee.

Stormwater and shallow groundwater drainage for the project area is controlled by a system of ditches, pump stations, treatment facilities, and outfalls. All of these facilities currently operate under a single NPDES permit. As shown in Figure 4.2-3, all of the project area drainage is either held on site until it evaporates, is discharged to CDID #1 ditches that eventually flow and discharge to the Columbia River, or is treated and discharged through Outfall 002A (operated by the Applicant) to the Columbia River. Table 4.2-2 lists the drainage basins in the project area; and drainage basins are shown in Figure 4.2-3.

Figure 4.2-3. Existing Drainage Systems in the Project Area

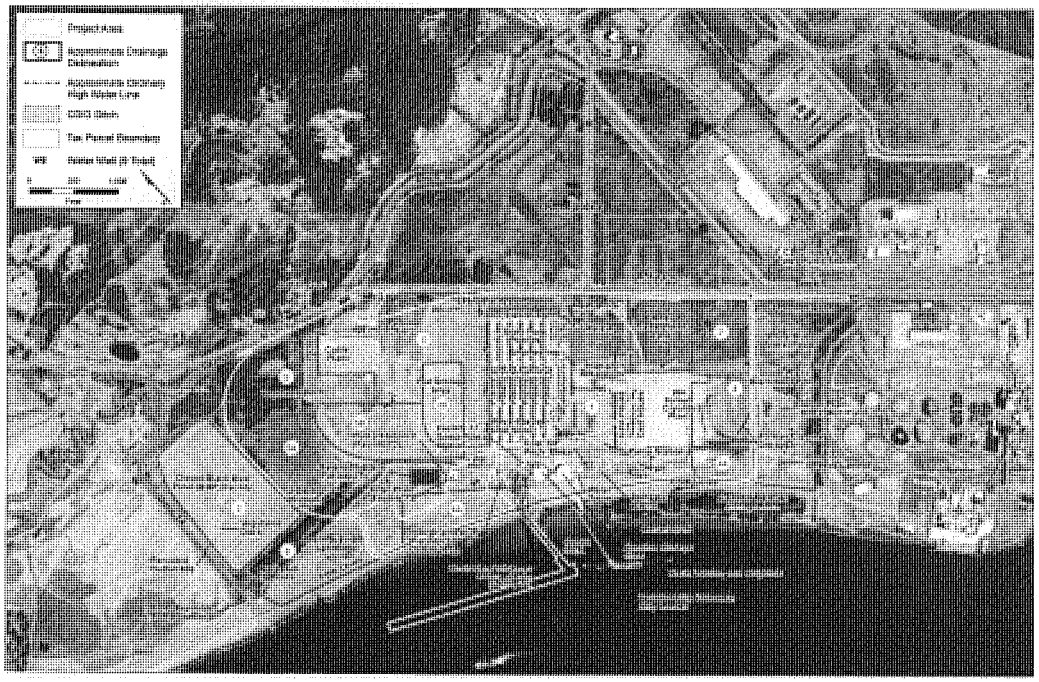


Table 4.2-2. Existing Drainage Basins in the Project Area

Area	Description
1	Stormwater runoff gravity drains to Facility 77 and is pumped to Facility 73 for treatment prior to discharge through Outfall 002A.
2	Stormwater runoff gravity drains to a vegetated conveyance swale and is pumped into the U-Ditch, where it drains to the Facility 77 and is pumped to Facility 73 for treatment prior to discharge through Outfall 002A as designed. Larger runoff events may overflow the sump and discharge into CDID Ditch 14 through Rerouted Outfall 006.
3	Stormwater runoff ponds locally and/or gravity drains to a vegetated ditch and is discharged through Outfall 003C into CDID Ditch 10.
3A	Stormwater runoff ponds locally and infiltrates/evaporates and/or is pumped to the U-Ditch, where it drains to Facility 77 and is pumped to Facility 73 for treatment prior to discharge through Outfall 002A.
4	Stormwater runoff gravity drains to ditches and is pumped via Pump Station 004 to Facility 77, where it is pumped to Facility 73 for treatment prior to discharge through Outfall 002A.
4A	Stormwater runoff ponds locally and infiltrates/evaporates.
5	Stormwater runoff from improved areas pond locally and infiltrates/evaporates; runoff from the larger events may gravity drain to a vegetated ditch and discharge through Outfall 005 to CDID Ditch 14. Stormwater runoff from unimproved areas may gravity drain towards the vegetated ditch.
5A	Stormwater runoff ponds locally and infiltrates/evaporates.
5B	Stormwater runoff ponds locally and infiltrates/evaporates.
6	Stormwater runoff ponds locally and infiltrates/evaporates. Larger runoff events may sheet flow to the U-Ditch, which discharges to Facility 77, and is then pumped to Facility 73 for treatment prior to discharge through Outfall 002A.
6A	Stormwater runoff ponds locally and infiltrates/evaporates. Unimproved areas may gravity drain toward the vegetated ditch.
7	Stormwater runoff ponds locally and infiltrates/evaporates.

Drainage Components

Stormwater and shallow groundwater drainage for the study areas are controlled by a system of ditches, pump stations, treatment facilities, and outfalls. All of these facilities currently operate under a single NPDES permit. All of the project area drainage is either held on site and evaporates, discharged to CDID #1 ditches that eventually flow to the Columbia River, or treated and discharged through Outfall 002A to the Columbia River. The following is a brief description of the drainage components of the study areas (Figure 4.2-3).

- **Sheetflow and infiltration.** Subbasins 4A, 5, 5A, 5B, 6A, and 7 receive sheetflow from storm events. The water remains in the subbasins until it infiltrates or evaporates.
- **Columbia River discharge.** Subbasins 1, 2, 3A, 4, and 6 are conveyed via pumped systems or gravity to Facility 73 where they are treated and then discharged to the Columbia River via Outfall 002A.

- **CDID #1 discharge.** Subbasin 3 flows through a vegetated ditch that discharges to Ditch 10 through Outfall 003C. During larger storm events, overflow from Subbasin 2 and Subbasin 5 (both described above) can discharge to the CDID #1 ditch system. Subbasin 2 overflows would discharge to Ditch 14 through Outfall 006. This is a designed overflow system and it is equipped with a high-flow alarm to alert staff when it is activated. Subbasin 5 flows can enter a vegetated ditch that discharges to Ditch 10 through Outfall 005. Ultimately, all CDID #1 ditch flows discharge to the Columbia River.
- **Drainage features on Parcel 10213.** These features include three vegetated ditches, two unvegetated ditches, and a shallow stormwater pond. Two of the vegetated ditches run north-south across the two larger portions of Parcel 10213. They are narrow and linear and convey stormwater to a culvert approximately 16 inches in diameter located on the north end of these ditches, which then empties into CDID Ditch 10. The third vegetated ditch consists of three segments of linear vegetated ditches adjacent to Industrial Way. These three ditch segments are connected by two culverts that are beneath the site's access roads. This feature likely collects stormwater from Industrial Way and adjacent areas and conveys it to CDID Ditch 10.

  One unvegetated ditch runs parallel to Ditch 10 and consists of two sections of a narrow ditch that was likely constructed to intercept shallow groundwater that was affecting agricultural use of the site. This unvegetated ditch is several feet deep, nearly vertical along its sides, and is bisected by one of the vegetated ditches that runs parallel across the site; however, there is no surface hydrology connection between these two ditches. The other unvegetated ditch serves as the outlet channel for the stormwater pond. This ditch is located at the northeast end of the stormwater pond and conveys excess stormwater from the pond to CDID Ditch 10 through a 16-inch culvert. All six features are privately owned and are not managed by CDID #1.
- **Off-site privately owned ditch.** This ditch is located near the northwest corner of the former Reynolds Metals Company facility (Reynolds facility). It conveys flow into Ditch 14 at a point just north of the Closed BMP Facility.
- **Outfall 002A.** This is a 30-inch outfall to the Columbia River that discharges treated water received from Facility 73 (the site's stormwater treatment system) and treated wastewater from Facility 71 (the site's wastewater treatment system). Typical flow rates through the outfall are currently less than 2,000 gallons per minute. The maximum flow rate is 14,000 gallons per minute.

4.2.4.2 Columbia River and Cowlitz River Floodplain

The project area is in the right bank floodplain of the Columbia River approximately 5 miles downstream of the confluence of the Cowlitz River and the Columbia River. Longview and Kelso were developed on the floodplain of the Columbia and Cowlitz Rivers. The majority of the project area is located behind the CDID #1 levee that is operated and maintained by CDID #1. The average elevation of the project area is 13.9 feet North American Vertical Datum of 1988 (NAVD88) (16.4 feet Columbia River Datum), and the levee averages 33.9 feet NAVD88 (36.4 feet Columbia River Datum) (Anchor QEA 2014). The portion of the project area waterward of the CDID #1 levee is within the floodway of the Columbia River. Construction and operational changes associated with the proposed new docks and trestle would occur on the river side of the existing levee system, where the floodplain is constrained by the levee alignment.

CDID #1 operates the slough, ditch, and drain system several feet lower than the low-flow elevation of the Columbia River throughout the year. This strategy provides necessary stormwater storage capacity and allows the pump system to maximize the flood control potential of the levee's interior drainage. The combined capacity of the seven CDID #1 pump stations (a total of 19 pumps) is 700,000 gallons per minute. These pump stations are instrumental in removing stormwater and preventing local and area-wide flooding. The need for this pumping capacity is apparent when considering that 1 inch of rainfall on the 16,000-acre watershed is equivalent to 434 million gallons of water. For example, during a 1986 storm event, removal of 4.8 inches of rain deposited required 54 hours of continuous pumping.

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) identifies the project area landward of the CDID #1 levee as Zone X – Other Flooded Areas (Figure 4.2-4) (Federal Emergency Management Agency 2015). Zone X – Other Flooded Areas is described by FEMA as follows.

> Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood (Medium shading).

The FEMA FIRM maps the CDID #1 levee and areas waterward of the project area Zone X – Other Areas (Figure 4.2-4) (Federal Emergency Management Agency 2015). Zone X – Other Areas is described by FEMA as follows.

> Areas determined to be outside the 500-year floodplain;

The current FIRM delineates the project area in "medium shading" and maps the current levee that protects the area.

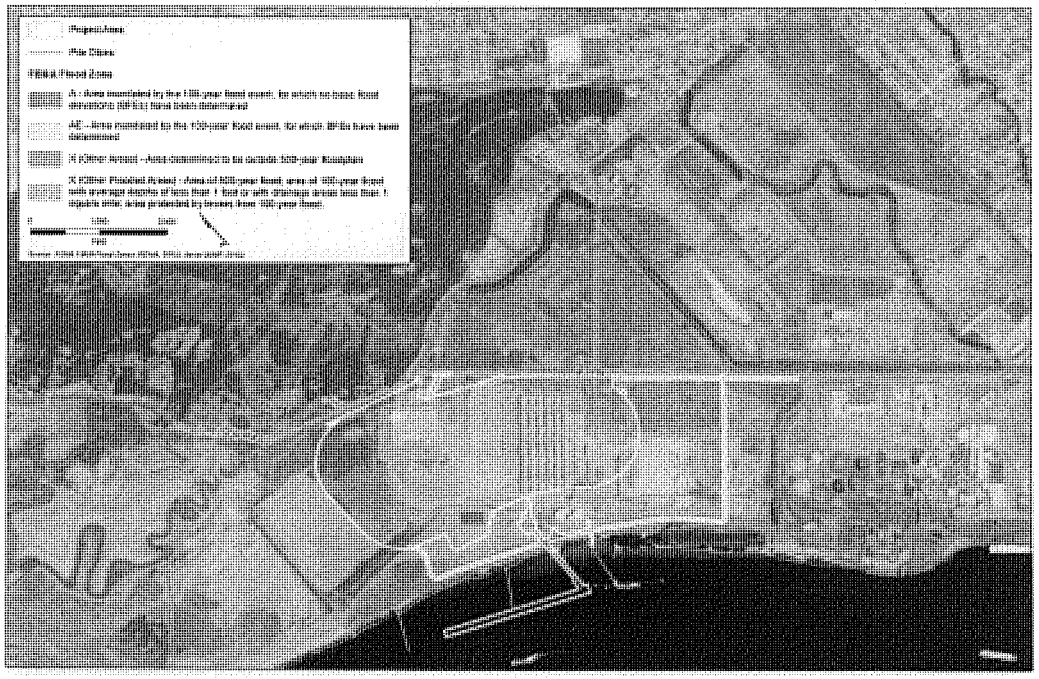
Flooding at the project area is expected to be minimal under existing conditions. Events that could cause flooding would include pump station failures, precipitation events that exceed pumping capacity, levee failure, and levee overtopping.

The portions of the project area located waterward of the levee are within the floodway. The project area improvements would need to consider the flood inundation limits and velocities for this condition.

4.2.5 Impacts

This section describes the potential direct and indirect impacts related to surface waters and floodplains that would result from construction and operation of the Proposed Action and the No-Action Alternative. All wastewater and stormwater generated in the project area and potentially discharged from the project area after treatment would be evaluated and characterized by the state. Once the water to be discharged has been accurately evaluated and characterized by the state, the specific standards for water discharged from the project area would be defined and the type of NPDES permit would be determined and issued.

Figure 4.2-4. FEMA Flood Insurance Rate Map for the Proposed Action



4.2.5.1 Proposed Action

This section describes the potential impacts that could occur in the study areas as a result of construction and operation of the Proposed Action. The Applicant identified the following best management practices to be implemented; these were considered when evaluating potential impacts of the Proposed Action.

- **BMP C107: Construction Road/Parking Area Stabilization.** Roads, parking areas, and other on-site vehicle transportation routes would be stabilized to reduce erosion caused by construction traffic or runoff.

The following were identified by the Applicant as actions that would be implemented during construction and/or operations.

- Based on site grading and drainage areas, five water quality ponds (Wetponds) would treat runoff based on Ecology's requirements. In general, the ponds are sized for treatment of the volume and flow from the water quality design storm event (72% of the 2-year storm). Additional storage would be provided within the coal storage area so that the runoff is always treated within the stockyard area, even for larger storm events. The ponds are designed to provide settlement as the water passes through. Subsequently, water released from these ponds would be conveyed downstream to the existing pump station Outfall 002A that discharges into the Columbia River via an existing 30-inch steel pressure line. The ponds that treat runoff from the coal stockyard would harvest water for circulation around the project area for multiple uses, including dust-control measures.

  Ecology's criteria would be used as the basis of design, which uses the Western Washington Hydrology Model computer simulation for facility sizing. Because of the project area's flat nature, some surface ponding would occur in both the yard areas and open conveyance systems. The piped conveyance systems would be sloped at a 0.50% minimum.

- Additional water storage would be provided in the coal storage area in the event of a larger storm event. Water volumes exceeding the demands for reuse would be discharged off site via the existing Outfall 002A into the Columbia River. Water released off site would be treated and would meet the requirements of Ecology and required discharge permits.

Construction activities that could affect surface water and floodplains include the following.

- Disturbance of surface soils during construction of the coal export terminal.
- Redirection of drainage and sheet flow during construction.
- Removal of vegetation from leveed floodplain.

Operational activities that could impact surface water and floodplains include the following.

- Use of water from rainfall runoff and on-site wells for dust suppression, washdown water, and fire-protection systems.
- Redirection of stormwater via a new pump station.

Construction—Direct Impacts

Construction-related activities associated with the Proposed Action could result in direct impacts as described below. As explained in Chapter 2, *Project Objectives, Proposed Action, and Alternatives,* construction-related activities include demolishing existing structures and preparing the site, constructing the rail loop and dock, and constructing supporting infrastructure (i.e., conveyors and transfer towers). Construction-related activities at the project area that could affect surface water and floodplains include the following.

- Preparing the project area and preloading the coal stockpile areas.
- Regrading the project area to drain toward specific collection areas.
- Constructing the rail loop.
- Installing coal processing equipment (unloading facilities, transfer towers, conveyors).
- Constructing offices, maintenance buildings, and other structures.
- Constructing water-management and storage facilities.
- Constructing Docks 2 and 3 and removing existing pile dikes.

Alter Drainage from Heavy Equipment and Staging Areas

The placement of heavy equipment and establishment of on-site staging areas could redirect sheetflow and potentially lead to localized flooding on or off site. Redirection of sheetflow has the potential to create rivulet and gully flow across bare soil, which could result in erosion and introduce sediment to the surrounding drainage channels and basins. Introduction of increased sediment loads to the drainage system could change the sediment deposition and transport characteristics of that system, resulting in potential changes in downstream channel morphology, including a reduction in channel sinuosity (i.e., channel bends and meanders) and storage, increased channel gradient, and reduced pool depth. The potential for localized flooding and increased erosion from redirected sheet flow increases with higher density of heavy equipment placement on site. This could result in the need for additional channel maintenance. However, this is unlikely because the Applicant must comply with erosion and sediment control best management practices and the requirements of the NPDES Construction Stormwater Permit, which would be obtained for the Proposed Action, would avoid and minimize potential impacts during construction. All measures would also be monitored to ensure effectiveness. Weekly inspection and an inspection within 24 hours of a rain event would be required under the NPDES Construction Stormwater Permit. The inspections must be performed by a Certified Erosion and Sediment Control Lead.

Decrease Floodplain Floodwater Retention

Site preparation would require clearing of vegetation within a Zone X flood zone. However, because the project area is protected by levees, it does not currently function as a floodplain. Vegetation that would be removed from the project area does not currently contribute to the Columbia River floodplain's ability to retain or absorb floodwaters. Activities that occur landward of the levee would not modify conditions in the Columbia River. Thus, no decrease in the ability of the Columbia River to retain floodwaters within the floodplain would result from constructing the Proposed Action.

Temporarily Increase Turbidity and Affect Benthic Habitat

The Columbia River would be permanently altered and benthic (i.e., river bottom) habitat removed by the placement of piles. A total of 610 of the 630 36-inch-diameter steel piles required for the trestle and docks would be placed below the ordinary high water mark, permanently removing an area equivalent to 0.10 acre (4,312 square feet) of benthic habitat (Refer to Section 4.7, *Fish*, for further information regarding impacts on benthic habitat).

Creosote-treated piles would be removed from the deepest portions of two existing timber pile dikes (Figure 4.2-4). In total, approximately 225 linear feet of the pile dikes would be removed. Removal of creosote-treated piles would result in a temporary increase in turbidity and would temporarily affect benthic habitat. Refer to Sections 4.5, *Water Quality*, and 4.7, *Fish*, for further information regarding impacts on water quality and fish, respectively.

Use Water for Construction

Construction of the Proposed Action would use water from rainfall runoff and on-site groundwater wells for dust suppression, washdown water, and fire-protection systems. This would be regulated under the NPDES Construction Stormwater Permit. Rainfall would be collected and treated and either stored in a detention pond to be constructed as part of the Proposed Action, or discharged to the Columbia River through the existing Outfall 002A. If stormwater is collected and used for industrial beneficial use (such as dust control), a Water Rights Permit would be required in accordance with RCW 90.03. The Proposed Action would not withdraw water from the Columbia River or other surface waters in the study area to meet construction water demands. Thus, no impacts on surface water and floodplains are anticipated related to water needs or use during construction.

Construction—Indirect Impacts

Construction of the Proposed Action would not result in indirect impacts on surface waters or floodplains because construction of the coal export terminal would be limited to the project area.

Operations—Direct Impacts

Operation of the Proposed Action would result in the following direct impacts. Operations-related activities are described in Chapter 2, *Project Objectives, Proposed Action, and Alternatives.*

Use Water for Operations

Operations of the Proposed Action would use water from rainfall runoff and on-site groundwater wells for dust suppression, washdown water, and fire-protection systems. Rainfall would be collected and treated and either stored in a detention pond to be constructed as part of the Proposed Action, or discharged to the Columbia River through the existing Outfall 002A. The Proposed Action would not withdraw water from the Columbia River or other surface waters in the study area to meet operations water demands. Thus, no impacts on surface water and floodplains are anticipated related to water needs or use during operations.

Alter Water Collection and Discharge

Currently, stormwater runoff at the project area is managed by infiltration or evaporation and by a complex stormwater collection and treatment system in conformance with the Applicant's

existing NPDES permit (WA-000008-6). The NPDES system includes 12 stormwater basins and five outfalls that the Applicant manages under its NPDES permit, which discharge to the Columbia River. The existing stormwater collection and treatment system configuration would not adequately serve the needs of the future conditions resulting from the Proposed Action. The Proposed Action would develop a water management system, including capture of stormwater from the project area, separate from the existing stormwater management system and isolated from it. Information on stormwater is included in Section 4.5, *Water Quality*.

If stormwater is collected and used for industrial beneficial use (such as dust control), a Water Rights Permit would be required in accordance with RCW 90.03. The project water management system would collect all stormwater and surface water (washdown water) from the stockpile areas, the rail loop, office areas, the dock and other paved/impervious surface areas at the project area and direct these waters to a series of vegetated ditches and ponds, then to a collection basin or sump. Similar to existing conditions, collected water would be pumped to an existing on-site treatment facility consisting of settling pond(s) with a flocculent addition to promote settling as needed. Chemical treatments must be identified as part of the NPDES permit process. Treated water would be pumped to a surface storage pond for reuse to support operations, or, if storage is not necessary, the excess treated water would be discharged to the Columbia River via Outfall 002A in accordance with the NPDES permit limits.

Discharge Less Water to CDID #1 Ditches

Basins 2, 3, and 5 of the existing water management system at the project area currently discharge to CDID #1 drainage ditches. Once constructed, most of the project area would no longer drain to the CDID #1 ditches, with the exception of a portion of the access overpass and frontage improvements, which would continue to drain to the ditches. All stormwater and excess dust suppression water within the footprint of the project area would be collected, conveyed, treated, and either stored on site for reuse or discharged to the Columbia River. The ditches would remain as they exist today. Therefore, no negative impacts on the CDID #1 ditches would occur under the Proposed Action. However, less water would be discharged to the ditches from the project area. As discussed below, this could have a beneficial indirect impact on the CDID #1 ditches.

Instigate Flooding from Interior Drainage System Failure

A new pump station and 18-inch outfall line is proposed to convey stormwater from the project area to the existing Facility 77 sump, and then all waters from the project area would go through Facility 73.

Failure of the interior drainage pumps could result in flooding of Basin 3A. However, redundancy would be built into the system to avoid flooding associated with pump failure, i.e., interior drainage pumps would have backup systems. Thus, the potential that both systems would fail simultaneously would be low.

Operations—Indirect Impacts

Operation of the Proposed Action would result in the following indirect impacts. Operations-related activities are described in Chapter 2, *Project Objectives, Proposed Action, and Alternatives*.

Modifications to the existing water management system would be unlikely to have any measurable impact on the Columbia River. The Columbia River is a single receiving water with a mean annual discharge of 171.4 million acre-feet per year (55.85 trillion gallons per year).[1] The proposed changes to the volume and velocity of surface water discharged to the Columbia River associated with the Proposed Action would be negligible within the Columbia River. Annual discharge to the river is estimated to decrease from 276 million to 138.5 million gallons per year, which would equate to a decrease in average annual flow in the Columbia River of 0.0000025 ($2.5 * 10^{-6}$%). A decrease in flow of this magnitude would essentially be undetectable in the lower Columbia River.

The CDID #1 ditches are much smaller than the Columbia River; therefore, changes to the volume of surface water discharged from the project area could potentially have a measurable effect on the capacity of the ditches. However, the proposed changes would reduce flow to the ditches from 88 million to 26.3 million gallons per year. This could be beneficial to the ditches because there would be additional capacity for drainage. As mentioned in Section 4.2.4.2, *Columbia River and Cowlitz River Floodplain*, the combined capacity of the CDID #1 pump stations is 700,000 gallons per minute. These pump stations are instrumental for removing stormwater and preventing local and area-wide flooding. Any reduction in discharge to the CDID #1 ditch system could provide a benefit during significant rain events.

4.2.5.2 No-Action Alternative

Under the No-Action Alternative, the Applicant would not construct the coal export terminal and impacts on surface waters and floodplains related to the Proposed Action would not occur. The Applicant would continue with current and future increased operations in the project area. The project area for the Proposed Action could be developed for other industrial uses including an expanded bulk product terminal or other industrial uses.

No activities that would require a U.S. Army Corps of Engineers (Corps) permit or shoreline permit would occur as part of the No-Action Alternative; thus no impacts on surface waters or floodplains would occur. New construction, demolition, or related activities to develop the project area into an expanded bulk terminal could occur on previously developed upland portions of the area. Additionally, the quantity of impervious surface could change but drainage patterns would be similar to existing conditions. Any new or expanded industrial uses that could substantially alter drainage patterns would trigger a new NPDES permit or modification to the permitting process. Impacts related to being located in a Zone B flood zone would be similar to those stated for the Proposed Action.

[1] U.S. Geological Station 14246900 Columbia River at Beaver Army Terminal, near Quincy, Oregon: Average Discharge for Period of Record, 23 years (water years 1969, 1992–2013).

4.2.6 Required Permits

The Proposed Action would require the following permits for surface waters and floodplains.

- **Shoreline Substantial Development Permit—Cowlitz County Department of Building and Planning.** The Proposed Action would result in new development in the shoreline area regulated by the Washington State Shoreline Management Act and *Cowlitz County Shoreline Master Program* (Cowlitz County 2012). Therefore, the Proposed Action would require a Shoreline Substantial Development Permit. This permit is administered by the Cowlitz County Department of Building and Planning.
- **Critical Areas Permit—Cowlitz County Department of Building and Planning.** The Proposed Action would result in development in designated critical areas because the project area contains a frequently flooded area, an erosion hazard area, and a critical aquifer recharge area. Therefore, it would require a Critical Areas Permit from the Cowlitz County Department of Building and Planning.
- **Floodplain Permit - Cowlitz County Building and Planning.** A floodplain permit would be required from Cowlitz County to address development in any areas designated as Frequently Flooded Areas.
- **Clean Water Act Section 401—Washington State Department of Ecology.** An Individual Water Quality Certification from Ecology under Section 401 of the Clean Water Act would be required for construction of the Proposed Action.
- **NPDES Construction Stormwater Permit—Washington State Department of Ecology.** A Construction Stormwater Permit would be required from Ecology to address erosion control and water quality during construction. All wastewater and stormwater generated in the project area and potentially discharged from the project area after treatment would be evaluated and characterized by the state. Once the water to be discharged has been accurately evaluated and characterized by the state, the specific standards for water discharged from the project area would be defined and the type of NPDES permit would be determined and issued.
- **NPDES Industrial Stormwater Permit—Washington State Department of Ecology.** An Industrial Stormwater Permit would be required from Ecology for discharge of industrial use water during operations. All wastewater and stormwater generated in the project area and potentially discharged from the project area after treatment would be evaluated and characterized by the state. Once the water to be discharged has been accurately evaluated and characterized by the state, the specific standards for water discharged from the project area would be defined and the type of NPDES permit would be determined and issued.
- **Water Rights—Washington State Department of Ecology.** If stormwater is collected and reused for beneficial industrial reuse, a Water Right Permit would be required in accordance with RCW 90.03.
- **Hydraulic Project Approval—Washington Department of Fish and Wildlife.** The Proposed Action would require a hydraulic project approval from WDFW because project elements would affect the Columbia River.
- **Clean Water Act Authorization, Section 404—U.S. Army Corps of Engineers.** Construction and operation of the Proposed Action would affect waters of the United States, including wetlands. Department of Army authorization by standard individual permit would be required.

- **Rivers and Harbors Act—U.S. Army Corps of Engineers.** Construction and implementation of the Proposed Action would affect navigable waters of the United States (i.e., the Columbia River). The Rivers and Harbors Act authorizes the Corps to protect commerce in navigable streams and waterways of the United States by regulating various activities in such waters. Section 10 of the RHA (33 USC 403) specifically regulates construction, excavation, or deposition of materials into, over, or under navigable waters, or any work that would affect the course, location, condition, or capacity of those waters.

4.2.7 Proposed Mitigation Measures

Impacts resulting from the Proposed Action on surface waters and floodplains are considered low and would not necessitate proposed mitigation that exceeds the minimum requirements specified by applicable laws and regulations.

4.2.8 Unavoidable and Significant Adverse Environmental Impacts

Compliance with laws and implementation of the mitigation and design features described above would reduce impacts on surface waters and floodplains. There would be no unavoidable and significant adverse environmental impacts on surface waters and floodplains.

4.3 Wetlands

Wetlands provide natural beauty, as well as functions and values that sustain the health of human and natural communities. They can form a regularly saturated transition between surface waters and uplands. These wet soils support a diversity of plants and animals that are adapted to these conditions.

For the purposes of this assessment, wetlands refer to areas that meet the federal definition of wetlands under the U.S. Army Corps of Engineers (Corps) *Wetlands Delineation Manual* (Environmental Laboratory 1987) as supplemented by the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (Environmental Laboratory 2010). Wetlands were identified in the field between 2011 and 2013 by Grette Associates (Grette Associates 2014a, 2014b, 2014c, 2014d, 2014e, 2014f, and 2014g).

This section describes wetlands in the study area. It then describes impacts on wetlands that could result from construction and operation of the Proposed Action and under the No-Action Alternative. This section also presents the measures identified to mitigate impacts resulting from the Proposed Action.

Impacts on ditches and stormwater conveyance features or *other waters* are also presented as described in the Grette Associates documents referenced in Section 4.3.3.1, *Information Sources*. No determination of federal jurisdiction over these types of features is implied by their inclusion herein. The existing conditions and impacts within the Columbia River are assessed in Section 4.2, *Surface Water and Floodplains*.

4.3.1 Regulatory Setting

Laws and regulations relevant to wetlands are summarized in Table 4.3-1. This section is largely focused on wetlands as a subset of waters of the United States, and thus, subject to Section 404 of the Clean Water Act as described in Table 4.3-1. Ditches, channels, and stormwater conveyance features that qualify as waters of the United States are generally subject to the same Clean Water Act requirements.

Table 4.3-1. Regulations, Statutes, and Guidelines for Wetlands

Regulation, Statute, Guideline	Description
Federal	
Clean Water Act (33 USC 1251 *et seq.*)	Section 401 (water quality certification) requires Water Quality Certification from the state for activities requiring a federal permit or license to discharge pollutants into a water of the United States. Certification attests the state has reasonable assurance the proposed activity will meet state water quality standards. Section 402 (33 USC 1342) establishes the NPDES program, under which certain discharges of pollutants into waters of the United States are regulated. Section 404 regulates the discharge of dredged or fill material into waters of the United States, including jurisdictional wetlands.

Regulation, Statute, Guideline	Description
State	
Washington State Shoreline Management Act (RCW 90.58)	Requires cities and counties, in partnership with Ecology, (through their SMPs) to protect shoreline natural resources against adverse impacts.
Hydraulic Code Rules (RCW 77.55, WAC 220-660)	Issued by WDFW for projects with elements that may affect the bed, bank, or flow of a water of the state or productive capacity of fish habitat. Considers effects on riparian and shoreline/bank vegetation in issuance and conditions of the permit, including for the installation of piers, docks, pilings and bank armoring and crossings of streams and rivers (including culverts).
Local	
Cowlitz County Critical Areas Ordinance (19.15)	Regulates activities within and adjacent to critical areas including vegetation occurring in wetlands and their buffers, fish and wildlife habitat conservation areas (including streams and their buffers), frequently flooded areas, and geological hazard areas.
Cowlitz County Shoreline Master Program (19.20)	Regulates development in the shoreline zone, including the shoreline of the Columbia River, a Shoreline of Statewide Significance.

Notes:
USC = United States Code; NPDES = National Pollutant Discharge Elimination System; RCW = Revised Code of Washington; SMP = Shoreline Management Program; WAC = Washington Administrative Code; WDFW = Washington Department of Fish and Wildlife

4.3.2 Study Area

The study area for direct impacts on wetlands is the project area (Figure 4.3-1). The study area for indirect impacts is the project area and the immediate vicinity, where wetlands might be affected by construction or operation of the proposed export terminal.

4.3.3 Methods

This section describes the sources of information and methods used to evaluate the potential impacts on wetlands associated with the construction and operation of the Proposed Action and No-Action Alternative.

4.3.3.1 Information Sources

The following sources of information were used to identify the potential impacts of the Proposed Action and No-Action Alternative on wetlands in the study area.

- Two reconnaissance level site visits conducted by ICF wetland biologists on April 8 and December 11, 2014, to view the areas determined to be wetland by Grette Associates.
- Reports prepared by Grette Associates and provided by the Applicant as part of the permit application materials.
  - *Coal Export Terminal Wetland and Stormwater Ditch Delineation Report–Parcel 619530400 and associated appendices* (Grette Associates 2014a)

- *Bulk Product Terminal, Wetland and Stormwater Reconnaissance Report–Parcel 10213* (Grette Associates 2014b)
- *Bulk Product Terminal Wetland and Stormwater Ditch Delineation Report–Parcel 61953* (Grette Associates 2014c)
- *Coal Export Terminal Wetland Impact Report–Parcel 619530400* (Grette Associates 2014d)

The Grette Associates documents report the presence of field-delineated wetlands in the study area using the *Regional Supplement to the U.S. Army Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region Version 2.0* (U.S. Army Corps of Engineers 2010).

Wetlands were classified by vegetation type using the U.S. Fish and Wildlife *Classification of Wetlands and Deep Water Habitat* (Cowardin et al. 1979). The regulatory category of wetlands in Washington State is determined per the Washington State Department of Ecology (Ecology) *Washington State Wetland Rating System for Western* (or *Eastern*) *Washington* (Rating System), as applicable (Hruby 2006).

The category and functions of wetlands were evaluated using the Rating System. Functions evaluated included water quality functions (the ability to filter sediment and pollutants), habitat functions (a place for plants and animals to live and grow), and hydrologic functions (the interaction between ground or surface water and the landscape). Based on the Rating System, wetlands are rated as providing low, moderate, or high functions depending on the following characteristics.

- The ability to retain water for sufficient periods to filter out pollutants.
- How diverse the wetlands vegetation and structure is to provide wildlife habitat and its connectivity to other wetlands or upland habitat.
- The position of the wetland in the landscape relative to its ability to store and retain surface water (i.e., the wetland's ability to act as a natural sponge to store water to prevent flooding and to gradually release water back to streams and other aquatic areas).
- The ability to prevent erosion caused by moving water.

Information regarding the existing conditions relative to ditches and stormwater conveyance features or other waters is presented in Section 4.2, *Surface Water and Floodplains*.

4.3.3.2 Impact Analysis

The following methods were used to evaluate the potential impacts of the Proposed Action and No-Action Alternative on wetlands. For direct impacts, the analysis assumes best management practices would be incorporated into the design, construction, and operation of the proposed coal export terminal.

All quantitative and qualitative impacts on wetlands are summarized as described in the Grette Associates documents referenced in Section 4.3.3.1, *Information Sources*. Direct construction impacts on wetlands were reported for wetlands in the project area. All wetlands within the project area were considered permanently affected, because most would be replaced with gravel pads, stockpiles, railroad tracks, buildings, pavement, and other project features. Direct wetland impacts would be mitigated consistent with current federal, state, and local mitigation requirements.

Impacts on ditches, stormwater conveyance features or other waters are also summarized. No determination of federal jurisdiction over these types of features is implied by their inclusion herein.

4.3.4 Existing Conditions

Wetlands, as defined by the Corps' wetland delineation manual (Environmental Laboratory 1987, 2010) are "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."

The Washington State Growth Management Act defines wetlands as:

> areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from nonwetland areas to mitigate the conversion of wetlands. (RCW 36.70A.030)

To identify areas that meet the wetland definition per the Corps wetland delineation manual (Environmental Laboratory 1987), scientists look for specific field characteristics of soil, hydrology (i.e., flooding, ponding, or groundwater saturating the soil), and vegetation that indicate an area is a wetland. Indicators of all three conditions (soil, hydrology, and vegetation) must be present for an area to be considered a wetland.

Approximately 26.93 acres of wetlands were identified in the study area. The distribution of wetlands in the study area is shown in Figure 4.3-1. Wetlands in the study area are identified using letters. Table 4.3-2 summarizes the wetlands by their location, vegetation classification, hydrogeomorphic classification (i.e., where the wetland fits on the landscape position and associated hydrology), regulatory category, and acreage. Regulatory category refers to the system of ascribing a ranked regulatory protection category from one to four (I to IV) to wetlands based on their functions, as derived from the *Washington State Wetland Rating System for Western Washington* (Hruby 2006). Category I wetlands have the highest level of function, are afforded the widest buffers, and impacts on such wetlands require the largest amount of compensatory mitigation. Category IV wetlands have the lowest level of function, are afforded more narrow buffers, and impacts on such wetlands require a lower amount of compensatory mitigation.

All wetlands in the study area are considered depressional from a hydrogeomorphic classification perspective; i.e., a classification based on where the wetlands occur on the landscape and their resulting physical characteristics.

Additional wetlands outside of the direct and indirect impacts study areas were delineated in the Applicant's leased area. These wetlands are shown in Figure 4.3-1 and listed in Table 4.3-3.

Under the Cowardin system, wetlands are classified by dominant vegetation. For example, wetlands can be classified as forested (woody plants over 20 feet tall), scrub-shrub (woody plants up to 20 feet tall), or emergent vegetation (non-woody plants like grasses, sedges, rushes, and herbaceous flowering plants). Individual wetlands can comprise more than one vegetation type. Wetlands in the study area are organized by Cowardin vegetation classification.

Figure 4.3-1. Wetlands in the Study Area

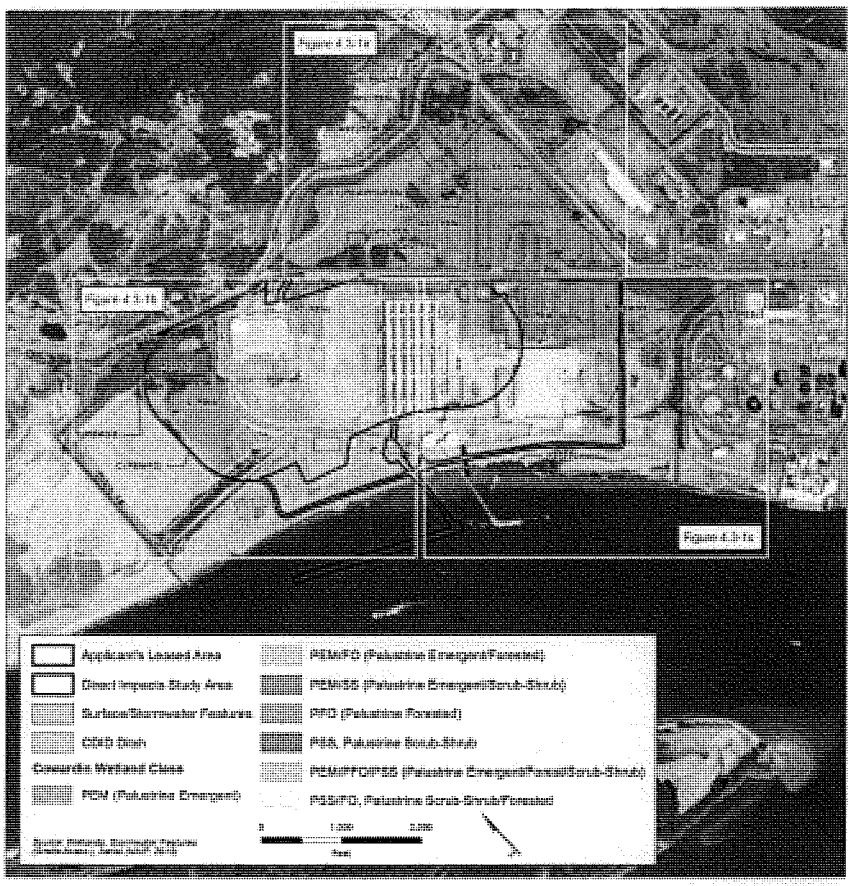


Figure 4.3-1a. Wetlands in the Study Area—North

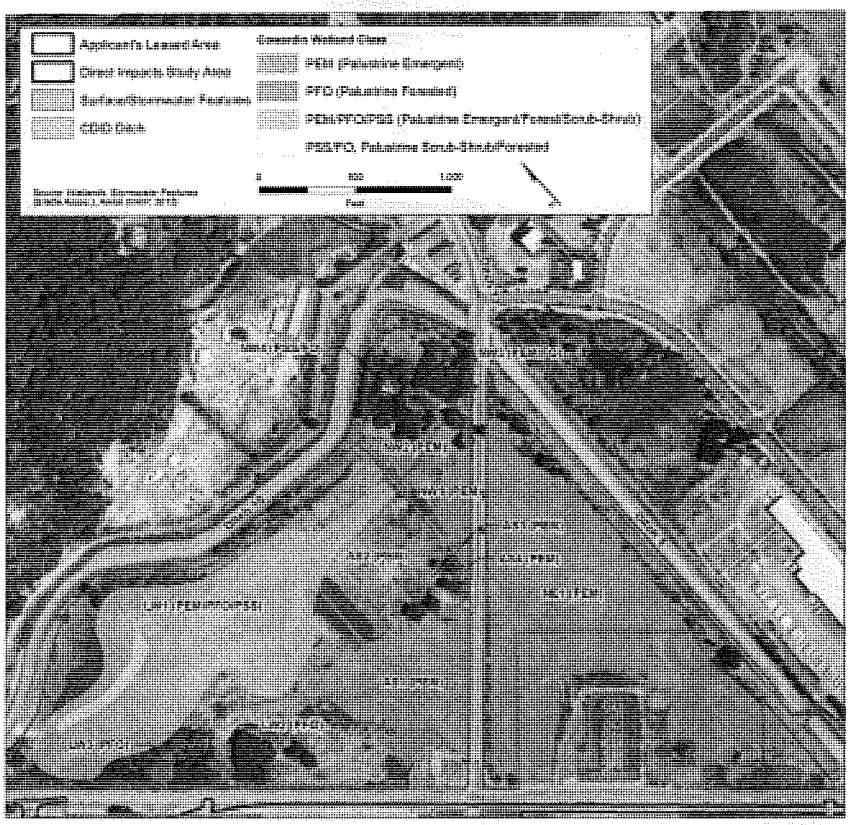


Figure 4.3-1b. Wetlands in the Study Area—West

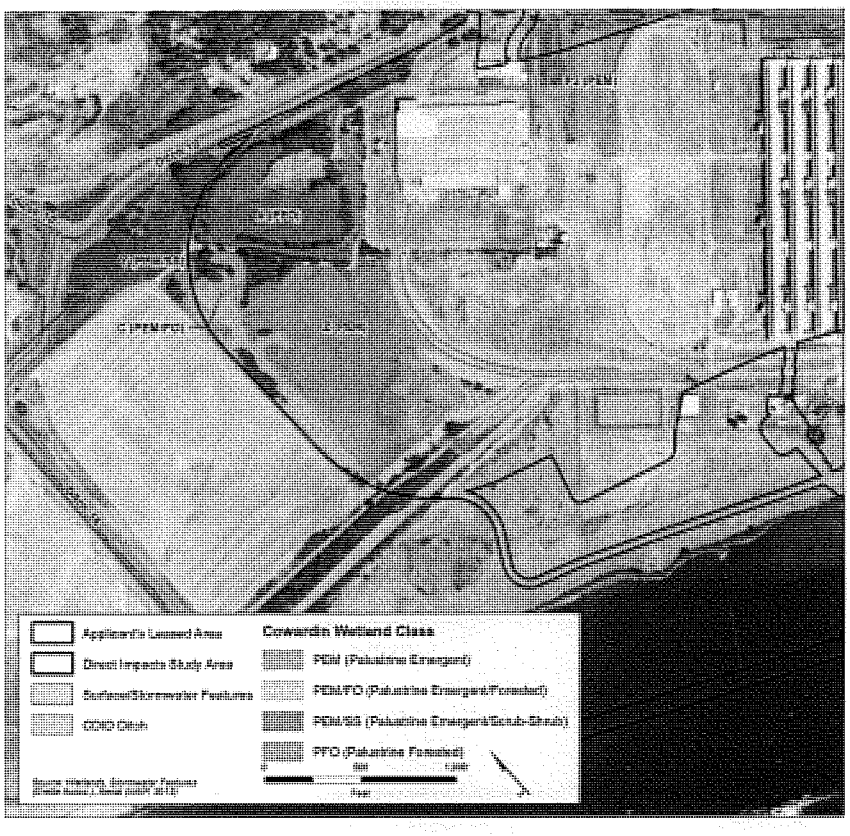


Figure 4.3-1c. Wetlands in the Study Area—East

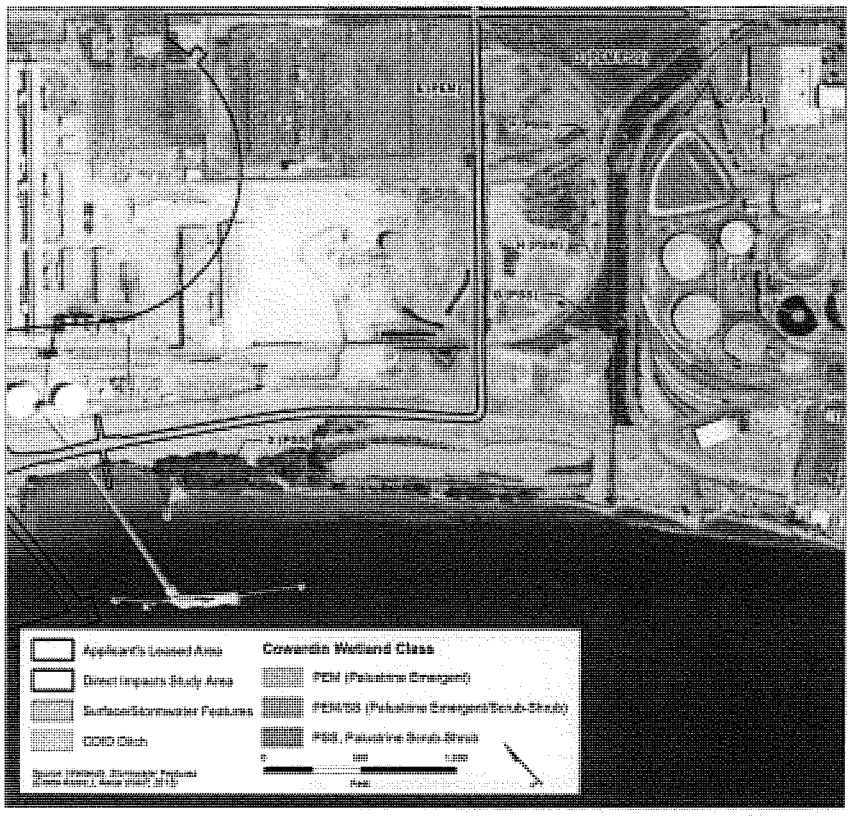


Table 4.3-2. Wetlands Identified in the Study Area

Wetland	Location (Parcel)	Cowardin Classification[a]	HGM Classification[b]	Category[c]	Area (acres)[d]
A	619530400	PFO	Depressional	III	6.28
C	619530400	PEM/PFO	Depressional	III	3.38
Y	619530400	PEM/PSS	Depressional	III	3.40
Z	619530400	PEM	Depressional	III	11.22
P2	619530400	PEM	Depressional	IV	2.65
Total					**26.93**

Notes:

[a] Cowardin classification per Classification of Wetland and Deepwater Habitats of the United States (Cowardin et al. 1979). Values include PFO = palustrine forested; PSS = palustrine scrub-shrub; and PEM = palustrine emergent

[b] Hydrogeomorphic (HGM) classification per the Washington State Wetland Rating System for Western Washington (Hruby 2006).

[c] Wetland category determined by Grette Associates using the Washington State Wetland Rating System for Western Washington (Hruby 2006).

[d] Acreages as reported by Grette Associates 2014 a, b, c.

Table 4.3-3. Wetlands Outside the Study Areas in the Applicant's Leased Area

Wetland	Location (Parcel)	Cowardin Classification[a]	HGM Classification[b]	Category[c]	Area (acres)[d]
D	61953	PEM/PSS	Depressional	III	5.43
E	61953, 61954	PEM	Depressional	III	9.46
F	61953	PEM	Depressional	III	0.45
G	61953	PSS	Depressional	III	2.60
H	61953	PEM	Depressional	III	0.24
X	61950	PSS	Riverine	III	0.44
AS1	10213	PEM	Depressional	III	8.86
AS2	10213	PEM	Depressional	IV	0.94
AS3	10213	PEM	Depressional	IV	0.12
AS4	10213	PEM	Depressional	III	0.02
NW1	10213	PEM	Depressional	III	1.38
NW2	10213	PEM	Depressional	III	0.50
NW3	10213	PFO	Depressional	IV	0.19
NW4	10213	PSS/PFO	Depressional	IV	0.05
NE1	10213	PEM	Depressional	III	29.48
LW1[e]	10213	PEM/PFO/PSS	Depressional	III	-
LW2[e]	10213	PFO	Depressional	III	-
LW3[e]	10213	PFO	Depressional	III	-
Total					**60.16**

Notes:

[a] Cowardin classification per Classification of Wetland and Deepwater Habitats of the United States (Cowardin et al. 1979). Values include PFO = palustrine forested; PSS = palustrine scrub-shrub; and PEM = palustrine emergent

[b] Hydrogeomorphic (HGM) classification per the Washington State Wetland Rating System for Western Washington (Hruby 2006).

[c] Wetland category determined by Grette Associates using the Washington State Wetland Rating System for Western Washington (Hruby 2006).

[d] Acreages as reported by Grette Associates 2014 a, b, c.

[e] These wetlands correspond to the three areas on Parcel 10213 that Grette Associates identified as *likely wetland* areas. Grette Associates did not report acreages for these areas.

4.3.4.1 Forested Wetlands

Approximately 6.28 acres of forested wetland occur in the study area as Wetland A. (Figure 4.3-1). This wetland is depressional and supported primarily by high groundwater and direct precipitation. Common plant species observed in the forested wetland include a predominately native overstory of black cottonwood (*Populus trichocarpa* ssp. *balsamifera*), Pacific willow (*Salix lucida*), red alder (*Alnus rubra*), and Oregon ash (*Fraxinus latifolia*) trees, overlying a shrub layer dominated by salmonberry (*Rubus spectabilis*) and nonnative Himalayan blackberry (*Rubus armeniacus*). Reed canarygrass (*Phalaris arundinacea*), an invasive grass, is the common herbaceous plant.

4.3.4.2 Emergent/Forested Wetlands

Approximately 3.38 acres of emergent/forested wetlands occur in the study area as Wetland C (Figure 4.3-1). This wetland is depressional and supported primarily by high groundwater and direct precipitation. The emergent portion of the wetland is dominated by reed canarygrass. Common plant species observed in the forested portion include a predominately native overstory of black cottonwood, Pacific willow, red alder, and Oregon ash trees, overlying a shrub layer dominated by salmonberry and nonnative Himalayan blackberry.

4.3.4.3 Emergent/Scrub-Shrub Wetlands

Approximately 3.40 acres of emergent/scrub-shrub wetland occur in the study area as Wetland Y. Wetland Y is located north of the closed Black Mud Pond facility, and is the only wetland in the direct impacts study area that extends outside of the study area (Figure 4.3-1). This wetland is depressional and supported primarily by high groundwater and direct precipitation. The scrub-shrub component is dominated by Himalayan blackberry, red osier dogwood (*Cornus sericea*), Douglas spirea (*Spiraea douglasii*), and narrowleaf cattail (*Typha angustifolia*). The emergent component is dominated by reed canarygrass and an unidentified bryophyte; some nonnative narrowleaf cattail is also present.

4.3.4.4 Emergent Wetlands

Approximately 13.87 acres of emergent wetland occur in the study area as Wetlands Z and P2 (Figure 4.3-1). These wetlands are depressional and supported primarily by high groundwater and direct precipitation. Wetland Z is dominated by reed canarygrass and soft rush (*Juncus effusus*) and contains several brush piles left over from past clearing activities. Wetland P2 is also dominated by reed canarygrass and soft rush.

4.3.4.5 Wetland Ratings and Functions

The wetlands in the study area were rated as either Category III or Category IV based on their generally low to moderate level of function (Grette 2014a, 2014c). Wetlands A, C, Z, Y and P2 generally provide low to moderate water quality, habitat, and hydrology functions (Grette 2014a). These wetlands filter out sediment from stormwater runoff and retain stormwater and overland flow during heavy rain events. Some of the wetlands also provide pollutant filtration and groundwater infiltration functions. Wildlife functions include habitat for large and small mammal foraging and cover; passerine, waterfowl, and raptor foraging and nesting; and amphibian foraging, breeding and refuge. Wetland Y provides the most potential to retain stormwater during heavy rain events due to its depth.

4.3.4.6 Ditches and Stormwater Conveyance Features or Other Waters

Ditches and stormwater conveyance features present within the study area include the Interceptor Ditch/U Ditch, and several narrow stormwater ditches that cross through the study area (Figure 4.3-1). These features, as well as the Columbia River, are described for the Proposed Action in Section 4.2, *Surface Waters and Floodplains.*

4.3.5 Impacts

The following impacts on wetlands could result from construction and operation of the Proposed Action and No-Action Alternative.

4.3.5.1 Proposed Action

The following sections describe the potential impacts to wetlands from construction and operation of the Proposed Action.

Construction—Direct Impacts

Construction would occur in the Columbia River and on currently developed and disturbed land adjacent to the Columbia River. Impacts would include permanent fill and conversion to upland, and temporary alteration of vegetation and habitat conditions.

Permanently Fill Wetlands and Other Waters Resulting in Loss of Acreage

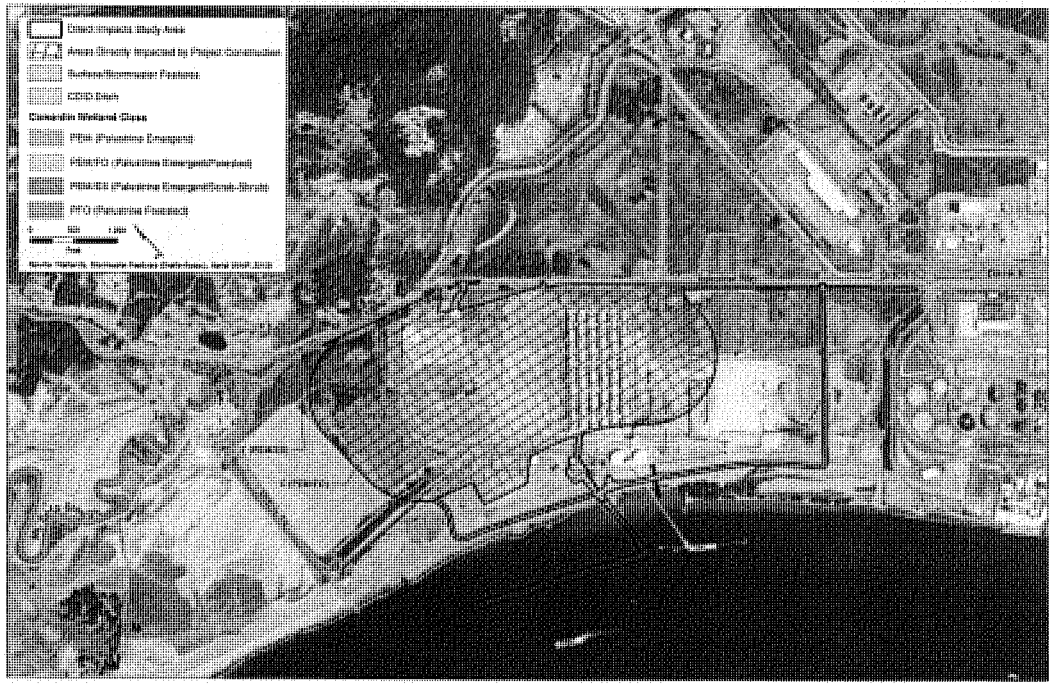
Construction of the Proposed Action would result in the permanent loss of 24.10 acres of wetlands (Table 4.3-4). Construction activities would permanently fill Wetlands A, C, Z, and P2 and a portion of Wetland Y (Figure 4.3-2) (Grette Associates 2014d) to construct rail lines and coal handling facilities. Because the wetland would be permanently filled, there is no requirement for buffers. Construction of the Proposed Action would not directly affect wetlands north of Industrial Way or the majority of wetlands at the east end of the study area.

Table 4.3-4. Wetland and Other Waters Impacts from the Proposed Action

Wetland/Other Waters	Cowardin Classification	Category	Impact Type	Impact Area
A	PFO	III	Fill	6.28
C	PEM/PFO	III	Fill	3.38
Y	PEM/PSS	III	Fill	0.57
Z	PEM	III	Fill	11.22
P2	PEM	IV	Fill	2.65
Total				**24.10**

Notes:
PFO = palustrine forested; PEM = palustrine emergent; PSS = palustrine scrub-shrub

Figure 4.3-2. Wetlands Affected by the Proposed Action



There are jurisdictional wetlands north of Industrial Way, which are outside the project area. These wetlands are considered Category III and IV wetlands (Grette Associates 2014b). The Cowlitz County Code (CCC) Critical Areas Ordinance 19.15.120.C (4)(a) requires buffers around wetlands, and buffers for Category III and IV wetlands can range from 25 to 150 feet depending on the wetland function and land use intensity. However, CCC 19.15.120.C (4)(a) does not require wetland buffers to extend beyond existing natural or human-made barriers (e.g., a paved road), which isolate the area of the wetland resource. Industrial Way serves as this human-made barrier for those off-site wetlands to the north of Industrial Way, and the associated buffers do not extend beyond that point. Therefore, construction of the Proposed Action would not result in impacts on these adjacent wetland buffers (Grette Associates 2014d).

In addition, construction would permanently fill 5.17 acres of ditches that convey stormwater runoff (Grette Associates 2014d), including the eastern half of the Interceptor/U Ditch, portions of the ditch along the south edge of Industrial Way on the BPA parcel, and interior drainage ditches (Grette Associates 2014d). Refer to Section 4.2, *Surface Water and Floodplains*, for more information on ditches and other surface waters.

Permanent Loss of Wetland Functions

Placement of fill material to construct the proposed coal export terminal would result in the permanent total loss of wetland functions across 24.10 acres of wetlands (Table 4.3-4). The functions most affected would be water quality and wildlife habitat, as evidenced by the rating system scores for the affected wetlands (Grette Associates 2014d). Wetland scores for the Category III wetlands are highest for the water quality and wildlife habitat functions. Wetland scores for Wetland P2 (the only Category IV wetland) were low for all three functions.

All water quality and hydrology functions would be lost from Wetlands A, C, Z, and P2, with a portion of those functions lost in Wetland Y. Construction of the Proposed Action would not displace water into surrounding areas, and stormwater runoff currently discharging into these wetlands would be redirected into an on-site stormwater treatment facility. Stormwater that currently discharges into Wetland Y through Outfall 005 would be rerouted to proposed stormwater facilities (refer to Section 4.2, *Surface Water and Floodplains,* for more information). However, since this is a minor source of hydrology compared with groundwater and surface water from ditches, it is expected that hydrology in the unfilled portion of Wetland Y would not be affected (Grette Associates 2014d).

While wetlands in the study area do provide some wildlife habitat, as described in Section 4.8, *Wildlife*, this function is limited (Grette Associates 2014d). Construction of the Proposed Action would destroy all habitat functions in filled wetlands. Construction would also destroy a forested portion of Wetland Y, which would reduce that wetland's habitat value from moderate to low.

Construction—Indirect Impacts

Construction of the Proposed Action would permanently fill 0.57 acre of Wetland Y, leaving 2.83 acres of Wetland Y unfilled and intact. The primary indirect impact on this wetland would be the degradation or alteration of wetland functions. While other indirect impacts, such as sedimentation from stormwater runoff and fuel spills, could also occur, implementation of best

management practices, such as silt fencing, would be required by various federal, state, and local permits to minimize impacts.

Alteration or Degradation of Wetland Functions

Construction could alter or degrade wildlife and hydrologic functions in Wetland Y. These indirect impacts are expected to be minor given Wetland Y's low rating for each of these functions. Wildlife use would likely be slightly reduced due to a smaller habitat area. Additionally, Wetland Y would no longer have nearby habitat connectivity with Wetland A (which would be filled), further reducing Wetland Y's functionality.

Wetland Y's hydrologic function is not expected to change much as a result of construction because it is located in a low area and hydrology is driven primarily by groundwater and precipitation. Temporary fluctuations in groundwater could occur during construction activities if any excavating activities take place near Wetland Y. However, if this impact were to occur it would be temporary, and Wetland Y's currently low hydrologic functional rating would not be significantly altered. Indirect construction impacts on water quality functions are unlikely because the wetland would be protected by adherence to a Stormwater Pollution Prevention Plan and NPDES Construction Stormwater Permit conditions.

Operations—Direct Impacts

The Proposed Action would have no direct impacts on wetlands during operations.

Operations—Indirect Impacts

Wetland Y vegetation would likely be affected by coal dust. The impact of coal dust on vegetation would depend on dust load, climatic conditions, and physical characteristics of the vegetation. Impacts could include blocked stomata, which would reduce respiration and/or decrease transpiration; altered leaf surface reflectance and light absorption; and increased leaf temperature due to optical properties of the dust (Chaston and Doley 2006; Doley 2006:38; Farmer 1993). Section 4.6, *Vegetation*, and the *SEPA Vegetation Technical Report* (ICF 2017), summarize studies of the impacts of dust deposition on vegetation. Coal dust deposition is discussed further in Chapter 5, Sections 5.6, *Air Quality*, and 5.7, *Coal Dust*.

4.3.5.2 No-Action Alternative

Under the No-Action Alternative, the Applicant would not construct the coal export terminal and would continue with current and future increased operations in the study area for the Proposed Action. The study area could be developed for other industrial uses including an expanded bulk product terminal or other industrial uses. If the study area is developed for another use, these activities may require permits from Ecology and the Corps. Wetlands would continue to provide functions as described in Section 4.3.4, *Existing Conditions*.

4.3.6 Required Permits

Permits to place fill in wetlands or other waters of the United States are required by federal, state, and local jurisdictions responsible for protecting waterways and water quality.

Permits for the Proposed Action would likely include the following.

- **Clean Water Act Authorization, Section 404—U.S. Army Corps of Engineers.** Construction and operation of the Proposed Action would affect waters of the United States, including wetlands. Department of the Army authorization from the Corps under Section 404 of the Clean Water Act would be required.
- **Clean Water Act Section 401 Water Quality Certification—Washington State Department of Ecology.** An Individual Water Quality Certification from Ecology under Section 401 of the Clean Water Act and a National Pollution Discharge Elimination System permit under Section 402 of the Clean Water Act would also be required for the Proposed Action.
- **Critical Areas Permit—Cowlitz County Department of Building and Planning.** Development in designated critical areas, including wetlands, requires a Critical Areas Permit from the Cowlitz County Department of Building and Planning.

Other permits and approvals not specific to wetlands may be required, but associated with the Proposed Action's location along the Columbia River, such as shoreline permits pursuant to the State Shoreline Management Act, Cowlitz County Shoreline Master Program, and City of Longview Shoreline Master Program.

4.3.7 Proposed Mitigation Measures

This section describes the proposed mitigation measures that would reduce and compensate for impacts related to wetlands from construction and operation of the Proposed Action. These mitigation measures would be implemented in addition to project design measures best management practices, and compliance with environmental permits, plans, and authorizations that are assumed as part of the Proposed Action.

Wetlands mitigation falls under the jurisdiction of the Corps, Ecology, and Cowlitz County and will be coordinated through the National Environmental Policy Act (NEPA) and permitting processes.

4.3.7.1 Applicant Mitigation

The Applicant would implement the following measures to mitigate impacts on wetlands.

MM WTL-1. Prepare a Comprehensive Mitigation Plan

The Applicant will prepare a comprehensive mitigation plan in coordination with the Corps, Ecology, and Cowlitz County to address the impacts on the 24.1 acres of wetlands affected by placement of fill from the Proposed Action. The comprehensive mitigation plan will be prepared as part of the permitting process for the Proposed Action. The mitigation plan will address the general requirements for mitigation planning consistent with all current local, state, and federal guidance and regulations. These requirements must be met before applicable permits are issued.

Mitigation actions may be implemented at one or several locations to ensure that the range of ecological functions are provided to offset identified, unavoidable project impacts and the types of wetland functions affected by the Proposed Action. The mitigation actions may include Applicant-sponsored (i.e., permittee-responsible) mitigation or use of credits from existing or proposed mitigation banks (Grette Associates 2014d). Any Applicant-sponsored mitigation will

be consistent with requirements as stipulated by the Corps, Ecology, or Cowlitz County, which could include, but is not limited to, use of ratios or a credit-debit analysis.

CCC 19.15.170 E(5) and the 2006 interagency guidance identify mitigation ratios that prescribe the acreage needed to compensate for unavoidable impacts on wetlands, depending on the type of mitigation and category of the affected wetland and the mitigation wetland. As required by agencies, the appropriate ratios will be followed for the preparation of the mitigation plan (Grette Associates 2014d). Mitigation will be developed consistent with current local, state, and federal guidance and regulations. Approval of the mitigation plan by the agencies will depend on a number of factors.

Examples of mitigation could include, but would not be limited to, the following.

- Wetland mitigation bank credits.
- Off-site permittee-responsible wetland mitigation (e.g., wetland creation, enhancement, rehabilitation).

4.3.8 Unavoidable and Significant Adverse Environmental Impacts

Compliance with laws and implementation of the mitigation measures described above would reduce and compensate for impacts on wetlands. There would therefore be no unavoidable and significant adverse environmental impacts on wetlands.

4.4 Groundwater

Groundwater, often stored in aquifers[1] formed of permeable rock or soil material, provides water for human and environmental well-being. Groundwater quality refers to the physical, chemical, biological, and aesthetic characteristics of water, which are used to measure the ability of water to support aquatic life and human uses. Groundwater quality can be degraded by contaminants introduced by domestic, construction, industrial, and agricultural practices.

This section describes the groundwater resources in the study area. It then describes impacts on groundwater that could result from construction and operation of the Proposed Action and under the No-Action Alternative. This section also presents the measures identified to mitigate impacts resulting from the Proposed Action.

4.4.1 Regulatory Setting

Laws and regulations relevant to groundwater are summarized in Table 4.4-1.

Table 4.4-1. Regulations, Statutes, and Guidelines for Groundwater

Regulation, Statute, Guideline	Description
Federal	
Clean Water Act (33 USC 1251, *et seq.*)	Establishes the basic structure for regulating discharges of pollutants into waters of the United States and regulating quality standards for surface waters but not groundwater.
Safe Drinking Water Act	Requires the protection of groundwater and groundwater sources used for drinking water. Also, requires every state to develop a wellhead protection program.
National Pollutant Discharge Elimination System Permit	Authorized by the Clean Water Act, the permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. Surface waters in the study area interacts with groundwater.
State	
Water Quality Standards for Groundwaters of the State of Washington (WAC-173-200)	Groundwater standards intended to preserve a level of quality for groundwater capable of meeting current state and federal safe drinking water standards.
Water Code (RCW 90.03)	Establishes rules for regulating and controlling water rights, and defines beneficial uses.
Regulation of Public Groundwaters (RCW 90.44)	Regulates and controls groundwater. Extends application of surface water statutes (RCW 90.03) to groundwater.

[1] An aquifer consists of underground layers of rock that are saturated with water that can be brought to the surface through natural springs or by pumping.

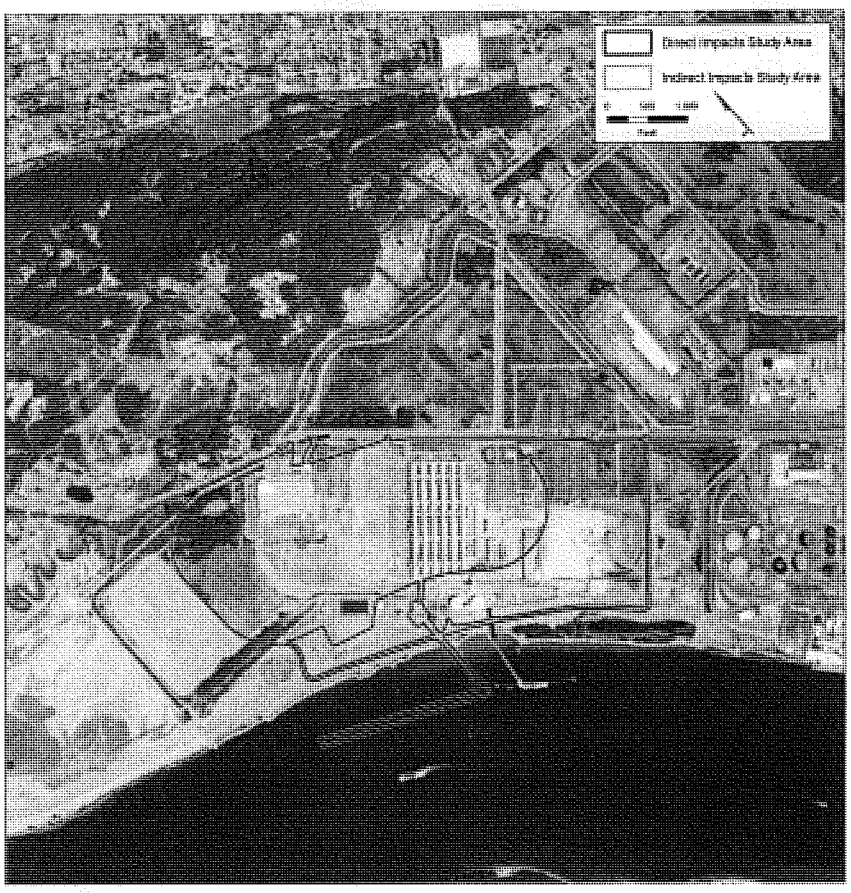
Regulation, Statute, Guideline	Description
Drinking Water/Source Water Protection (RCW 43.20.050)	Requires that the Washington State Department of Health assure safe and reliable public drinking water supplies in cooperation with local health departments and water purveyors.
Model Toxics Control Act (RCW 70.105D)	Requires potentially liable persons to assume responsibility for cleaning up contaminated sites.
State Water Pollution Control Law (RCW 90.48)	Grants Ecology the jurisdiction to control and prevent the pollution of streams, lakes, rivers, ponds, inland water, salt waters, water courses, and other surface and groundwater in the state.
Water Resources Act of 1971 (RCW 90.54)	Sets forth fundamental policies for the state to insure that waters of the state are protected and fully utilized for the greatest benefit.
Washington State Oil and Hazardous Substance Spill Prevention and Response (RCW 90.56)	Requires notification of releases of hazardous substances and establishes procedures for response and cleanup.
Model Toxic Control Act Cleanup Regulations (WAC 173-340)	Establishes procedures for investigation and site cleanup actions. Requires potentially liable persons to assume responsibility for cleaning up contaminated sites.
Local	
Cowlitz County Critical Areas Ordinance (CCC 19.15)	Designates critical areas and development regulations to assure the conservation of such areas in accordance with best available science.
Longview Water Supply Protection Ordinance (LMC 17.100)	Establishes a Wellhead Protection Program to minimize the risk of groundwater contamination.

Notes:
USC = United States Code; WAC = Washington Administrative Code; RCW = Revised Code of Washington; Ecology = Washington State Department of Ecology; LMC = Longview Municipal Code

4.4.2 Study Area

The study area for direct impacts on groundwater is the project area. The study area for indirect impacts is the 540-acre Applicant's leased area (Figure 4.4-1).

Figure 4.4-1. Groundwater Study Areas



4.4.3 Methods

This section describes the sources of information and methods used to evaluate the potential impacts on groundwater associated with the construction and operation of the Proposed Action and No-Action Alternative.

4.4.3.1 Information Sources

The following sources of information were used to identify and analyze the potential impacts of the Proposed Action and No-Action Alternative on groundwater in the study area.

- *Remedial Investigation Report* (Anchor Environmental 2007)
- *Former Reynolds Metals Reduction Plant—Longview, Draft Remedial Investigation and Feasibility Study* (Anchor QEA 2014)
- *Millennium Coal Export Terminal Longview, Washington, Water Resources Report* (URS Corporation 2014a)
- *Millennium Coal Export Terminal Longview, Washington, Water Resaurce Report* (URS Corporation 2014b)
- *Millennium Coal Export Terminal Longview, Washington, Surface Water Memorandum* (URS Corporation 2014c)
- *Millennium Coal Export Terminal Longview, Washington Surface Water Memorandum, Second Supplement to Water Resource Report Water Collection and Drainage* (URS Corporation 2014d)
- *Mint Farm Regional Water Treatment Plant, Preliminary Design Report, Part 2A, Hydrogeologic Characterization* (City of Longview 2010)
- Other scientific literature as cited in this section

4.4.3.2 Impact Analysis

The following methods were used to evaluate the potential impacts of the Proposed Action and No-Action Alternative on groundwater. Although the indirect impacts study area includes the extent of the Applicant's leased area, impacts on groundwater would be limited to the project area and along the Reynolds Lead railroad within the watershed. For direct impacts, the analysis assumes best management practices were incorporated into the design, construction, and operation of the Proposed Action.

Potential groundwater impacts have been evaluated regarding groundwater discharge and recharge, groundwater quality, and groundwater withdrawal. The assessment of impacts is based on the assumption that the Proposed Action would include the following actions and authorizations.

- National Pollution Discharge Elimination System (NPDES) Construction Stormwater Permit and Industrial Stormwater Permit for stormwater discharges.
- Remediation of any existing soil and groundwater contamination in the Applicant's leased area prior to and concurrently with project construction.
- Long-term monitoring as part of the remediation of the existing groundwater contamination to verify remedy effectiveness and natural attenuation of groundwater contamination.

4.4.4 Existing Conditions

This section describes the existing environmental conditions in the study area related to groundwater that could be affected by the construction and operation of the Proposed Action and No-Action Alternative.

4.4.4.1 Groundwater Resources

The study area is in Water Resource Inventory Area (WRIA) 25, also known as the Grays-Elochoman watershed. This watershed encompasses approximately 296,000 acres and is defined by five subbasins: Grays River, Skamokawa Creek, Elochoman River, Abernathy/Germany Creek, and the Coal Creek/Longview Slough. The project area is within the Longview-Kelso basin, a topographic and structural depression formed by the Cascadia subduction zone (Anchor 2013 in URS Corporation 2014a). The Longview-Kelso basin is composed of unconsolidated alluvium (silt, fine-grained sand, and clay) underlain by alluvium (coarse-grained sand and gravel). Groundwater resources in the study areas include an upper alluvium aquifer (i.e., shallow aquifer) and a deeper confined aquifer from which industries, small farms, and domestic well users withdraw groundwater. An aquifer is the underground soil or rock through which groundwater can easily move.

The amount of groundwater that can flow through soil or rock depends on the size of the spaces in the soil or rock and how well the spaces are connected. Aquifers that consist of gravel, sand, sandstone, or fractured rock such as limestone are relatively permeable (or porous) materials and allow water to flow through. A confining, impervious unit consisting of clay and silt ranging in thickness from approximately 100 to 200 feet separates the two aquifer systems below the project area. The confining unit becomes appreciably thinner beyond the project area, to the north and east near residential areas. Shallow groundwater is hydraulically connected with the Columbia River. Preliminary hydrogeologic investigations conducted for the City of Longview indicate that shallow, unconfined groundwater does not contribute significantly to the deeper aquifer as the lower aquifer is primarily recharged by deeper aquifers below the Columbia River (Anchor QEA 2014). The project area is not considered a significant source of groundwater recharge by infiltration because of the low recharge rates of the soil in the study area (URS Corporation 2014c).

Shallow Aquifer

Groundwater in the shallow aquifer is found at depths less than 5 feet below the ground surface (bgs) (Anchor QEA 2014). Groundwater flow in the shallow aquifer in the study area is complex due to the competing influences of the Consolidated Diking and Improvement District (CDID #1) system and, to a lesser extent, the tidally influenced Columbia River (Anchor QEA 2014). Groundwater and stormwater discharged to the CDID #1 ditches are pumped from these ditches by the CDID #1 to maintain surface-water levels below those in the Columbia River. Water from CDID #1 is discharged to the Columbia River. A CDID #1 pump station is located near the southwest corner of the project-area boundary.

Deep Aquifer

The deep aquifer is approximately 200 feet bgs, with sand coarsening to gravel to a depth of 400 feet bgs (Anchor QEA 2014). The deep aquifer is a source of drinking water in the study area. Recharge to the deep aquifer in the project area is expected to be driven primarily by deeper aquifers below the Columbia River and insignificantly from shallow, unconfined aquifers (Anchor QEA 2014). Discharge from the deep aquifer is from seepage back to the Columbia River, direct discharge to the shallow aquifer, and pumpage from wells (URS Corporation 2014a).

Mint Farm Regional Water Treatment Plant

The Mint Farm Regional Water Treatment Plant is approximately 6,000 feet east of the eastern boundary of the project area. While the direct impacts study area does not extend to the Mint Farm Regional Water Treatment Plant, the indirect impacts study area includes the treatment plant, and both the direct and indirect impacts study areas include the treatment plant's Wellhead Protection Area (i.e., the 5-year Wellhead Protection Plan Source Area); thus, the Mint Farm Regional Water Treatment Plant is considered. The wellhead protection area is based on the extent of the Columbia River recharge of the deep aquifer flows according to the hydrological investigations performed for the Mint Farm Regional Treatment Plant. The treatment plant consists of four 4,000-gallons-per-minute (gpm) groundwater wells and supplies the City of Longview and the Beacon Hill Water and Sewer District with municipal water. The plant draws from the deep aquifer, recharged by the Columbia River. Kennedy/Jenks Consultants (2010) completed a water quality and environmental risk assessment as part of the preliminary design report for the Mint Farm Regional Water Treatment Plant. The risk assessment included sampling and water quality analysis of the groundwater from the deeper aquifer of six wells. This study found no chemicals in the groundwater above human health screening levels. Kennedy/Jenks Consultants (2012) repeated the water quality analysis from the same wells in November 2012 and found manganese and iron at levels above the Washington State Department of Health secondary water quality standards and arsenic in one of the wells but at levels below thresholds established by the U.S. Environmental Protection Agency (EPA) for drinking water quality standards. Groundwater gradients and monitoring well locations at the Mint Farm Regional Water Treatment Plant are shown in Figures 4.4-2 and 4.4-3.

4.4.4.2 Surface Water Interaction with Groundwater

This section addresses how and where surface water interacts with groundwater in the study areas.

Columbia River

The Columbia River flows along the entire south/southwest boundary of the project area. Tidal influences on groundwater tend to propagate farthest in the coarse-grained deep aquifer and, to a much lesser degree, in the shallow aquifer (Anchor QEA 2014).

Consolidated Dike Improvement District #1 Ditch System

The CDID #1 system was developed to control local flooding and depress the groundwater elevation in lower elevation areas (including the project area) near the Columbia River. Specifically, the system was designed to protect life, property, and environment from external flooding and internal flooding (flooding due to storm runoff from lands adjacent to and inside the levee system). Water levels in the CDID #1 ditches are maintained below the water surface elevation of the Columbia River, which influences groundwater flow direction in the shallow aquifer. At the project area this results in a flow of shallow groundwater away from the Columbia River (to the north, east, and west) (Figure 4.4-4) and toward the CDID #1 ditches (Anchor QEA 2014), except for one localized area: groundwater flow south of the axis of the Columbia River levee is toward the Columbia River (Anchor Environmental 2007). Groundwater that discharges into the CDID #1 ditches and stormwater that is collected in the CDID #1 ditches are actively pumped by the CDID #1 system to the Columbia River through a network of pump stations and valves to maintain water levels below the level of the Columbia River.

Figure 4.4-2. Shallow Aquifer Groundwater Gradients and Monitoring Well Locations

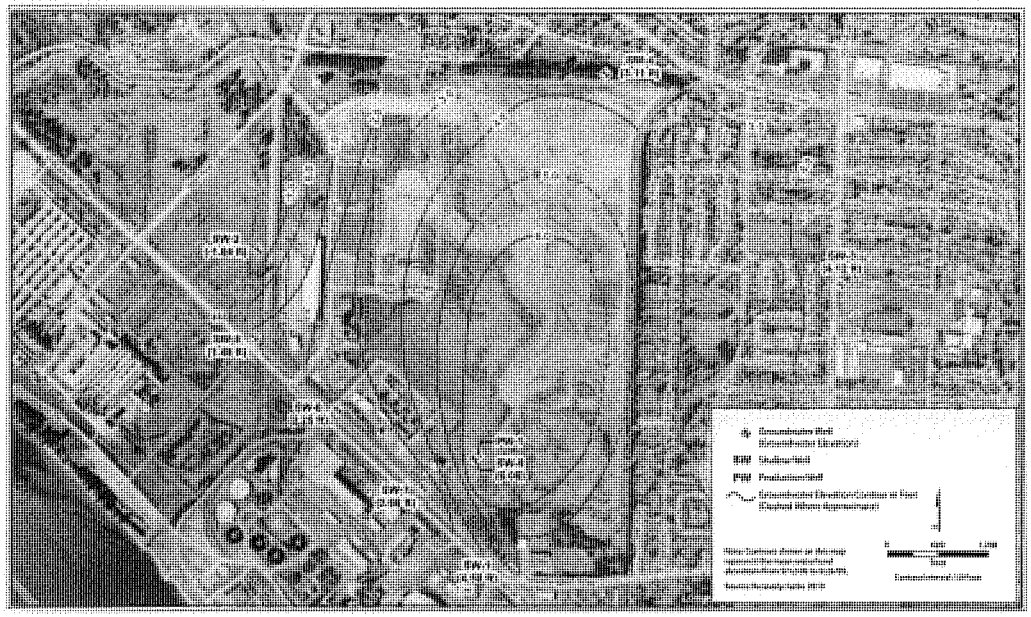


Figure 4.4-3. Deep Aquifer Groundwater Gradients and Monitoring Well Locations

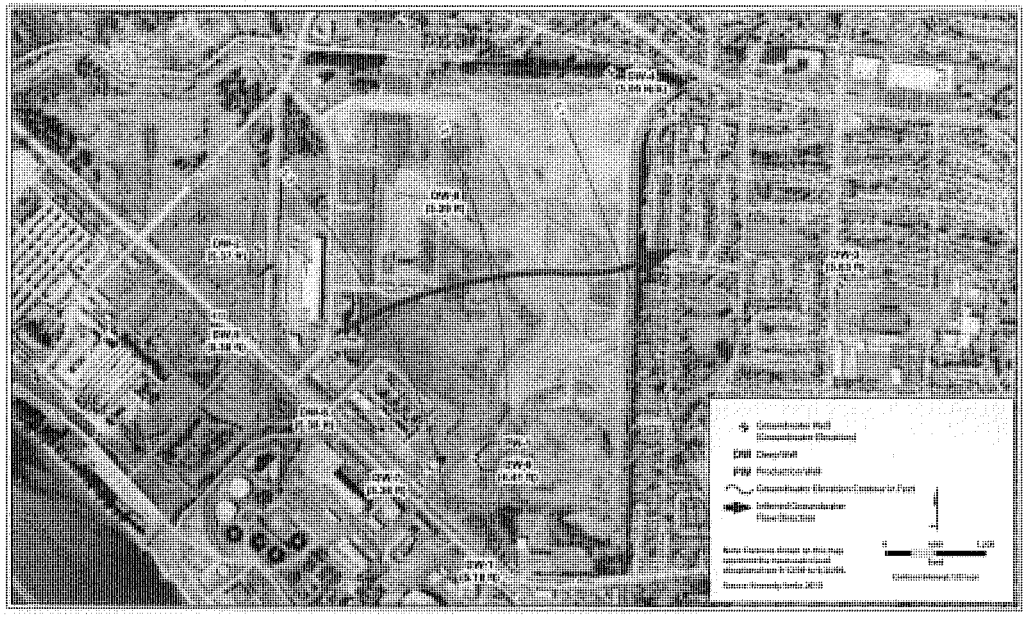
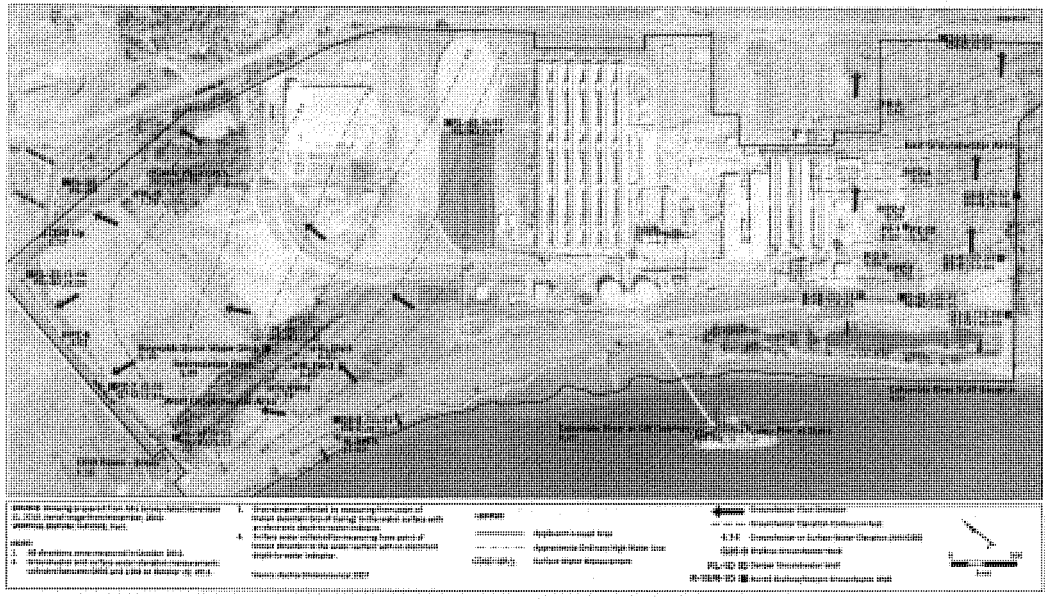


Figure 4.4-4. Groundwater Gradients and Flow Direction



Some groundwater from the deep aquifer may be discharged into the CDID #1 ditches because an upward vertical gradient also exists in areas near the ditches, causing groundwater in the deep aquifer to move upward into the shallow aquifer (Anchor Environmental 2007).

Drainage Basins and Stormwater System

The on-site drainage system collects, treats, and discharges stormwater under the Applicant's Individual Industrial NDPES Permit WA-000008-6 for the existing bulk product terminal. Stormwater is collected from 12 drainage basins and is discharged as treated stormwater to CDID #1 ditches and the Columbia River via four outfalls (Section 4.2, *Surface Water and Floodplains,* Figure 4.2-3). A fifth outfall, Outfall 004, has been closed since 1991. The major collection and treatment systems, drainage basins, outfalls, and discharge locations currently managed under the NPDES program are described in more detail in the *SEPA Surface Water and Floodplains Technical Report* (ICF 2017a), and in Section 4.2, *Surface Water and Floodplains.*

4.4.4.3 Groundwater Quality

Local groundwater quality in the study area has no identified pollutant concentrations above human health screening levels for drinking water. Samples taken from the study area identified manganese, iron, and arsenic levels above the Washington State Department of Health secondary water quality standards but at levels below thresholds established by the U.S. Environmental Protection Agency (EPA) for drinking water quality standards. These levels were found to be naturally occurring and are characteristic of the regional water supply aquifer (Anchor QEA 2014a).

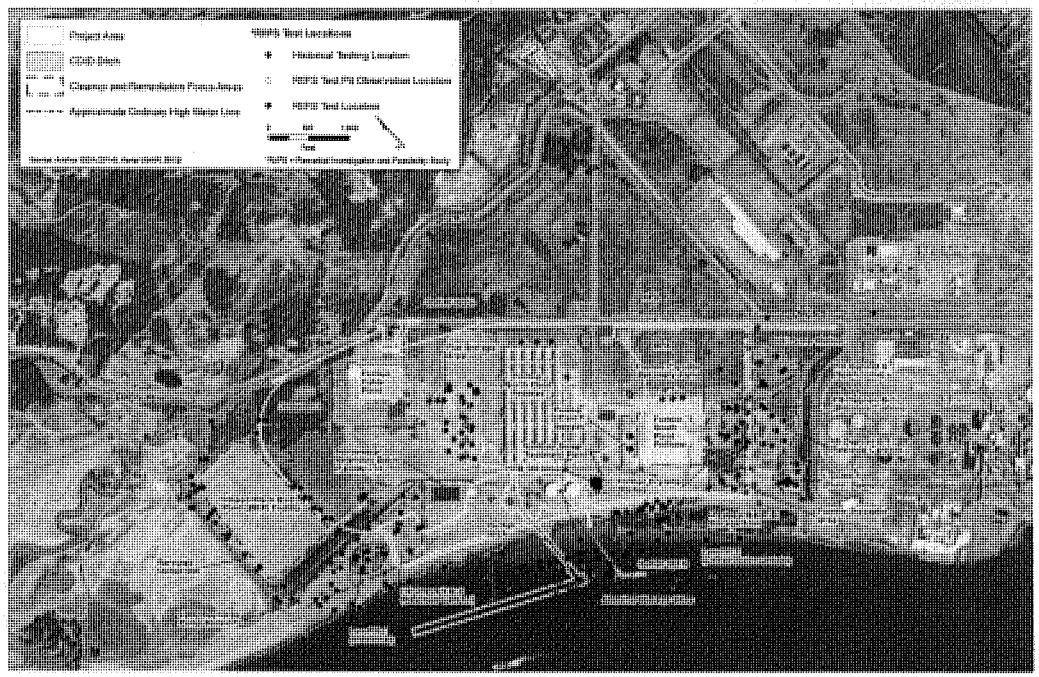
Groundwater Contamination

Historical operations in the study area have included the operation of various facilities, including an aluminum production facility, a cable plant, cryolite recovery, and industrial landfills (Figure 4.4-5).[2] Chapter 3, Section 3.6, *Hazardous Materials,* provides a history of contamination in the study areas. In the project area, groundwater samples show presence of cyanide, fluoride, polycyclic aromatic hydrocarbons, heavy metals and petroleum hydrocarbons.

In January 2015, a remedial investigation/feasibility study (RI/FS) (Anchor QEA 2014) was prepared per the requirements of the Washington State Model Toxics Control Act (MTCA), which is administered by the Washington State Department of Ecology (Ecology). The RI/FS provides a detailed description of cleanup and remedial actions in the study area (Anchor QEA 2014). Figure 4.4-5 shows the locations of previous cleanup and removal activities and remedial investigation focus areas.

[2] Landfills include six areas referred to as Landfills and Fill Deposits that were associated with the operation of the Reynolds aluminum smelter and were used for depositing such things as industrial waste, residual carbon, construction debris, floor sweeps and spent lime. Cleanup of these features is ongoing as a separate project.

Figure 4.4-5. Remedial Investigation Environmental Testing (Geologic, Hydrogeologic, and Geochemical) Locations



Source Areas and Chemicals of Concern (Deep and Shallow Aquifers)

Cyanide

Groundwater cyanide concentrations in the study area are very low and have been decreasing over time. Free cyanide concentrations in all samples taken in the western portion of the study areas were below the groundwater screening level of 0.2 milligram per liter.

Groundwater cyanide concentrations in samples collected in the eastern portion of the study area have also been decreasing over time. One groundwater sample, located near the Former Stockpile Area in the southeast corner of the study area in Figure 4.4-5, exceeded the groundwater Maximum Contaminant Level in 2006, but concentrations decreased significantly by the 2011 and 2012 sampling events. Free cyanide[3] concentrations in most of the eastern portion of the study area were below the groundwater screening level.

Fluoride

Fluoride concentrations in most of the Applicant's leased area are below groundwater screening levels. The exceptions are the shallow groundwater located in or immediately adjacent to Landfills 1 and 2 and fill deposits A, B-1, B-2 and B-3. Surface-water monitoring suggests that the fluoride present in the shallow groundwater is not affecting water quality in the adjacent CDID Ditches 10, 5, or 14 (Anchor QEA 2014).

Carcinogenic Polycyclic Aromatic Hydrocarbons

Carcinogenic polycyclic aromatic hydrocarbon (CPAH) concentrations from the western portion of the Applicant's leased area do not exceed groundwater screening levels. In the eastern portion of the Applicant's leased area, and outside the project area boundaries, CPAH concentrations were below groundwater screening levels in all locations except for wells located immediately within or adjacent to fill deposits. Three localized areas (purple circles on Figure 4.4-6) include wells located immediately adjacent to Landfill 1 and Fill Deposit B-2. CPAH concentrations in wells located farther downgradient were lower than the groundwater screening level and the surface water screening level.

Polychlorinated Biphenyls

No polychlorinated biphenyls (PCBs) were detected in any of the groundwater samples analyzed.

Heavy Metals

Test findings indicate that groundwater heavy metals concentrations are below applicable screening levels.

Volatile Organic Compounds

No volatile organic compounds were detected in any of the groundwater samples analyzed.

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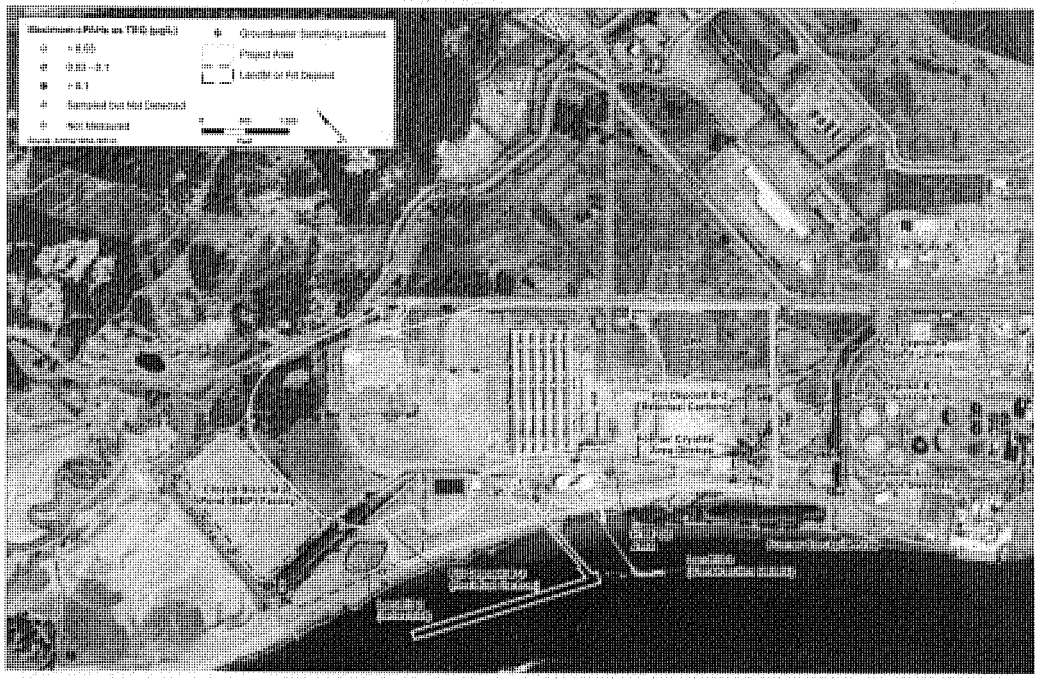
[3] Free cyanide refers to the sum of hydrogen cyanide (HCN) and cyanide ion (CN-) in a sample. Free cyanide is bioavailable and toxic to organisms in aquatic environments.

Figure 4.4-6. 2007–2012 Groundwater Testing Results (Total CPAHs as Toxic Equivalents)



Total Petroleum Hydrocarbons

The RI/FS testing program included analysis for total petroleum hydrocarbons (TPHs) in the HTM Oil Area (Figure 4.4.-5). All samples collected were below groundwater screening levels.

Distribution of Chemicals of Concern

Fluoride and cyanide levels found in the shallow groundwater within or immediately adjacent to Landfills 1, 2, and 3 have limited mobility and are not affecting downgradient groundwater (Anchor QEA 2014). Groundwater contaminated with fluoride and cyanide could occur during leaching when soils or solid media come into contact with the groundwater. However, the upward hydraulic gradients in the shallow aquifer cause dispersion of fluoride and cyanide and prevent migration into the north-south groundwater flows. This subsequently protects groundwater, surface water, and the Columbia River and limits fluoride and cyanide from traveling to the CDID #1 ditches. Fluoride and cyanide concentrations have been decreasing over time, since the closure of the former Reynolds Metal Company facility (Reynolds facility). It is unlikely that fluoride and cyanide in the study area affect the surrounding groundwater (Anchor QEA 2014).

Final Cleanup Actions

A draft MTCA Cleanup Action Plan for the study area, released in January 2016, describes the proposed cleanup actions that would protect human health and the environment, meet state cleanup standards, and comply with other applicable state and federal laws. Cleanup standards would be consistent with the current and anticipated future land use. Ecology's comment period on the draft MTCA Cleanup Action Plan ended March 18, 2016, and issuance of a final plan is pending. Although a final Cleanup Action Plan has not been determined, this section discusses the site-specific cleanup action requirements applicable to all the cleanup alternatives.

Table 4.4-2 shows the proposed cleanup levels, remediation levels, and conditional points of compliance for groundwater to be implemented as part of the Cleanup Action Plan (Anchor QEA 2014). Cleanup levels were based on MTCA equations or Applicable or Relevant and Appropriate Requirements (ARARs) to protect groundwater resources for the highest beneficial use (i.e., drinking water) (Anchor QEA 2014).

Table 4.4-2. Groundwater Cleanup Standards

Chemical of Potential Concern	Groundwater Cleanup Level	Protection Basis	Point of Compliance
Fluoride (dissolved)	4 mg/L	State Drinking Water MCL	Conditional point of compliance at property line and groundwater-ditch boundary
Free cyanide (dissolved)	200 µg/L	State Drinking Water MCL	Wells adjacent to where remedial action will occur
CPAHs	0.1 µg/L	MTCA Method A Standard Value	
TPH-D	500 µg/L	MTCA Method A Standard Value	
TPH-O	500 µg/L	MTCA Method A Standard Value	

Notes:
Source: Anchor QEA 2014
mg/L = milligrams per liter; MCL = Maximum Contaminant Level; µg/L = micrograms per liter;
CPAHs = carcinogenic polycyclic aromatic hydrocarbons; MTCA = Model Toxics Control Act; TPH-D = total petroleum hydrocarbon – diesel; TPH-O = total petroleum hydrocarbon – oil

4.4.4.4 Water Rights for the Project Area

The project area land owner, Northwest Alloys, holds several historical water rights to extract groundwater from the deep aquifer. The Applicant has a ground lease with Northwest Alloys that includes use of water rights. When issued, the total instantaneous withdrawal volume allowance under these water rights was 23,150 gpm and the total annual withdrawal allowance was 31,367 acre-feet per year (AFY) (Table 4.4-3). It is estimated the Applicant has an existing demand of 1.53 million gallons per day or approximately 1,063 gpm (Chaney pers. comm.). This is within the volume of the water rights that were issued in 1941, 1966, and 1967.[4] However, water rights relinquish back to the State of Washington if water rights are not used for 5 consecutive years without good cause (RCW 90.14.160). If the historical water rights have been relinquished, new water rights would need to be applied for by the Applicant or Northwest Alloys under the normal regulatory process.

[4] The Applicant is responsible for maintaining water rights. The EIS process did not verify whether water rights are current.

Table 4.4-3. Northwest Alloys' Water Rights Claims and Certificates

Record Number	Certificate Number	Withdrawal Instantaneous (gpm)	Withdrawal Annual (AFY)	Priority Date
Claims				
G2-006572CL	-	2,500	2,340	1941
G2-006573CL	-	2,500	2,340	1941
G2-006574CL	-	2,500	1,614	1941
Certificates				
G2-*02244CWRIS	01571	2,500	4,033	1966
G2-*08309CWRIS	06184	2,500	4,000	1966
G2-*08310CWRIS	06185	2,500	4,000	1966
G2-*08367CWRIS	06186	3,000	4,800	1966
G2-*08368CWRIS	06187	3,000	4,800	1966
G2-*09127CWRIS	06427	2,150	3,440	1967
Total		**23,150**	**31,367**	

Notes:
Source: URS Corporation 2014b.
gpm = gallons per minute; AFY = acre-feet per year

4.4.5 Impacts

This section describes the potential direct and indirect impacts related to groundwater that would result from construction and operation of the Proposed Action and the No-Action Alternative.[5]

4.4.5.1 Proposed Action

This section describes the potential impacts that could occur in the study areas as a result of construction and operation of the Proposed Action. All wastewater and stormwater generated in the project area and potentially discharged from the project area after treatment would be evaluated and characterized by the state. Once the water to be discharged has been accurately evaluated and characterized by the state, the specific standards for water discharged from the project area are then defined and the type of NPDES permit would be determined and issued.

Construction site preparation activities would involve preloading and installation of vertical wick drains to aid in the consolidation of low consistency silt and low-density sand (i.e., unconsolidated materials). Wick drains would direct groundwater from the shallow aquifer upward toward the surface during preloading, where it would discharge. Water discharged from the wick drains would be captured, tested for contaminants, and treated prior to discharge to any surface waters.

Process water supply for construction and operation of the Proposed Action would come from two sources: the on-site water management system during the wet season, and onsite groundwater wells during the dry season. Process water uses on the project area would include dust control, equipment

[5] Acreages presented in the impacts analysis were calculated using Geographic Information System (GIS), thus, specific acreage of impacts are an estimate of area based on the best available information.

washdown, and cleanup. Water for dust suppression would be applied on the main stockpiles, within unloading and conveying systems, and at the docks.

Construction activities that could impact groundwater include the following.

- Disturbance of surface soils during construction
- Release of hazardous and non-hazardous materials during construction
- Disturbance of previously contaminated sites
- Use of groundwater for dust control

Operational activities that could affect groundwater include the following.

- Alteration of surface runoff patterns
- Use of groundwater for dust control, equipment washdown, and cleanup

Construction—Direct Impacts

Construction-related activities associated with the Proposed Action could result in direct impacts as described below. As explained in Chapter 2, *Project Objectives, Proposed Action, and Alternatives,* construction-related activities include demolishing existing structures and preparing the site, constructing the rail loop and dock, and constructing supporting infrastructure (i.e., conveyors and transfer towers).

Affect Groundwater Recharge during Construction

Construction of the Proposed Action would involve preloading and installing vertical wick drains that would direct groundwater from the shallow aquifer upward toward the surface during preloading, where it would discharge. Ground-disturbing activities (excavations, grading, filling, trenching, backfilling, and compaction) could temporarily disrupt the existing drainage and groundwater recharge patterns in the study area. The study area is not considered a major source of groundwater recharge of the deep aquifer. During construction, drainage and groundwater recharge patterns are expected to be similar to those of the existing conditions, with wick drain effluent and runoff directed to collection and treatment facilities and minimal infiltration to groundwater of the deep aquifer. Therefore, construction of the Proposed Action would not be expected to have a measurable impact on groundwater recharge patterns of the deep aquifer.

The shallow water aquifer in the project area is only minimally recharged by stormwater through surface infiltration due to the low recharge rates of soils in the study area (URS Corporation 2014c). During construction, impervious surfaces would be sloped to convey stormwater to collection sumps on the project area. The collected stormwater would then be conveyed to water collection facilities and discharged through a monitored internal outfall to existing facilities in the project area for treatment prior to discharge to the Columbia River (Outfall 002A). Therefore, construction of the terminal at the project area would be expected to slightly reduce groundwater recharge in the shallow aquifer. For more information on the NPDES Construction Stormwater Permit for the Proposed Action, see Section 4.5, *Water Quality*, and the *SEPA Water Quality Technical Report* (ICF 2017b).

Degrade Groundwater Quality during Construction

Any construction-related contaminant released on the ground could infiltrate and temporarily degrade groundwater quality if the contaminant were to reach groundwater. This would be a concern primarily for the shallow aquifer but not the deep aquifer because there is a confining, impervious soil unit consisting of clay and silt that separates the two aquifer systems, and the deep aquifer is primarily recharged by deeper aquifers below the Columbia River (Anchor QEA 2014) rather than surface infiltration. Poured concrete, cement, mortars, and other cement- or lime-containing construction material could alter the pH of stormwater, which could infiltrate the ground and affect the shallow aquifer water quality. Petro-chemicals could also be released through leaks and spills, which could infiltrate the ground and potentially reach groundwater. However, the likelihood of a large contaminant spill would be low with implementation of the best management practices that would be required as part of the NPDES Construction Stormwater Permit. In addition, cleanup efforts would begin immediately after a contaminant release, to prevent large amounts of contaminant from reaching groundwater and impairing water quality. By using prevention measures and best management practices, construction is not expected to degrade groundwater as a result of a contaminant release and no long-term effects are anticipated. Best management practices would include, but would not be limited to the following.

- **BMP C153.** Material delivery, storage and containment would be used to prevent, reduce, or eliminate the discharge of pollutants to the stormwater system or watercourses from material delivery and storage.
- **BMP C154.** A concrete washout area would be constructed near the entrance to the project area to prevent or reduce the discharge of pollutants to groundwater or stormwater from concrete waste.

Site preparation activities would involve preloading and installation of vertical wick drains to aid in the consolidation of low consistency silt and low-density sand (i.e., unconsolidated materials). Wick drains would direct groundwater from the shallow aquifer upward toward the surface during preloading, where it would discharge. These activities could take place adjacent to areas where known groundwater contamination exists, and the contaminated groundwater could penetrate these areas. However, the permeability of the soil materials affected by preloading would be relatively low, and thus, would not be particularly susceptible to the infiltration of contaminated groundwater. Water discharged from the wick drains would be captured, tested for contaminants, and properly managed, and, if allowable, it would be treated prior to discharge to any surface waters. By adhering to best management practices, construction is not expected to degrade groundwater as a result of preloading and vertical wick drains and no long-term effects are anticipated.

Construction of the Proposed Action could encounter previously contaminated areas currently identified in the MTCA Cleanup Action Plan, which could degrade groundwater quality. However, with the exception of two small areas—the eastern corner of the Flat Storage Area and the northeastern portion of Fill Deposit B-3 (Figure 4.4-5)—cleanup actions are not recommended in the draft Cleanup Action Plan within the project area. For the Flat Storage Area and Fill Deposit B-3, construction and remediation activities would be coordinated to prevent spread of contamination or environmental impacts. Fluoride and cyanide levels found in shallow groundwater have limited mobility and do not affect downgradient groundwater or surface

water quality. Therefore, construction of the Proposed Action is not expected to degrade groundwater as a result of disturbing previously contaminated areas.

Construction of the Proposed Action would be unlikely to affect the wellfield at the Mint Farm Industrial Park, which is located upgradient and approximately 1.14 miles (6,000 feet) away from the project area. However, the project area is in Zone 2 of the Mint Farm Industrial Park's wellhead protection and sanitary control areas (Figure 4.4-7).[6] The wellfield draws water from the deep aquifer, which is protected by a confining, impervious soil unit consisting of clay and silt that separates the two aquifer systems, and the deep aquifer is primarily recharged by deeper aquifers below the Columbia River. So it would be unlikely that contaminants from a spill would reach the groundwater withdrawn by the wellfield.

Affect Groundwater Supply during Construction

Construction of the Proposed Action would require groundwater from on-site wells for dust suppression. The maximum amount of water that would be used for dust suppression is estimated to be 40,000 gallons per day (44.8 AFY). Combined with demand from existing activities in the project area of 1,994 AFY, the total demand for groundwater during construction would be approximately 2,039 AFY. As stated previously, Northwest Alloys holds water rights that originally authorized extraction from on-site wells of approximately 23,150 gpm or 31,367 AFY. The EIS does not verify the amount of Northwest Alloys' water rights; verification will occur outside of the environmental review process. Water demand for construction-related activities and existing operations would together represent approximately 6.5% of the original Northwest Alloys' groundwater extraction rights, which would be an increase of approximately 2% over current groundwater extraction. Therefore, construction of the Proposed Action would have a negligible impact on groundwater supply.

Excavation activities could intersect groundwater in low-lying areas, which could result in temporary fluctuations in shallow groundwater in the immediate area. Dewatering effluent would be pumped to temporary containment tanks for settling, where it would be tested for pollutants before being discharged to receiving waters. If pollutants are encountered during testing, dewatering would be suspended and Ecology would be notified. Contaminated water would be treated before being discharged to receiving waters.

Construction—Indirect Impacts

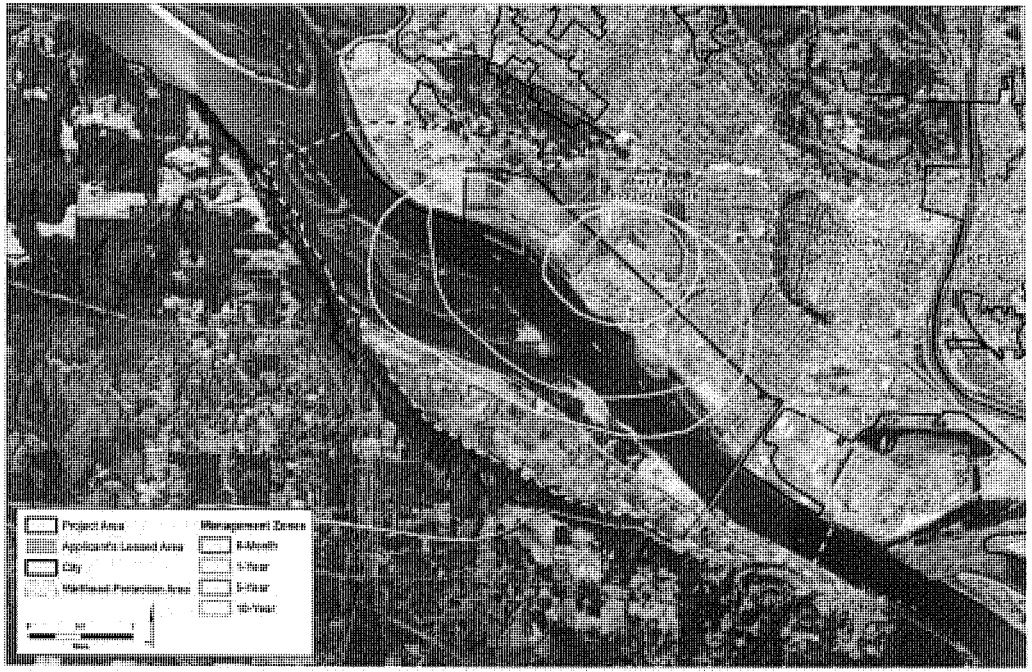
Construction of the Proposed Action would not result in indirect impacts on groundwater because construction would be limited to the project area and would not occur later in time or be farther removed in terms of distance than the direct impacts.

Operations—Direct Impacts

Operation of the Proposed Action would result in the following direct impacts. Operations-related activities are described in Chapter 2, *Project Objectives, Proposed Action, and Alternatives.*

[6] In Washington State, wellhead protection areas are based on horizontal time-of-travel rates for groundwater. Zone 2 areas are based on a 5-year time-of-travel for groundwater.

Figure 4.4-7. City of Longview Wellhead Protection Area



Affect Groundwater Recharge during Operations

Operation of the terminal could permanently reduce infiltration due to soil compaction and new impermeable surfaces, such as coal stockpile pads, roads, or buildings.[7] The project area would occupy some of the existing drainage basins in the project area (Figure 4.2-3), effectively eliminating a portion of the runoff presently handled under the Applicant's existing NPDES Industrial Stormwater Permit.

The Applicant would be required to obtain an NPDES Industrial Stormwater Permit for stormwater collection and discharge. However, the project area is not an important source of groundwater recharge due to relatively impermeable soils (URS Corporation 2014c). In addition, runoff is currently collected in a ditch system and operating the proposed terminal would not substantively change these conditions; the primary source of shallow groundwater recharge in the project area would continue to be the Columbia River, and the direction and volume of groundwater recharge from the Columbia River is expected to be relatively constant. Overall, operation of the terminal under the On-Site Alternative is not expected to substantially change shallow groundwater recharge volumes or patterns in the project area.

Operations would not be expected to measurably affect groundwater recharge for the deeper aquifer because the deep aquifer is primarily recharged by deeper aquifers below the Columbia River (Anchor QEA 2014).

Degrade Groundwater Quality during Operations

Contaminants and coal dust generated during operations could degrade groundwater quality if contaminated runoff were to infiltrate the ground and reach groundwater. However, as described under the previous impact discussion, the project area is not considered a significant source of groundwater recharge through infiltration because of the low recharge rates of the soil characteristics in the study area (URS Corporation 2014c), limiting contaminant movement into the ground. In addition, runoff from the study area, and contaminants within that runoff, would be directed to on-site drainage systems, treated, and possibly reused on site or discharged in accordance with an NPDES Industrial Stormwater Permit for the export terminal. Water reused on site would be brought to Washington State Class A Reclaimed Water standards (URS Corporation 2014c). Excess water not reused on site would be further treated and tested prior to being routed to outfalls regulated by an NPDES Permit and discharged to the Columbia River. Discharge of water to the Columbia River during operation of the Proposed Action would mostly occur during the rainy season from fall through spring when excess surface water would be more likely to be generated on site.

Furthermore, as discussed in Section 4.5, *Water Quality*, the following project design and best management practices would be part of the Proposed Action design to maximize the protection of surface-water quality (and thus, groundwater via infiltration).

- Enclosed conveyor galleries (approximately one-third of the conveyors would be enclosed).
- Enclosed rotary unloader building and transfer towers.

[7] The project area covers 190 acres which is currently mostly developed with impervious surfaces. During operations, all area within the 190 acres is considered impervious for water management.

- Washdown collection sumps for settlement of sediment.
- Regular cleanout and maintenance of washdown collection sumps.
- Containment around refueling, fuel storage, chemicals, and hazardous materials.
- Oil/water separators on drainage systems and vehicle washdown pad.
- Requirement that all employees and contractors receive training, appropriate to their work activities, in the best management practices.
- Design of docks to contain spillage, with rainfall runoff and washdown water contained and pumped to the upland water treatment facilities.
- Design of systems to collect and treat all runoff and washdown water for on-site reuse (dust suppression, washdown water or fire system needs) or discharge off site.

Since water collected during operations would be treated before reuse or discharge to the Columbia River and would be unlikely to infiltrate, groundwater quality would not likely be affected by operation of the Proposed Action.

The potential for coal dust to affect groundwater would be relatively low because of the low permeability of the soils in the study area (URS Corporation 2014c), the propensity for soil to filter out coal dust suspended in water, and treatment of on-site stormwater runoff. It would be unlikely that coal dust would come into contact with groundwater.

The potential for toxic constituents of coal to reach groundwater is also relatively low. Toxic constituents of coal include CPAHs and trace metals, which are present in coal in variable amounts and combinations dependent on the type of coal. The coal type, along with mineral impurities in the coal and environmental conditions determine whether these compounds can be leached from the coal (see Section 4.5, *Water Quality*, for coal constituents of Powder River and Uinta Basin coal). The potential risk for exposure to toxic chemicals contained in coal would be relatively low as these chemicals tend to be bound in the matrix structure and not quickly or easily leached. See Section 4.5, *Water Quality*, and Chapter 5, Section 5.7, *Coal Dust*, for more information.

Operation of the Proposed Action is not expected to encounter or disturb previously contaminated areas being addressed by the MTCA Cleanup Action Plan. If contaminated areas are encountered, remediation activities would be carried out in accordance with relevant regulations and coordinated to avoid exposure to the environment.

Overall, operation of the proposed coal export terminal is not expected to degrade groundwater quality due to the low recharge rates of soil in the project area. Surface runoff treatment would minimize any infiltration of contaminant-laden runoff into the ground.

Affect Groundwater Supply during Operations

Process water, i.e., water that would be used during operations for dust control, and equipment washdown would be supplied from two sources: the on-site water management system during the wet season and on-site groundwater wells during the dry season.

The on-site water management system would provide process water in the following ways.

- Stormwater and surface water (washdown water) would be collected from the stockpile areas, rail loop, office areas, docks, and other paved surfaces in the project area and directed to a series of vegetated ditches and ponds, then to a collection basin or sump.
- The collected water would be pumped to an onsite treatment facility consisting of retention pond(s) with flocculent added to promote settling as required.
- The water would then be pumped to a surface storage pond. The surface storage pond would have an approximate capacity of 3.6 million gallons (MG), including a reserve of 0.36 MG for fire suppression.

Approximately 1,200 gpm during the wet season and 2,000 gpm during the dry season (approximately 2,034 AFY) would normally be required for dust suppression. On-site groundwater wells would provide approximately 635 gpm (1,025 AFY) to maintain minimum water levels in the storage pond to meet process water demands during the dry season. Water from the storage pond could also be used for the fire hydrant, sprinklers and deluge systems, watering of landscaping and other non-recyclable uses. Northwest Alloys holds water rights that originally authorized extraction of 23,150 gpm up to a total volume of 31,367 AFY. The EIS does not verify the amount of Northwest Alloys' water rights; verification will occur outside of the environmental review process. Combined with the groundwater demand from existing activities in the study area (approximately 1,994 AFY), operation of the Proposed Action would require approximately 3,019 AFY, an increase of approximately 51% over existing groundwater demands. The total demand accounts for less than 10% of the maximum pumping limit allowed under original water rights. Therefore, operation of the Proposed Action would have a negligible impact on groundwater supply. The Applicant would ensure that water rights are current before withdrawing any water for construction or operations; water rights would be maintained for ongoing groundwater use during operation of the Proposed Action. If stormwater is collected and used for a beneficial use, a Water Right Permit would be required in accordance with Chapter 90.03 RCW.

Operations—Indirect Impacts

Operation of the Proposed Action would result in the following indirect impacts on groundwater related to facility operations in the direct impacts study area and increased rail traffic (up to 240 unit trains[8] arriving and departing per month) on the BNSF Spur and Reynolds Lead within the direct and indirect impacts study areas. Operations-related activities are described in Chapter 2, *Project Objectives, Proposed Action, and Alternatives.*

Degrade Groundwater Quality during Operations

The Proposed Action likely would not affect groundwater at the wellfield at the Mint Farm Industrial Park because the wellfield draws water from the deep aquifer and, as previously mentioned, there is a confining impervious layer of clay and silt separating the two aquifers. Therefore, it would be unlikely contaminants from a spill during operations would reach the groundwater aquifers tapped by the wellfield. The majority of the study area is located in Zone 2

[8] A unit train is a train in which all cars carry the same commodity and are shipped from the same origin to the same destination. Proposed Action-related unit trains would consist of approximately 125 rail cars and three locomotives.

of the Mint Farm Industrial Park's wellhead protection and sanitary control areas (Figure 4.4-7). Although it would be highly unlikely a contaminant would reach the deep aquifer, should a spill or contaminant release occur during operations, cleanup would occur rapidly. In addition, surface water generated within the study area would be collected and reused on site or treated before being discharged to the Columbia River, further minimizing the potential for contaminants to infiltrate the ground.

Degrade Groundwater Quality as a Result of a Train Collision or Derailment

Spills of fuel or other potentially hazardous materials could occur along the rail spur if rail cars were to collide and/or derail within the study area. Materials released onto the ground as a result of a fuel spill could degrade groundwater quality. As discussed in Chapter 3, Section 3.6, *Hazardous Materials*, if a release of hazardous materials or fuel spill occurred, the rail operator would implement emergency response and cleanup actions as required by Occupational Safety and Health Administration rules (29 Code of Federal Regulations [CFR] 1910.120), the Washington State Oil and Hazardous Substance Spill Prevention and Response regulations (Revised Code of Washington [RCW] 90.56), and/or the Model Toxic Control Act Cleanup Regulations (Chapter 173-340 Washington Administrative Code [WAC]). In addition, Federal Railroad Administration accident reporting requirements (49 CFR 225) include measures to prevent a spill of fuel or other potentially hazardous material from affecting groundwater quality through quick response, containment and cleanup. A spill or release of hazardous materials or fuels would not be expected to affect groundwater.

4.4.5.2 No-Action Alternative

Under the No-Action Alternative, the Applicant would not construct the coal export terminal and would continue with current operations in the project area. The project area could be developed for other industrial uses including an expanded bulk product terminal or other industrial uses that would not require a permit from the U.S. Army Corps of Engineers (Corps) (i.e., would not affect waters of the United States). Because existing industrial import and export activities would be expanded, potential impacts on water quality of groundwater would be similar to those described for the Proposed Action regarding potential oils and grease spills from equipment or other raw materials shipped from the coal export terminal. An NPDES Industrial Stormwater Permit would be required to regulate stormwater discharges to the Columbia River, which would maintain water quality of groundwater.

Any new or expanded industrial uses would trigger a new NPDES or modified permit. Upland buildings could be demolished and replaced for new industrial uses. Ground disturbance would not result in any impacts on waters of the United States and would not require a permit from the Corps. Any new impervious surface area would generate stormwater, but all stormwater would be collected and treated to meet state and federal water quality requirements prior to discharge to the Columbia River. Groundwater recharge in the study area is primarily from the Columbia River, thus maintaining water quality in the Columbia River would be expected to maintain water quality of groundwater within the study area.

4.4.6 Required Permits

The following required permits would be required for groundwater.

- **Cowlitz County Critical Areas Permit—Cowlitz County.** The Cowlitz County Critical Areas permit would be needed to address compliance with the County's Critical Areas Ordinance related to the presence and protection of Critical Aquifer Recharge Areas located on site.
- **Clean Water Act Section 401 Water Quality Certification—Washington State Department of Ecology.** This certification would be required to ensure impacts from construction and operation of the Proposed Action to groundwater quality would not violate state water quality standards.
- **National Pollution Discharge Elimination System Construction Stormwater Permit—Washington State Department of Ecology.** The NPDES Construction Stormwater Permit would be required for stormwater discharges during construction of the Proposed Action. All wastewater and stormwater generated in the project area and potentially discharged from the project area after treatment would be evaluated and characterized by the state. Once the water to be discharged has been accurately evaluated and characterized by the state, the specific standards for water discharged from the project area would be defined and the type of NPDES permit would be determined and issued.
- **National Pollution Discharge Elimination System Industrial Stormwater Permit—Washington State Department of Ecology.** The NPDES Industrial Stormwater Permit would be required for stormwater discharges related to operation of the Proposed Action. All wastewater and stormwater generated in the project area and potentially discharged from the project area after treatment would be evaluated and characterized by the state. Once the water to be discharged has been accurately evaluated and characterized by the state, the specific standards for water discharged from the project area would be defined and the type of NPDES permit would be determined and issued.
- **Water Rights—Washington State Department of Ecology.** The Applicant will need to ensure the original water rights are valid and in good standing prior to using those rights. If the water rights are valid, it is the Applicant's or Northwest Alloys' responsibility to maintain those water rights in good standing. If these water rights are partially or fully relinquished, the Applicant must apply for and obtain the necessary water rights to legally put water to beneficial use at the project site. If stormwater is collected and reused for a beneficial use, a Water Right Permit would be required in accordance with Chapter 90.03 RCW.

4.4.7 Proposed Mitigation Measures

This section describes the proposed mitigation measures that would reduce impacts related to groundwater from construction and operation of the Proposed Action. These mitigation measures would be implemented in addition to project design measures, best management practices, and compliance with environmental permits, plans, and authorizations that are assumed as part of the Proposed Action.

4.4.7.1 Applicant Mitigation

The Applicant will implement the following measure to mitigate impacts on groundwater.

MM WQ-1. Locate Spill Kits Near Main Construction and Operation Areas

The Applicant will locate spill response kits throughout the project area during construction and operations. The spill response kits will contain response equipment and personal protective equipment appropriate for hazardous materials that will be stored and used during construction and operations. Site personnel will be trained in the storage, inventory, and deployment of items in the spill response kits. Spill response kits will be checked a minimum of four times per year to ensure proper-functioning condition, and will otherwise be maintained and replaced per manufacturer recommendations. Should a spill response kit be deployed, the Applicant will notify Cowlitz County and Ecology immediately. The Applicant will submit a map indicating the types and locations of spill response kits to Cowlitz County and Ecology for approval prior to beginning construction and operations.

4.4.8 Unavoidable and Significant Adverse Environmental Impacts

Compliance with laws and implementation of mitigation measures and design features described above would reduce impacts on groundwater. There would be no unavoidable and significant adverse environmental impacts on groundwater.

4.5 Water Quality

Surface water is used for a wide range of purposes, including wildlife habitat, industrial process water, drinking water, irrigation, flood control, and recreational activities. The quality of these resources refers to the physical, chemical, biological, and aesthetic characteristics of the water body. Water quality can be degraded by contaminants introduced through domestic, industrial, and agricultural practices. Water quality impacts can occur with changes in turbidity, suspended sediment, and temperature, and the introduction of a variety of physical and chemical pollutants.

This section describes water quality in the study area. It then describes impacts on water quality that could result from construction and operation of the Proposed Action and No-Action Alternative. This section also presents the measures identified to mitigate impacts resulting from the Proposed Action.

4.5.1 Regulatory Setting

Laws and regulations relevant to water quality are summarized in Table 4.5-1.

Table 4.5-1. Regulations, Statutes, and Guidelines for Water Quality

Regulation, Statute, Guideline	Description
Federal	
Clean Water Act (33 USC 1251 et seq.)	Authorizes EPA to establish the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters.
Safe Drinking Water Act (42 USC 300f et seq.)	Requires the protection of groundwater and groundwater sources used for drinking water. Also, requires every state to develop a wellhead protection program. EPA is the responsible agency.
National Pollutant Discharge Elimination System Permit (40 CFR 122)	Controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. Authorized by the Clean Water Act. EPA is the responsible agency but typically delegates authority to state resource agencies.
National Pollutant Discharge Elimination System Vessel General Permit	Regulates incidental discharges from the normal operation of vessels. These incidental discharges include, but are not limited to, ballast water, bilge water, graywater (e.g., water from sinks, showers), and antifoulant paints (and their leachate). Such discharges, if not adequately controlled, may result in negative environmental impacts via the addition of traditional pollutants or, in some cases, by contributing to the spread of aquatic invasive species. Authorized by the Clean Water Act. EPA is the responsible agency.

Regulation, Statute, Guideline	Description
Ballast Water Management (33 CFR 151)	Establishes ballast discharge standards and vessel requirements to meet those ballast discharge standards. The U.S. Coast Guard is the responsible agency. Such discharges, if not adequately controlled by these regulatory requirements, may result in the spread of organisms that may adversely affect the environment.
Washington State	
Clean Water Act Section 401 Water Quality Certification	Ecology issues Section 401 Water Quality Certification for activities, which may result in any discharge into waters of the state to ensure compliance with state water quality standards and other aquatic resources protection requirements under Ecology's authority as outlined in the federal Clean Water Act.
Drinking Water/Source Water Protection (RCW 43.20.050)	Ensures safe and reliable public drinking water supplies in cooperation with local healtb departments and water purveyors. Ecology is the responsible agency.
Model Toxics Control Act (RCW 70.105D)	Requires potentially liable persons to assume responsibility for cleaning up contaminated sites. Ecology is the responsible agency.
State Water Pollution Control Law (RCW 90.48)	Provides Ecology with the jurisdiction to control and prevent the pollution of streams, lakes, rivers, ponds, inland water, salt waters, watercourses, and other surface and groundwater in the state.
Water Resources Act of 1971 (RCW 90.54)	Sets forth fundamental policies for the state to ensure that waters of the state are protected and fully used for the greatest benefit. Ecology is the responsible agency.
Water Quality Standards for Surface Waters of the State of Washington (WAC 173-201A)	Establishes water quality standards for surface waters of the state of Washington. Ecology is the responsible agency.
Ballast Water Management (RCW 77.120)	Governs discharge of ballast water into waters of the state. Includes reporting and testing requirements. WDFW is the responsible agency.
National Pollutant Discharge Elimination System Permit Program (WAC 173-220)	Establishes state individual permit program for discharge of pollutants and other wastes and materials to surface waters of the state.
Model Toxics Control Act – Cleanup Regulation (WAC 173-340-300)	Requires reporting of hazardous substance releases if they may constitute a threat to human health or the environment.
Sediment Management Standards (WAC 173-204)	Establishes administrative procedural requirements and criteria to identify, screen, evaluate and prioritize, and cleanup contaminated surface sediment sites.
Washington State Oil and Hazardous Substance Spill Prevention and Response (RCW 90.56)	Requires notification of releases of hazardous substances and establishes procedures for response and cleanup
Oregon State	
Treatment Requirements and Performance Standards for Surface Water, Groundwater Under Direct Influence of Surface Water, and Groundwater (OAR 333-061-0032)	Establishes water quality standards for groundwater to meet current state and federal safe drinking water standards. Oregon DEQ is the responsible agency.
Oregon Drinking Water Quality Act (ORS 448.119 to 448.285; 454.235; and 454.255) (applicable to Columbia River)	Ensures safe and reliable public drinking water supplies in cooperation with local health departments and water purveyors. Oregon DEQ is the responsible agency.

Regulation, Statute, Guideline	Description
Water Quality Standards: Beneficial Uses, Policies, And Criteria for Oregon Oregon State Legislature: Turbidity Rule (OAR 340-041-0036)	Establishes the following turbidity standard: No more than a 10% cumulative increase in natural stream turbidities may be allowed, as measured relative to a control point immediately upstream of the turbidity-causing activity. However, limited-duration activities to address an emergency, essential dredging, construction, or other legitimate activities that cause the standard to be exceeded may be authorized, provided all practicable turbidity control techniques have been applied. Oregon DEQ is the responsible agency.
Local	
Cowlitz County Stormwater Ordinance (CCC 16.22)	Establishes minimum standards to guide and advise all who make use of, contribute to, or alter the surface waters and stormwater drainage systems in the County.
Cowlitz County (CCC 19.15)	Requires the County to designate critical areas such as wetlands; aquifer recharge areas; geologically hazardous areas; fish and wildlife habitat; and frequently flooded areas; and adopt development regulations to assure the protection of such areas.
Cowlitz County Phase II Municipal Stormwater Management Plan	Requires Cowlitz County to develop a SWMP and update it at least annually. The SWMP incorporates best management practices to reduce the discharge of pollutants from the regulated area to the maximum extent practicable in order to protect water quality.
City of Longview Stormwater Ordinance	Establishes methods for controlling the introduction of runoff and pollutants into the municipal storm drain system (MS4) in order to comply with requirements of the Western Washington Phase II Municipal Stormwater NPDES Construction Stormwater Permit process.

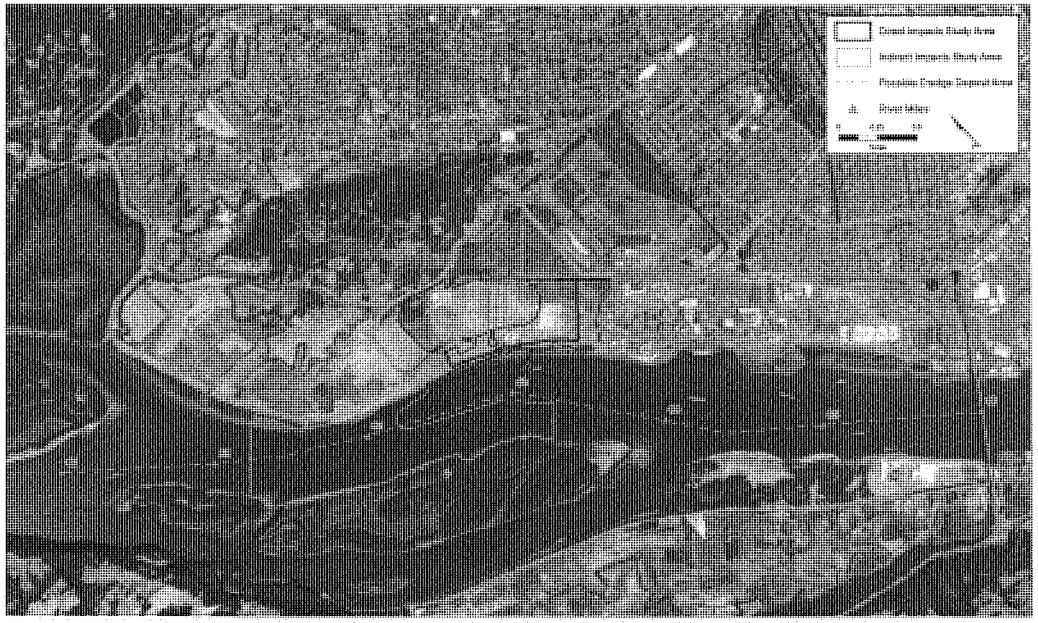
Notes:
USC = United States Code; EPA = U.S. Environmental Protection Agency; CFR = Code of Federal Regulations; RCW = Revised Code of Washington; Ecology = Washington State Department of Ecology; WAC = Washington Administrative Code; WDFW = Washington Department of Fish and Wildlife; OAR = Oregon Administrative Rules; Oregon DEQ = Oregon Department of Environmental Quality; ORS = Oregon Revised Statutes; CCC = Cowlitz County Code; SWMP = stormwater management plan

4.5.2 Study Area

The study area for direct impacts on water quality is the project area and an area extending 300 feet from the project area into the Columbia River. This portion of the study area accommodates the analysis of in-water construction and dredging impacts on water quality and sediment quality associated with suspended sediment and elevated turbidity. The study area also incorporates potential in-river dredged material disposal sites and the area extending 300 feet downstream of each disposal site (Figure 4.5-1).

The study area for indirect impacts on water quality incorporates the project area, the Consolidated Diking and Improvement District (CDID) #1 stormwater system drainage ditches adjacent to the project area, the Columbia River up to 1 mile downstream of the project area, and potential in-river dredged material disposal sites plus an area extending 300 feet downstream of each disposal site.

Figure 4.5-1. Water Quality Study Area



4.5.3 Methods

This section describes the sources of information and methods used to evaluate the potential impacts on water quality associated with the construction and operation of the Proposed Action and No-Action Alternative.

4.5.3.1 Information Sources

The following sources of information were used to identify the potential impacts of the Proposed Action and No-Action Alternative on water quality in the study area.

- Reports on haseline water conditions at the project area and Columbia River (Anchor QEA 2014; Oregon Department of Environmental Quality 2012; Washington State Department of Ecology 2014; Grette 2014a, 2014b, 2014c; URS Corporation 2014)
- Reports on the salmon populations in the Columbia River (Ewing 1999; National Marine Fisheries Service 2011)
- Report on toxics in the Columbia River (U.S. Environmental Protection Agency 2009)
- Beneficial and recreational uses of the Columhia River (Oregon Department of Environmental Quality 2003; Oregon State Marine Board 2012)

4.5.3.2 Impact Analysis

The following methods were used to evaluate the potential impacts of the Proposed Action and No-Action Alternative on water quality.

The analysis of direct construction impacts was based on peak construction period, while operations impacts were based on maximum throughput capacity (up to 44 million metric tons per year). Potential water quality impacts were evaluated with respect to existing water quality conditions and Proposed Action-related water usage and discharge. The assessment of impacts also assumes the Proposed Action would comply with all laws and regulations regarding water quality and sediment quality including new state water quality standards, required National Pollution Discharge Elimination System (NPDES) permits, and verification of water rights. Potential impacts on water quality of groundwater resources are covered in Section 4.4, *Groundwater*. For direct impacts, the analysis assumes best management practices, as required by permits and identified in Appendix E, *Design Features*, were incorporated into the design, construction, and operation of the Proposed Action.

4.5.4 Existing Conditions

This section describes the existing environmental conditions in the study area related to water quality that could be affected by construction and operation of the Proposed Action and the No-Action Alternative.

The project area is located along the north shore of the Columbia River and lies within CDID #1. The project area is drained by a system of ditches, which provide treatment of stormwater before it is discharged to the Columbia River and CDID #1 (Ditches #10 and #14).

4.5.4.1 Project Area Characteristics

The water quality characteristics of the project area are described in this section.

Drainage

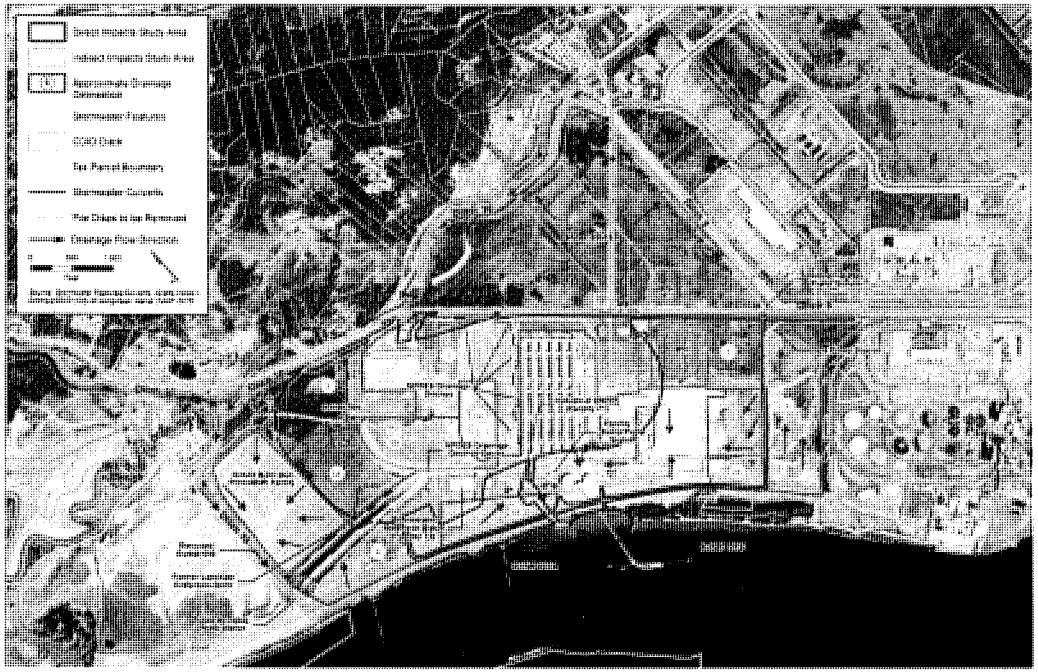
Stormwater and shallow groundwater drainage for the project area are controlled by a system of ditches, pump stations, treatment facilities, and outfalls, shown in Figure 4.5-2. All of these facilities operate under a single NPDES Industrial permit. Project area drainage is either held on site until it evaporates, discharged to surrounding CDID #1 ditches (Ditches 10 and 14), collected, treated and discharged through Outfall 002A to the Columbia River.

The following is a brief description of drainage components in the Applicant's leased area.

- **Sheet flow and infiltration.** Subbasins 4A, 5, 5A, 5B, 6A, and 7 receive sheet flow from storm events where it subsequently infiltrates or evaporates.
- **Columbia River discharge.** Subbasins 1, 2, 3A, 4, and 6 are conveyed via pumped systems or gravity to Facility 73, where they are treated and then discharged to the Columbia River via Outfall 002A.
- **CDID #1 discharge.** Subbasin 3 flows through a vegetated ditch that discharges to Ditch 10 through Outfall 003C. During larger storm events, overflow from Subbasin 2 and Subbasin 5 can discharge to the CDID #1 ditch system. Subbasin 2 overflows would discharge to Ditch14 through Outfall 006. This is a designed overflow system and it is equipped with a high flow alarm to alert staff when it is activated. Subbasin 5 flows can enter a vegetated ditch that discharges to Ditch 10 through Outfall 005. Ultimately, all CDID #1 ditch flows discharge to the Columbia River.
- **Drainage features on Parcel 10213.** These features include three vegetated ditches, two unvegetated ditches, and a shallow depression, which may collect stormwater. Two of the vegetated ditches run north-south across the two larger portions of Parcel 10213. They are narrow and linear and convey stormwater to a culvert approximately 16 inches in diameter located at the north end of tbese ditches which then empties into Ditch 10. The third vegetated ditch consists of three segments of linear vegetated ditches adjacent to Industrial Way. These three ditches are connected by two culverts that are beneath the site's access roads. This feature likely collects stormwater from Industrial Way and adjacent areas and conveys it to Ditch 10.

  One unvegetated ditch runs parallel to Ditch 10 and consists of two sections of a narrow ditch that was likely constructed to intercept shallow groundwater that was affecting agricultural use of tbe site. This unvegetated ditch is several feet deep, near vertical along its sides, and is bisected by one of the vegetated ditches that runs parallel across the site; however, there is no surface hydrology connection between these two ditches. The other unvegetated ditch serves as the outlet channel for the stormwater pond. This ditch is located at the northeast end of the stormwater pond and conveys excess stormwater from the pond to Ditch 10 through a 16-inch culvert. All six features are privately owned and are not managed by CDID #1.

Figure 4.5-2. Drainage Features of the Proposed Action



Consolidated Diking Improvement District # 1

The project area is served by the CDID #1 system of levees and ditches, which protect the project area from flooding. Water from Ditches 5, 10, and 14 in the study area was tested in 2006, 2011, and 2012 to determine levels of cyanide and fluoride (contaminants associated with the site cleanup). Total Suspended Solids were also tested. The results showed that water quality standards were met and there were no water quality exceedances or violations of established Washington State water quality standards (Anchor QEA 2014). The entire CDID #1 ditch system discharges to the Columbia River.

Columbia River

The Columbia River flows along the southwest project area boundary. Near the project area, the river is fresh water but is tidally influenced. The project area is located at river mile 63. The river's discharge rate fluctuates with precipitation, snowmelt, and reservoir releases. Flows in the river range from a low of about 63,600 cubic feet per second (cfs) to a maximum flow of about 864,000 cfs depending on conditions in the watershed (U.S. Geological Survey 2014). The Columbia River's annual cycle is driven by snowmelt and the general climate of the Pacific Northwest, which produces high flows during the spring snowmelt period and low flows during the late summer and early fall. The river's flow, however, is highly managed through operation of the many hydroelectric and irrigation dams that exist throughout the basin. The average annual discharge ranges from about 120,000 cfs during a low water year to about 260,000 cfs during a high water year (Washington State Department of Ecology 2016a).

Surface water quality in the Columbia River is influenced by geology, point-source and nonpoint-source pollution, groundwater, and the natural flow regime. In 2009, the U.S. Environmental Protection Agency (EPA) listed the Columbia River in Washington's Water Resources Inventory Area (WRIA) 25 (which includes the project area) on the federal Clean Water Act Section 303(d) list as exceeding water quality criteria for certain parameters. Portions of the Columbia River within WRIA 25 are listed as a Category 4a for dioxin. If a water body is listed as Category 4a, it indicates that the water has identified pollution problems and that an approved total maximum daily load (TMDL) limit is actively being implemented for the listed water quality parameters.

4.5.4.2 Water Quality Characteristics and Criteria

Designated Beneficial Uses

Designated beneficial uses for a water body, as established in the Clean Water Act, are used to design protective water quality criteria, to assess the general health of surface waters, and to establish thresholds for future permit limits. Table 4.5-2 provides a list of the beneficial uses for the Columbia River as defined by the Washington State Department of Ecology (Ecology) and the Oregon Department of Environmental Quality (Oregon DEQ). A designated beneficial use provides a water body's assessed function or utility, and if a water body fails to meet the established water quality standards (see *Water Quality Impairments*), the water body's designated use can be adversely affected.

Table 4.5-2. Beneficial Uses for the Columbia River

Washington State Department of Ecology[a]	Oregon Department of Environmental Quality[b]
Domestic water supply	Public domestic water supply; private domestic water supply
Industrial water supply	Industrial water supply
Agricultural water supply	Irrigation
Stock water supply	Livestock watering
Spawning/rearing uses for aquatic life	Fish and aquatic life
Harvesting	Fishing; wildlife and hunting
Boating	Boating
Primary contact for recreation uses	Water contact recreation
Commerce/navigation	Commercial navigation and transportation
Aesthetics	Aesthetic quality

Notes:
[a] Washington State Department of Ecology (2012a) approved uses for the Columbia River from its mouth to river mile 309.3.
[b] Oregon Department of Environmental Quality (2003) approved uses for the Columbia River from its mouth to river mile 86 (2003).

Water Quality Impairments

The Columbia River faces water quality issues that endanger the health of important habitats found throughout the basin. Portions of the Columbia River are considered impaired for a number of water quality factors according to the EPA-approved 303(d) lists for Washington and Oregon. Table 4.5-3 shows the 303(d) listed impairments for water quality factors in the study area.

Table 4.5-3. 303(d) Listed Impairments for Surface Waters in the Study Area

Parameter	Washington		Oregon[c]
	Columbia River	Ditch 5	Columbia River
Arsenic	-	-	5
Bacteria	5[a]	-	-
DDE 4,4	-	-	5
Dioxin (2,3,7,8-TCDD)	-	-	4A[b]
Dioxin	4A[b]	-	-
Dissolved Oxygen	-	5	-
PCB	-	-	5
Temperature	5		
Total dissolved gas	-	-	4A[b]

Notes:
[a] Category 5 waters are impaired 303(d) waters, which means water quality standards have been violated for one or more pollutants and a TMDL or other water quality improvement is required.
[b] Category 4A listing indicates a TMDL has been developed and is actively being implemented.
[c] Oregon 2012 303(d) list is pending approval from EPA. The 2010 effective list for this segment of the Columbia River is the same as the 2014 list that is pending approval by EPA.
Sources: Washington State Department of Ecology 2016b; Oregon Department of Environmental Quality 2012
DDE = Dichlorodiphenyldichloroethylene; TCDD = Tetrachlorodibenzo-p-dioxin; PCB = polychlorinated biphenyl; TMDL = total maximum daily load

The State of Washington recently finalized its 2012 water quality assessment and 303(d) list of impaired waters. According to this 303(d) list, in the study area, the Washington state portion of the Columbia River is impaired (i.e., Category 5) for water temperature and bacteria (Washington State Department of Ecology 2016b). In addition, Ditch 5 in the study area is listed as impaired for dissolved oxygen. Oregon has listed the Columbia River in the study area as impaired for arsenic, dichlorodiphenyldichloroethylene (DDE) 4,4, and polychlorinated biphenyls (PCBs).

Sediment sampling from within, adjacent to, and upstream of the project area (to approximately river mile 68) has demonstrated that in deepwater areas of the Columbia River, sediments are typically composed of silty sands with a low proportion of fines and very low total organic carbon. Further, sediments sampled from deepwater areas in the vicinity of the project area have consistently met suitability requirements for flow lane disposal or beneficial use in the Columbia River (Grette 2014b: Appendix B). Sediment testing performed by the Applicant in the project area has revealed no exceedance of sediment-management standards at any nearshore or offshore location, except for in a localized area immediately adjacent to the existing Outfall 002A. Testing criteria were exceeded at one location downstream of the outfall, but did not exceed criteria for human health protection (Anchor QEA 2014 in Grette 2014b: Appendix B). The distribution of contamination was limited in area and depth to an isolated layer 6 inches thick, and the contamination source was identified as an historical discharge and not the result of an ongoing release (Grette 2014b: Appendix B). The affected sediment was removed and backfilled in November 2016.

The water quality impairments in the study area result from a variety of practices throughout the Columbia River basin that degrade water quality, primarily human activities. Elevated water temperatures, increased nutrient loading, reduced dissolved oxygen, and increased toxic contaminants in the basin pose risks to fish and wildlife, as well as to people. Sources of these contaminants include agricultural practices, urban and industrial practices, riparian practices, and climate change (National Marine Fisheries Service 2011). A summary of the water quality conditions of the greater Columbia River as a result of the basin-wide activities that can affect water quality are described in the following sections.

Baseline Water Quality Conditions

General baseline conditions for the broader Columbia River basin as well as the lower Columbia River and Estuary in the vicinity of the project area are described below.

Columbia River Basin

The four primary contaminants found in the broader Columbia River basin are mercury, dichlorodiphenyltrichloroethane (DDT) and its breakdown products, PCBs, and polybrominated diphenyl ether (PBDE) flame retardants. Other contaminants found in the basin include radionuclides, lead, pesticides, industrial chemicals, and newly emerging contaminants such as pharmaceuticals and personal care products (U.S. Environmental Protection Agency 2009).

Lower Columbia River and Estuary in Vicinity of the Project Area

The lower Columbia River and estuary is the 146-mile reach from the Bonneville Dam downstream to the Pacific Ocean. Monitoring results have shown high levels of contaminants such as PCBs, polyaromatic hydrocarbons (PAHs), DDT, and PBDEs in juvenile salmon tissue, water, and sediment.

Studies have shown that flame retardants and endocrine-disrupting compounds in water, sediment, fish, and osprey eggs increase downstream from Skamania to Longview (Lower Columbia Estuary Partnership 2015).

Trace metals such as aluminum, iron, and manganese are predominantly transported in the suspended/solid phase, whereas arsenic, barium, chromium, and copper are transported in the dissolved phase. Water temperatures in the lower Columbia are generally warmest in August, when daily mean water temperatures often exceed 20 degrees Celsius (^{0}C). In general, dissolved oxygen saturation is relatively high and turbidity is relatively low. Data collected on September 11, 2015, at river mile 53 located near the Beaver Army Terminal indicated an oxygen saturation of 85.5% (9.17 mg/l), temperature of 20.03^{0}C, and turbidity of 1.61 nephelometric turbidity units (NTU). For contrast, data collected just below the Bonneville Dam at river mile 145 indicated an oxygen saturation of 97.9% (10.5 milligrams per liter), temperature of 20.07^{0}C, and turbidity of 2.27 NTUs (Center for Coastal Margin Observation & Prediction 2015).

On a more localized hasis near the project area, the following average values were recorded in the lower Columbia: oxygen saturation of 73.62% (7.9 milligrams per liter), temperature of 20.96^{0}C, and turbidity of 9.9 NTUs (Weyerhaeuser, NPDES Permit 0000124).

Water Quality Attributes

Water Clarity

Water clarity refers to the amount of light that can penetrate water. Water clarity is an important parameter for assessing water quality because lower clarity increases water temperatures and adversely affects photosynthesis. Suspended sediment can clog the gills of fish and reduce their resistance to disease, cause lower growth rates, and affect egg and larval development. While both suspended sediment concentration and turbidity are common metrics of water clarity, turbidity data are used to characterize baseline conditions.

Water clarity can vary greatly in the Columbia River. U.S. Geological Survey (USGS) provisional data from the 2014 water year, collected near Quincy, Oregon, reported elevated turbidity (U.S. Geological Survey 2015) that was generally higher than during the 2007 water year, when water clarity was rated as poor (U.S. Environmental Protection Agency 2007). However, elevated turbidity levels, or poor water clarity, in rivers such as the Columbia River, are a natural condition that occurs during storm events and periods of high seasonal runoff and does not necessarily mean the water quality conditions are poor.

Biological Indicators

EPA, in collaboration with the Lower Columbia Estuary Partnership, reported the following additional parameters in 2007 (U.S. Environmental Protection Agency 2007).

- **Dissolved nitrogen and phosphorus.** 100% of the estuarine area was rated good for dissolved nitrogen, while 70% of the estuarine area was rated fair for dissolved phosphorus.
- **Chlorophyll a.** 29% of the estuarine area was rated fair for this indicator, with the remaining 71% of the area rated good.
- **Dissolved oxygen.** 99% of the estuarine area rated good for this indicator.

- **Sediment quality.** 89% of the estuary as a whole rated good, while 11% was rated poor. The sediment quality index is rated based on three component indicators: sediment toxicity, sediment contaminants, and sediment total organic carbon. The estuarine area rated poor exceeded thresholds for one or more of these indicators.

Temperature

Water temperature is an important parameter for assessing baseline water quality. The Columbia River is impounded at many locations. These impoundments contribute to elevated water temperature by ponding water and increasing exposure to solar radiation. Although EPA and the Lower Columbia Estuary Partnership did not rate the Columbia River Estuary regarding water temperature, because water temperature affects the water's capacity for dissolved oxygen, if dissolved oxygen levels are considered good, water temperatures are also fairly good.

Chemical Indicators

USGS conducted a survey of water quality in the Columbia River estuary with data from 2004 and 2005. Major findings of this study are as follows (U.S. Geological Survey 2005).

- The median copper concentration was 1.0 microgram per liter, a level shown to have inhibitory effects on juvenile coho salmon.
- Of the 173 pesticides and degradation products analyzed, 29 were detected at least once, oftentimes with two or more products occurring in a sample together. Fourteen samples with multiple products were detected (no concentrations were provided).
- Of the 54 wastewater products analyzed, eight were detected at least once, usually at trace levels. The known endocrine disruptor bisphenol A was detected.
- Of the 24 pharmaceuticals analyzed, acetaminophen, a common analgesic, and diphenhydramine, a widely used antihistamine, were detected. This is an indicator of human sources of water contamination, likely from wastewater treatment plant effluent.
- During the seasonal samplings of suspended sediment at four sites, no organochlorine compounds or PAHs were detected.

Practices that Degrade Water Quality

Human activity has degraded water quality in the Columbia River estuary. Elevated water temperatures, increased nutrient loading, reduced dissolved oxygen, and increases in toxic contaminants pose risks to fish and wildlife, as well as to people. Sources of these contaminants include agricultural practices, urban and industrial practices, and riparian practices (National Marine Fisheries Service 2011).

Agricultural Practices

Agricultural practices contribute nutrients (nitrogen and phosphorus), sediment, and organic compounds (e.g., pesticides) and trace metals to runoff (U.S. Environmental Protection Agency 2014). Increased nutrient loads have been found to result in increased phytoplankton concentrations, increased turbidity, and depressed dissolved oxygen levels, especially in areas with lower flows and warmer water temperatures (Fenn et al. 2003). Increased sediment loads into surface waters can cause potential adverse impacts on aquatic resources. Common sediment

impacts include deposition and scouring that can smother or dislodge benthic organisms; effects of turbidity (suspended sediment) which can affect aquatic organisms (e.g., clogging fish gills), alter water temperatures (by absorbing and scattering sunlight), and reduce light penetration which alters primary productivity and affects plants' ability to photosynthesize; and sediment binding to chemicals that can have toxic effects on organisms.

Banned pesticides, including DDT, persist in the environment, and pesticides currently in use continue to run off into the estuary (Ewing 1999). The pesticides atrazine, simazine, metolachlor, S-ethyl dipropylcarbamothioate, dimethyl tetrachloroterephthalate, and diuron are present at sites throughout the Columbia River estuary, often in combination (U.S. Environmental Protection Agency 2009). Pesticides have the potential to harm benthic invertebrates, fish, amphibians, and various stream microbes.

Trace metals can affect aquatic organisms depending on the metal, the species, and the environment in which it is deposited. Excessive concentrations of some metals can lead to dysfunction of the endocrine system, of reproduction, and growth. Moreover, those metals that can be accumulated in tissues and organs may adversely affect cellular functions by interacting with enzymes, which can lead to disturbances of growth, reproduction, the immune system, and metabolism (Jakimska et al. 2011).

Urban and Industrial Practices

Sources that affect water quality are separated into two groups: *point sources* and *non-point sources*. Point sources are easily identified by a concentrated outlet to a receiving water, where the origin of flow is single known source (e.g., municipal wastewater treatment plant). Non-point sources contribute from a variety of locations within a given area. Eventually, non-point sources can be concentrated to a single outlet to a receiving water, but each source is not known or difficult to determine (e.g., lawn fertilizer from one or many unknown homes within a watershed). Over 100 point sources discharge directly into this stretch of the Columbia River, including chemical plants, hydroelectric facilities, pulp and paper mills, municipal wastewater treatment plants, and seafood processors (Ewing 1999).

The largest point source discharger in the Columbia Basin is Portland's wastewater treatment plant (approximately 40 miles upstream of the project area). Nutrient loads from the plant account for 2% to 3% of the annual in-stream nutrient loads at the Beaver Army Terminal water quality sampling site in Quincy, Oregon. Effluent from existing pulp and paper mills also discharges dioxins and chlorinated phenols to the river (Ewing 1999). Pulp mill effluent is generally high in organic content and contains pollutants such as adsorbable organic halides, toxic dyes, bleaching agents, salts, acids, and alkalis. Heavy metals such as cadmium, copper, zinc, and chromium are often also present (Oberrecht 2014). Effluents from these point sources are regulated under NPDES permits, and violations can incur enforcement actions and fines.

Riparian Practices

Shoreline modifications, timber harvest, and agricultural activities in riparian zones, and residential, commercial, and industrial development along the Columbia River have resulted in a significant loss of riparian habitat function in the area (Ewing 1999). Healthy riparian habitat conditions (i.e., connected, forested riparian zones) could help to regulate water temperatures, depending on the size of the stream and the extent of shading, and contribute to aquatic habitat conditions and complexity (i.e., woody debris, bank stability, allochthonous inputs). In the study area, riparian

habitat conditions and the functions provided by riparian habitat are generally degraded (Ewing 1999).

4.5.5 Impacts

This section describes the potential direct and indirect impacts related to water quality that would result from construction and operation of the Proposed Action and the No-Action Alternative. All wastewater and stormwater generated in the project area and potentially discharged from the project area after treatment would be evaluated and characterized by the state. Once the water to be discharged has been accurately evaluated and characterized by the state, the specific standards for water discharged from the project area would be defined and the type of NPDES permit would be determined and issued.

4.5.5.1 Proposed Action

This section describes the potential impacts that could occur in the study area as a result of construction and operation of the Proposed Action.

Construction activities that could affect water quality include the following.

- Ground disturbance associated with construction
- Delivering, handling, and storing construction materials and waste
- Using heavy construction equipment
- In- and above-water work and dredging activities and disposal
- Demolishing existing structures
- Preloading ground for coal stockpiles

Operational activities that could affect water quality include the following.

- Coal spills from rail unloading and vessel loading
- Transport of airborne fugitive coal dust from stockpiles or rail cars
- Operating and maintaining heavy equipment and machinery
- Maintenance dredging and disposal
- Unloading of 8 trains a day
- Loading of 70 ships a month

The Applicant has identified the following design features and best management practices to be implemented as part of the Proposed Action, and were considered when evaluating potential impacts of the Proposed Action. These would be evaluated during the NPDES permit process.

- **BMP C200: Interceptor Dike and Swale.** A ridge of compacted soil, or a ridge with an upslope swale, would be provided at the top or base of a disturbed slope or along the perimeter of a disturbed construction area to convey stormwater. The dike and/or swale would be used to intercept the runoff from unprotected areas and direct it to areas where erosion can be controlled. This would be used to prevent storm runoff from entering the work area or sediment-laden runoff from leaving the construction site.

- The pads and berms would be made of low permeability engineered material. The use of low permeability engineered materials for formation of the pads and berms would control water from entering subsurface soil or groundwater.
- The stockyard and berms would be graded to allow the water to drain and be collected for treatment and reuse.
- Drainage systems would be designed such that runoff within the project area would be collected for treatment before reuse or discharge. Best management practices that would be part of the coal export terminal's design to maximize the availability of water for reuse include the following.
    - Enclosed conveyor galleries
    - Enclosed rotary unloader building and transfer towers
    - Washdown collection sumps for settlement of sediment
    - Regular cleanout and maintenance of washdown collection sumps
    - Containment around refueling, fuel storage, chemicals and hazardous materials
    - Oil/water separators on drainage systems and vehicle washdown pad
    - Requirement that all employees and contractors receive training, appropriate to their work activities, in the site best management practices
    - Design of docks to contain spillage, with rainfall runoff and washdown water contained and pumped to the upland water treatment facilities
    - Design of system to collect and treat all runoff and washdown water for either reuse for onsite (dust suppression, washdown water or fire system's needs) or discharged off site
    - The wharf area would be sealed to capture the washdown water and stormwater runoff, preventing it from flowing to the River without treatment.
- Stormwater, sediment, and erosion control best management practices would be installed in accordance with the Stormwater Management Manual for Western Washington and Cowlitz County. Water quality management would be performed in accordance with the requirements of the NPDES Construction and Industrial Stormwater Permits. The site's SWPPP would provide details of the site best management practices.
    - Drainage systems would be designed such that runoff within the construction site would be collected and treated as necessary before reuse or discharge.
    - The treatment facility could treat surface runoff and process/construction waters with capacity to store the water for reuse.
- **BMP C153: Material Delivery, Storage and Containment.** Material delivery, storage and containment best management practices would be used to prevent, reduce, or eliminate the discharge of pollutants to the stormwater system or watercourses from material delivery and storage:
    - Storage of hazardous materials on site would be minimized to the extent feasible.
    - Materials would be stored in a designated area, and secondary containment would be installed where needed.

- Refueling would occur in designated areas with appropriate spill control measures.

- Typical construction best management practices for working over, in, and near water would be applied, including checking equipment for leaks and other problems that could result in discharge of petroleum-based products, hydraulic fluid, or other material to the Columbia River.
- **BMP C154: Concrete Washout Area.** Concrete waste and washout waters would be either carried out off site or disposed of in a designated facility on site designed to contain the waste and washout water.
- Based on site grading and drainage areas, five water quality ponds (Wetponds) would treat runoff based on Ecology's requirements. In general, the ponds would be sized for treatment of the volume and flow from the water quality design storm event (72% of the 2-year storm). Additional storage would be provided within the coal storage area so that the runoff is always treated within the stockyard area, even for larger storm events. The ponds would be designed to provide settlement as the water passes through. Subsequently, water released from these ponds would be conveyed downstream to the existing pump station outfall 002A that discharges into the Columbia River via an existing 30-inch steel pressure line. The ponds that would treat runoff from the coal stockyard would harvest water for circulation around the site for multiple uses, including dust control measures. Ecology's criteria would be used as the basis of design, which uses the Western Washington Hydrology Model (WWHM) computer simulation for facility sizing. Because of the flat nature of the site, some surface ponding would occur in both the yard areas and open conveyance systems. The piped conveyance systems would be sloped at 0.50% minimum.
  - The surface drainage system and features would be designed and constructed in accordance with the *Stormwater Management Manual for Western Washington.*
- The water treatment facility would be designed to treat all surface runoff and process water with capacity to store the water for reuse. Treatment would be as required to meet reuse quality or Ecology's requirements for offsite discharge.
- Additional water storage would be provided within the coal storage area in the event of a larger storm event. Water volumes exceeding the demands for reuse would be discharged off site via the existing outfall 002A into the Columbia River. Water released off site would be treated and would meet the requirements of Ecology and required discharge permits.
- The water system would be designed and constructed in accordance with or consideration of the latest edition of the following standards, where applicable:
  - International Building Code (IBC)
  - National Fire Protection Association (NFPA)
  - Washington State Department of Ecology Stormwater Design Manual
  - United States Department of Health – Occupational Safety and Health Standards
  - Washington State Department of Health
  - In the event of conflict between codes and technical specification, the requirements would be reviewed and a decision made on the action to be implemented with agency of jurisdiction

- Where possible, pile extraction equipment would be kept out of the water to avoid "pinching" pile below the water line to minimize creosote release during extraction.
- Piles would be removed slowly so as to minimize sediment disturbance and turbidity in the water column.
- Prior to pile extraction, the operator would "wake up" the pile to break the friction between the pile and substrate to minimize sediment disturbance. During pile removal and pile driving, a containment boom would be placed around the perimeter of the work area to capture wood debris and other materials released into the waters as a result of construction activities. All accumulated debris would be collected and disposed of upland at an approved disposal site. Absorbent pads would be deployed should any sheen be observed.
- The work surface on barge deck or pier would include a containment basin for pile and any sediment removed during pulling. Any sediment collected in the containment basin would be disposed of at an appropriate upland facility, as would all components of the basin (e.g., straw bales, geotextile fabric) and all pile removed.
- Upon removal from substrate the pile would be moved expeditiously from the water into the containment basin. The pile would not be shaken, hosed-off, stripped or scraped off, left hanging to drip or any other action intended to clean or remove adhering material from the pile.
- Project construction would limit the impact of turbidity to a defined temporary area of mixing and would otherwise comply with Washington Administrative Code (WAC) 173-201A.
- All dredged material would be contained within a barge prior to any flow lane disposal; dredged material would not be stockpiled on the riverbed.
- The contractor would remove any floating oil, sheen, or debris within the work area as necessary to prevent loss of materials from the site. The Contractor would be responsible for retrieval of any floating oil, sheen, or debris from the work area and any damages resulting from the loss.
- Flow lane disposal would occur using a bottom-dump barge or hopper dredge. These systems release material below the surface, minimizing surface turbidity.
- For work adjacent to water, proper erosion control measures would be installed prior to any clearing, grading, demolition, or construction activities to prevent the uncontrolled discharge of turbid water or sediments into waters of the state. Erosion-control structures or devices would be regularly maintained and inspected to ensure their proper functioning througbout this project.
- Project construction would be completed in compliance with Washington State Water Quality Standards WAC 173-201A, including but not limited to prohibitions on discharge of oil, fuel, or chemicals into state waters, property maintenance of equipment to prevent spills, and appropriate spill response including corrective actions and reporting as outlined in permits and authorizations (Clean Water Act Section 404, Rivers and Harbors Act Section 10, Hydraulic Project Approval, Clean Water Act Section 401 Water Quality Certification)
- The contractor would have a spill containment kit, including oil-absorbent materials, on site to be used in the event of a spill or if any oil product is observed in the water.
- All fuel and chemicals would be kept, stored, handled, and used in a fashion, which assure no opportunity for entry of such fuel and chemicals into the water.

- The contractor would use tarps or other containment methods when cutting, drilling, or performing over-water construction that might generate a discharge to prevent debris, sawdust, concrete and asphalt rubble, and other materials from entering the water.
- No land-based construction equipment would enter any shoreline body of water except as authorized.
- Equipment would have properly functioning mufflers, engine-intake silencers, and engine closures according to federal standards; the contractor would inspect fuel hoses, oil or fuel transfer valves, and fittings on a regular basis for drips or leaks to prevent spills into the surface water.

Construction—Direct Impacts

Construction-related activities associated with the Proposed Action could result in direct impacts as described below. As explained in Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, construction-related activities include demolishing existing structures and preparing the site, constructing the rail loop and dock, and constructing supporting infrastructure (i.e., conveyors and transfer towers).

Construction projects in Washington State that include clearing, grading, and excavating activities that disturb one or more acres and discharge stormwater to surface waters of the state are required to obtain an NPDES Construction Stormwater Permit from Ecology. Prior to the issuance of permits, sites with known contaminated soils or groundwater are required to provide a list of contaminants with concentrations, deptbs found and boring locations shown on a map with an overlay of where excavation or construction may occur. Additional alternative best management practices may be necessary based on the contaminants and how contaminated construction stormwater would be treated. The state permit requires preparing a Temporary Erosion and Sediment Control (TESC) plan, a construction stormwater pollution prevention plan (SWPPP) and best management practices to avoid and minimize the risk of erosion. Guidance for the design and implementation of these best management practices would be sourced from the Ecology *2012 Stormwater Management Manual for Western Washington* (Washington State Department of Ecology 2012b) including but not limited to those developed by the Applicant (Section 4.5.7, *Proposed Mitigation Measures*). The selected best management practices would represent the best available technology that is economically achievable and the best conventional pollutant-control technology to reduce pollutants. Best management practices would include a wide variety of measures to reduce pollutants in stormwater and other nonpoint source runoff. Construction practices would include measures to avoid and minimize erosion of soils associated with land disturbance and subsequent discharge of sediment-laden stormwater to adjacent surface waters. The Applicant-developed measures were considered when evaluating the potential direct impacts associated with construction.

Temporary Discharges to Increase Surface Water Turbidity Because of Upland Soil Disturbance

Construction of the Proposed Action would include ground-disturbing activities that would expose soils and generate soil stockpiles. Rain could erode soil and carry it to adjacent waterways, such as the Columbia River and CDID #1 ditches, and temporarily increase turbidity. However, the potential for erosion during most ground-disturbing activities is considered low because the project area is relatively level and appropriate erosion and sediment control measures would be required by regulatory agencies.

The CDID #1 ditches collect water from roads, parking lots, yards, and other land uses that contribute to elevated turbidity levels and pollutants that are discharged to the Columbia River. Both Ecology and Oregon DEQ have standards for turbidity increases as a result of construction. These include the Water Quality Standards for Surface Waters of the State of Washington; Water Quality Standards: Beneficial Uses, Policies, and Criteria for Oregon; and Oregon State Legislature: Turbidity Rule. Runoff from the project area would be required to meet the terms and conditions of all permits issued for the Proposed Action; thus, during construction, the Proposed Action would be expected to maintain water quality conditions in the receiving waters, but could even provide some improvement to the quality of water discharged from the site to the CDID #1 ditches. Overall, the construction activities associated with the Proposed Action would not be expected to cause a measurable effect on water clarity, water quality, or biological indicators or affect designated beneficial uses.

The Applicant has identified the following design features and best management practices to be implemented as part of the Proposed Action, which were considered when evaluating potential impacts of temporary discharges to surface waters. These are some of the BMPs that would be used through the adaptive management process and would be evaluated during the NPDES process.

- **BMP C105: Stabilized Construction Entrance/Exit.** BMP C105 would be installed and maintained through the duration of demolition, site preparation, preloading, and construction.
- **BMP C106: Wheel Wash.** BMP C106 would be installed and used at the entrance of the project area to prevent sediment from being tracked off site.
- **BMP C107: Construction Road/Parking Area Stabilization.** Per BMP C107, roads, parking areas, and other on-site vehicle transportation routes would be stabilized to reduce erosion caused by construction traffic or runoff.
- **BMP C140: Dust Control**. BMP C140 would be used to prevent wind transport of dust from disturbed soil surfaces. Either water or polyacrylamide would be used prevent soil erosion.
- **BMP C153: Material Delivery, Storage and Containment**. BMP C153 would be used to prevent, reduce, or eliminate the discharge of pollutants to the stormwater system or watercourses from material delivery and storage.
    - Storage of hazardous materials onsite would be minimized to the extent feasible.
    - Materials would be stored in a designated area, and secondary containment would be installed where needed.
    - Refueling would occur in designated areas with appropriate spill control measures.
- **BMP C154: Concrete Washout Area**. BMP C154 would be constructed near the entrance to the project area to prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout off site, or performing on-site washout in a designated area to prevent pollutants from entering surface waters or groundwater.
- **BMP C162: Scheduling**. BMP C162 would reduce the amount and duration of soil exposed to erosion by wind, rain, runoff, and vehicle tracking.

- **BMP C200: Interceptor Dike and Swale.** Per BMP C200, a ridge of compacted soil or a ridge with an upslope swale would be provided at the top or base of a disturbed slope or along the perimeter of a disturbed construction area to convey stormwater. The dike or swale would be used to intercept the runoff from unprotected areas and direct it to areas where erosion can be controlled. This would be used to prevent storm runoff from entering the work area or sediment-laden runoff from leaving the construction site.
- **BMP C203: Water Bars.** Per BMP C203, a small ditch or ridge of material would be constructed diagonally across roads as needed to prevent gullying.
- **BMP C207: Check Dams.** BMP C207 would be constructed to reduce the velocity of concentrated flow and dissipate energy at the check dam.
- **BMP C209: Outlet Protection.** BMP C209 would prevent scour at conveyance outlets and minimize the potential for downstream erosion by reducing the velocity of concentrated stormwater flows.
- **BMP C220: Storm Drain Inlet Protection.** BMP C220 would be installed at several locations across the project area to prevent coarse sediment from entering drainage systems prior to permanent stabilization of the disturbed area.
- **BMP C233: Silt Fence.** BMP C233 would be constructed around the entire project area to reduce the transport of coarse sediment from a construction site by providing a temporary physical barrier to sediment and reducing the runoff velocities of overland flow.
- **BMP C241: Temporary Sediment Pond(s).** BMP C241 would be designed and constructed to remove sediment from runoff originating from disturbed areas of the project area.

Temporarily Release Contaminants Associated with Equipment and Material Use

Handling construction materials and operating construction equipment have the potential to introduce pollutants such as fuel, oil, hydraulic fluid, grease, paints, solvents, and cleaning agents and could degrade water quality if improperly handled. Construction waste such as metal, welding waste, and uncured concrete can also degrade water quality and be harmful to aquatic organisms (Washington State Department of Ecology 2014).

Development and implementation of site-specific construction SWPPP, that includes best management practices for material handling and construction waste management, would reduce the potential for water quality impacts from these sources. Typical SWPPP best management practices that would help prevent releases to surface waters include the following.

- All fuel and chemicals would be stored and handled properly to ensure no opportunity for entry into the water.
- No land-based construction equipment would enter any shoreline body of water except as authorized.
- Equipment would have properly functioning engine closures (i.e., hydraulic, fuel, lubricant reservoirs) according to federal standards; the contractor would inspect fuel hoses, oil or fuel transfer valves, and fittings on a regular basis for drips or leaks to prevent spills into the surface water.

- The contractor would have a spill containment kit on site, including oil-absorbent materials, to be used in the event of a spill or if any oil product is observed in the water.

If a spill were to occur during construction, the amount likely would be typically less than 50 gallons, and response time would be relatively quick on site. A fuel truck would visit the site as needed. The frequency would vary based on usage and could range from once or twice per day to once or twice per week. The trucks would have a capacity of 3,000 to 4,000 gallons. A spill could have potential impacts on water quality if the spill were to reach surface waters, which could affect aquatic species and habitats. (Sections 4.7, *Fish*, and 4.8, *Wildlife*, provide additional information on this potential impact.)

Construction activities would involve preloading and installing of vertical wick drains to aid in the consolidation of low consistency silt and low-density sand (i.e., unconsolidated materials). Wick drains would direct groundwater from the shallow aquifer upward toward the surface during preloading, where it would discharge. Water discharged from the wick drains would be captured, tested for contaminants, and treated prior to discharge to any surface waters. Although water discharged from the wick drains is not anticipated to be contaminated, it would be tested to ensure any contaminated water is not discharged, thus no impact on water quality is anticipated. Refer to Section 4.4, *Groundwater*, for further information regarding water discharged from wick drains.

Temporarily Mobilize Pollutants or Increase Turbidity from In-Water Work and Dredging

Construction of the Proposed Action would require dredging an estimated 500,000 cubic yards of sediment from the river to provide site access from the Columbia River navigation channel and berthing at Docks 2 and 3. The work necessary to construct the approach trestle and Docks 2 and 3 would require in-water work that could resuspend pollutants and sediment and increase turbidity. Dredging would permanently deepen a 48-acre area to a target depth of -43 feet CRD with a 2-foot overdredge allowance. The deepening would require dredging of up to approximately 16 feet (vertically) of sediment. The dredging permit would require testing of the sediment and suitability determination for flow lane disposal.

Dredging and in-water work would result in temporary increases in suspended sediment and turbidity. As described previously, sediments sampled from deepwater areas in the project vicinity have consistently met suitability requirements for flow lane disposal or beneficial use in the Columbia River (Grette 2014c). Thus, it is anticipated that sediment within the dredge prism for Docks 2 and 3 would be deemed suitable for flow lane disposal or beneficial use in the Columbia River. However, prior to obtaining a dredging permit, the Applicant would conduct site-specific sediment sampling to characterize the proposed dredge material and ensure compliance with the dredged materials management plan (Grette 2014c). If flow lane disposal is approved, the disposal area for dredged materials would require approximately 80 to 110 acres. The actual acreage and specific location of the disposal site would be determined by the permitting agencies. Recent authorizations for flow lane disposal of dredged materials in the Columbia River in the vicinity of the project area were generally in or adjacent to the navigation channel between approximately river miles 60 and 66 (Grette 2014b).

Standard best management practices for working in aquatic areas would be followed to maintain acceptable construction water-quality conditions, including but not limited to maintaining appropriate standards for construction-related turbidity (including during active

dredging and flow lane disposal if used), minimizing the risks of unintended discharges of materials such as fuel or hydraulic fluid, and managing construction debris. In addition, typical construction best management practices for working over, in, and near water would be applied, including checking equipment for leaks and other problems that could result in discharge of petroleum-based products, hydraulic fluid, or other material to the Columbia River.

The following best management practices relate to in-water work during the construction period.

- The contractor would use tarps or other containment methods when cutting, drilling, or performing over-water construction that might generate a discharge to prevent debris, sawdust, concrete and asphalt rubble, and other materials from entering the water.
- The contractor would retrieve any floating debris generated during construction using a skiff and a net. Debris would be disposed of at an appropriate upland facility. If necessary, a floating boom would be installed to collect any floated debris generated during in-water operations.

Construction of the approach trestle and Docks 2 and 3 would require both in-water and over-water work. In-water work windows would avoid and minimize impacts on various natural resources, most notably federally protected fish species (Section 4.7, *Fish*). In-water construction would primarily involve dredging, pile driving, and removal of pile dikes and would use barge-based equipment and purpose-built vessels, although some work would likely be supported from land. A total of 610 of the 630 36-inch diameter steel piles required for the trestle and docks would be placed below the ordinary high water mark, permanently removing an area equivalent to 0.10 acre (4,312 square feet) of river bottom. The construction would also remove 225 feet of the deepest portion of timber pile dikes (Grette 2014a).

Some sediments disturbed during dredging activities would be expected to move down current and monitoring requirements would be identified in the dredge permit. The period of increased turbidity at the project area is anticipated to be relatively brief, as the bed material is primarily silty sands with low proportions of fines and organic material, thus reducing the potential to increase turbidity as compared to silty mud or sediments with high concentrations of organic material.

The following best management practices would avoid and minimize potential impacts from pile removal and installation activities.

- The contractor would remove piles slowly to minimize sediment disturbance and turbidity in the water column.
- Prior to pile extraction the contractor would "wake up[1]" the pile to break the friction between the pile and substrate to minimize sediment disturbance.

Release of creosote would occur from the removal of existing creosote-treated timber piles associated with two pile dikes. Creosote is composed of more than 300 chemicals, including PAHs, which have been shown to be fatal to marine life (Washington State Department of Natural Resources 2008). Creosote contamination could be exacerbated by removal of piles that

[1] "Waking up" the pile consists of vibration of the pile to break the skin friction bond between the pile and soil. This allows the pile to be extracted without pulling out a large block of soil.

have been buried in a zone generally depleted of oxygen and water, which leaves the creosote highly volatile when re-exposed to water. Droplets of previously unexposed creosote would be released from the piling into the surrounding sediments.

The removal of creosote-treated piling would result in temporary suspension of sediments and a potential long-term increase in the exposure of creosote in the project area. To minimize this impact, the contractor would follow the following standard best management practices for removal of creosote-treated wooden piles.

- **Pile removal.** If possible, the contractor would use vibratory extraction, the preferred method of pile removal. A major creosote release to the environment could occur if equipment (bucket, steel cable, vibratory hammer) pinches the creosoted piling below the water line. Therefore, the contractor would keep the extraction equipment out of the water to the extent practicable to remove the piling. Cutting would be necessary if the pile were to break off at or near the riverbed, which means it could not be removed without excavation. Pile cutoff would be an acceptable alternative if vibratory extraction or pulling were not feasible. The piling would he cut 2 feet below the riverbed, and the subsequent hole would be capped/filled with clean sand.
- **Disposal of creosote treated piling, sediment, and construction residue.** The contractor would place the pulled pile in a containment basin to capture any adhering sediment immediately after the pile is removed. Containment basins typically have continuous sidewalls and controls as necessary (e.g., straw bales, oil absorbent boom, plastic sheeting) to contain all removed materials and prevent re-entry into the water. The type and location (e.g., barge, land) of the containment basin would be determined when the contractor's work plan is developed. Cut-up piling, sediments, construction residue, and plastic sheeting from the containment basin would be packed into a container and disposed of at a facility in compliance with federal and state regulations.

Above-water work would include installing the pile-supported elements of the dock structures and coal-handling infrastructure and equipment. Some concrete components (such as the dock decking, crane rail supports, and pile caps) would need to be cast in place. Appropriate techniques and best management practices, such as the use of a bib, would minimize the potential for wet or uncured concrete to come in contact with the Columbia River.

Materials handling infrastructure and equipment, such as shiploaders and conveyors, would be delivered by barge and offloaded by crane directly to the docks and trestle. Barges would not offload materials or equipment to any area below the ordinary high water mark of the Columbia River. As much as practicable, infrastructure would be prefabricated so that above-water work would consist largely of installation and assembly.

Impacts on water quality from in- and over-water work would be addressed in the Water Quality Monitoring and Protection Plan to be prepared by the Applicant and approved by Ecology. Impacts on water quality from dredging would be minimized with the preparation and implementation of a dredging plan in compliance with the dredged material management program (DMMP) as required by state agencies (Ecology and Washington State Department of Natural Resources) and federal agencies (the U.S. Army Corps of Engineers [Corps] and EPA). Adhering to a plan developed in compliance with DMMP would minimize water-quality impacts, ensuring that potential impacts are temporary and localized in nature. No long-term changes in the baseline conditions in the study area would be expected to occur.

Temporarily Introduce Hazardous or Toxic Materials from Demolition Activities

Demolition of the existing structures in the project area (i.e., cable plant building, potline buildings, and small ancillary structures) has the potential to affect water quality by disturbing soil or building parts and debris that could contain hazardous or toxic materials such as asbestos, lead, and concrete dust, which could cause harm to aquatic environments and organisms.

This impact would be minimized by the collection and removal of all concrete and other structural debris and the collection and treatment of all stormwater from the site prior to discharge to surface waters. The implementation of best management practices in compliance with the NPDES Construction Stormwater Permit that would be obtained for the Proposed Action would reduce the potential for demolition-related pollutants to enter and contaminate surface waters. Overall, the demolition activities associated with the Proposed Action would not be expected to cause a measurable effect on water quality or biological indicators, or affect designated beneficial uses.

Construction—Indirect Impacts

Construction of the Proposed Action would not result in indirect impacts on water quality because construction impacts would be limited to the project area and would not occur later in time or farther removed in distance than the direct impacts.

Operations—Direct Impacts

Operation of the Proposed Action would result in the following direct impacts. Operations-related activities are described in Chapter 2, *Project Objectives, Proposed Action, and Alternatives.*

Introduce Contaminants from Coal Spills and Coal Dust

Proposed Action-related trains would hold approximately 122 tons of coal per car and there would be 125 cars per train; there would be 8 loaded trains and 8 empty coal trains per day under the Proposed Action. An average of 70 ships a month would move coal for the Proposed Action. The Panamax class vessels, with an average capacity of 65,000 deadweight tonnage would be used to transfer the coal to its final destination (Maritime Connector 2015).

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 coal dust during operations. 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 0.40 grams per square meter per month ($g/m^2/month$) in or adjacent to the project area. This amount of deposition is well below the benchmark for dust nuisance impacts (2.0 $g/m^2/month$), which is defined as the level of dust deposition that affects the aesthetics, look, or cleanliness of surfaces. Annually, coal dust is anticipated to deposit a maximum of 1.99 grams per square meter per year ($g/m^2/year$) in or adjacent to the project area, including Docks 2 and 3 in the Columbia River. Additional information on these deposition levels is found in Chapter 5, Section 5.7, *Coal Dust*; the spatial extent of the maximum annual coal dust deposition near the project area is shown in Figure 5.7-3.

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). However, at a maximum deposition rate of 1.99 g/m^2/year adjacent to the project area, and at the minimum flow[2] recorded over the 23-year period of record for 1 day, coal dust deposition directly into the river (assumed to be an area of approximately 3 million square meters [1.16 square miles]) in the study area would result in a change in suspended sediment concentration of less than 1 part per 10 billion (0.000075 milligrams per liter [mg/L]). This change would not be measureable and is not anticipated to increase turbidity or water temperature, or affect marine organism functions (e.g., respiration, feeding).

Coal and coal dust captured in water runoff (e.g., from precipitation that falls on the stockpile areas and water used for dust suppression) would be collected within the stockpile pads (low-permeable surfaces allowing minimal infiltration), conveyed within an enclosed stormwater system, and treated at Facility 73 in settling ponds before being discharged from the site. Some settled coal dust from the project area could discharge to the Columbia River through the CDID #1 system. If coal dust from the project area accumulated without being disturbed throughout the dry season (assumed to be 120 days), the anticipated change in suspended sediment concentration in the Columbia River within the study area for the minimum recorded flow over 1 day would be approximately 0.0192 mg/L. This change would not be measureable and likely would not increase turbidity or water temperature, or affect marine organism functions (e.g., respiration, feeding). The coal export terminal would employ dust suppression systems throughout the terminal, including the tandem rotary dumpers, all conveyors, stockpile pads, surge bins, transfer towers, and trestle. Approximately one-third of the conveyor belts would be closed, as would the shiploaders, to limit the release of coal dust. The dust suppression system would employ sprayers, sprinklers and foggers to capture coal dust. Dust suppression water would be collected and conveyed through the stormwater collection, conveyance and treatment system. Once treated, the water would either be reused or, if not needed (i.e., sufficient water is stored in the on-site water storage pond), discharged to the Columbia River. All water discharged to the Columbia River would be required to meet specific water quality standards that would be outlined in the NPDES permit, prior to discharge. If stormwater is collected and used for industrial beneficial use (such as dust control), a Water Rights Permit would be required in accordance with Chapter 90.03 RCW 90.03.

Coal contains trace amounts of toxic elements. Coal has a heterogeneous chemical composition; therefore, specific impacts related to the toxic contaminants of coal are highly dependent on coal composition and source (Ahrens and Morrisey 2005). The majority of coal transloaded at the proposed coal export terminal is expected to be mined in the Powder River Basin, with lesser amounts of coal being sourced from the Uinta Basin in Utah and Colorado. Trace elements of environmental concern (TEEC) in Powder River and Uinta Basin coal include antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, selenium, and

[2] The minimum recorded flow at the Columbia at Beavery Army Terminal, Quincy, Oregon, is 65,600 cubic feet per second (1969 to 2014).

uranium. Table 4.5-4 presents the average concentrations of each TEEC sampled in parts per million. However, at a maximum coal dust deposition rate of 1.99 g/m²/year adjacent to the project area and at the minimum flow recorded over the 23-year period of record for 1 day, TEEC deposition directly into the Columbia River (assumed to be an area of approximately 3 million square meters [1.16 square miles]) in the study area would result in unmeasurable changes in concentration for each of the elements of concern on the order of 0.0000000000001 to 0.000000000000001 g/L, or 0.0000001 to 0.000000001 ppb. If coal dust from the project area accumulated without being disturbed throughout the dry season (assumed to be 120 days long), the anticipated change in TEEC concentration for the minimum recorded flow over one day would be on the order of 0.0000000001 to 0.000000000001 g/L, or 0.0001 to 0.000001 ppb. Again, this change would not be measureable and is not anticipated to affect human health or affect marine organism functions (respiration, feeding).

Table 4.5-4. Average Concentration of Trace Elements in Wyodak and Big George Coalbeds, Powder River Basin, Wyoming and Miscellaneous Uinta Basin Coalbeds in Colorado Plateau

Trace Element of Environmental Concern	Average Concentration in Sampled Coal (ppm)	
	Powder River Basin[a,b]	Uinta Basin[b]
Antimony	0.10	0.7
Arsenic	1.43	2.2
Beryllium	0.18	1.5
Cadmium	0.06	0.1
Chromium	2.63	6.1
Cobalt	1.93	2.0
Lead	1.26	13.9
Manganese	10.05	28.2
Nickel	1.58	4.5
Selenium	0.57	1.4
Uranium	0.46	1.8

Notes:
[a] U.S. Geological Survey 2007
[b] Pierce and Dennen 2009

Toxic constituents of coal include PAHs and trace metals, which are present in coal in variable amounts and combinations dependent on the type of coal. The coal type, along with mineral impurities in the coal and environmental conditions determine whether these compounds can be leached from the coal. Some PAHs are known to be toxic to aquatic animals and humans. Metals and PAHs could also potentially leach from coal to the pore water of sediments. One review of coal dust's chemical composition (U.S. Geological Survey 2007) suggests that the risk of exposure to concentrations of toxic materials (e.g., PAHs and trace metals) from coal are low because the concentrations are low and the chemicals bound to coal are not easily leached. Another study by Ross et al. (2004) found virtually no desorption of any PAH in coal and that the bioavailability of coal-derived PAHs usually was too low to be measured. Furthermore, the type of coal anticipated to be exported from the coal export terminal is alkaline, low in sulfur and trace metals and the conditions to produce concentrations in pore waters are not present in a

dynamic riverine environment. This would further support the view of Ahrens and Morrisey (2005) that the bioavailability of such toxins would likely be low.

In summary, coal dust from operation of the Proposed Action is not expected to have a demonstrable effect on water quality. Additionally, the potential risk for exposure to toxic chemicals contained in coal (e.g., PAHs and trace metals) would be relatively low as these chemicals tend to be bound in the matrix structure and not quickly or easily leached.

Coal spilling into the Columbia River could occur during vessel loading operations. Cleanup efforts would be implemented quickly and it would be expected that the majority of the spilled coal would be recovered. Coal dust particles would likely be transported downstream by river flow and either carried out to sea or distributed over a sufficiently broad area that a measurable increase in concentrations of toxic chemicals in the Columbia River would be unlikely. The deposition of coal dust could be as high as 1.99 g/m^2/year adjacent to the project area. However, toxic chemicals in coal dust tend to be bound to the matrix structure of the coal and not quickly or easily leached and would not, therefore, be expected to result in a significant increase in chemical indicators in the Columbia River. They would also not be expected to cause a measurable impact on water quality or biological indicators, or affect designated beneficial uses.

An evaluation of a potential coal spill and potential impacts associated with coal dust are described in the Chapter 5, Section 5.7, *Coal Dust*, and the *SEPA Coal Technical Report* (ICF 2017). Because the rate of coal dust deposition is so low, it is likely unmeasurable and the concentration of TEEC is assumed to be low. Therefore, impacts of dispersed coal, coal dust, and coal dust constituents on water quality are anticipated to be low.

Rail cars carrying coal would have to be treated with topping agents or surfactants to the surface of loaded coal to control dust. These agents generally comprise glue (polyvinyl acetate), alkyl alcohol, guar gum, or vegetable oils mixed with water. These chemicals could enter the Columbia River directly from spills during loading or unloading; however, they have been found to be nontoxic and would not introduce pollutants of concern (Agency for Toxic Substances and Disease Registry 1992).

Introduce Contaminants from Maintenance and Operations

Potential contaminants, including diesel fuel, oils, grease, and other fluids would be required for the operation and maintenance of heavy equipment and machinery used to transport, store, move, and load coal at the coal export terminal. Normal operations and maintenance activities in the project area would not result in a direct discharge of pollutants or process water into surface waters. Most operation-related impacts would result from spills of potentially hazardous materials, such as petroleum products or industrial solvents, either directly into surface waters or in locations where they could be transported and discharged to surface water or groundwater. While a release is likely to be relatively small (less than 50 gallons), locomotives have a fuel capacity of 5,000 gallons and could potentially release fuel during operations. Also, fuel trucks would visit the site as required during operations. The frequency would vary based on usage and could range from once or twice per day to once or twice per week. Fuel trucks typically have a 3,000-to-4,000-gallon capacity. A spill could have potential impacts on water quality. A spill that occurred in the project area would be contained, conveyed, and treated within the proposed stormwater system and would not be discharged to surface waters outside the project area. A spill would be responded to under federal and state laws. The Applicant

would be required to manage contaminated stormwater in accordance with the requirements of the NPDES Industrial Stormwater Permit and avoid and minimize impacts on water quality.

Maintenance dredging for Docks 2 and 3 would be expected to occur every few years, or as needed following extreme-flow and sediment-deposition events, with areas and volumes considerably smaller than the initial dredge action. Maintenance dredging impacts on water quality would be similar to those discussed for dredging during construction, but to a lesser degree because maintenance dredging volumes would be smaller than the initial dredging action during construction based on the estimated accretion rates described below. A dredging plan, as discussed for construction dredging, would be prepared for each future maintenance dredging event.

Cargo vessels calling at Docks 2 and 3 would require the use of two tugboats to assist with docking and undocking, as described Chapter 5, Section 5.4, *Vessel Transportation*. Once a vessel powers down in preparation for docking, it generally does not engage its main propeller; there are specific conditions (e.g., especially strong currents) or circumstances (e.g., if the vessel requires a quick adjustment) under which the vessel may briefly engage the propeller, but these are not the norm (Gill pers. comm.). Thus, typical cargo vessel operations would not be expected to cause propeller wash-related scour of the side slopes or bottom of the dredge prism. Propeller wash from tugboats would be nearer to the surface and would thus have less potential to result in scour or erosion of bottom sediments within the dredge prism.

The following factors would further reduce the likelihood of temporary, localized increases in turbidity from propeller wash. The berthing basin would be dredged to a depth that could accommodate the largest vessels calling at Docks 2 and 3, the dredge prism would tie into the navigation channel, Docks 2 and 3 would be parallel to the navigation channel, the slopes would be dredged at a 3:1 (horizontal to vertical) slope, and the sediment would comprise the coarse sediment substrates typical of the mainstem Columbia River.

Sediment accretion in the proposed dredge prism would most likely occur as a result of bedload transport due to river currents, and local scour and sediment redistribution resulting from propeller wash. Hydrodynamic modeling and sediment transport analysis was conducted for the proposed Docks 2 and 3 berthing/navigation basin. Specific data are unavailable for the proposed new dredging basin; therefore, the rate of accretion (i.e., gradual deposition and build-up of sediment) can only be estimated roughly. Based on current accretion estimates, rough estimates for annual accretion height is approximately 0.16 feet (0.07- to 0.26-foot range) and annual accretion volume is approximately 11,675 y^3 (4,670 to 23,350 y^3 range). Small scale maintenance dredging could be needed more frequently, especially in the early years following the initial dredging work when higher than normal accretion is more likely (WorleyParsons 2012). Similarly to construction-related dredging, long-term changes in study area baseline conditions likely would not persist as a result of maintenance dredging.

Introduce Contaminants from Stormwater Runoff

Stormwater would be managed in accordance with the requirements of an NPDES Industrial Stormwater Permit for water management facilities of the coal export terminal. Contaminants such as oil and grease, coal dust, and other chemicals could accumulate on the ground and facility surfaces and become constituents of site stormwater. All stormwater runoff would be collected for treatment before reuse or discharge to the Columbia River. If stormwater is

collected and reused for a beneficial industrial use, a Water Right Permit would be required in accordance with Chapter 90.03 Revised Code of Washington (RCW).

Coal particulates would be removed from stormwater by allowing the coal dust to settle out in settling ponds. The coal dust would be removed from the stormwater ponds and placed back in the coal stockpile area during regular maintenance of the stormwater ponds. Other solids accumulated in the treatment systems not acceptable for reuse would be periodically collected and disposed of at an appropriate off-site disposal site.

As shown in Table 4.5-3, the Columbia River is listed as impaired for a number of pollutants. Some of these pollutants may be introduced from stormwater runoff from the project area, but the NPDES Industrial Stormwater Permit would require that all water quality standards are met prior to stormwater discharge to the Columbia River. Arsenic and fecal coliform (indicator bacteria) were detected during monitoring of existing outfalls that would drain the project area (Anchor QEA 2014). These pollutants would likely continue to be introduced as a result of the Proposed Action, although maximum reported outfall concentrations for these pollutants fall below established water-quality standards. Continued discharges at existing levels would not cause a measureable increase in chemical indicators in the Columbia River and would not cause a measurable impact on water quality or biological indicators or affect designated beneficial uses. Any changes in concentrations of these pollutants that may occur during operations would be addressed under the NPDES Industrial Stormwater Permit to ensure water quality standards continue to be met post discharge to the Columbia River.

Operations—Indirect Impacts

Operation of the Proposed Action would result in the following indirect impacts. Operations-related activities are described in Chapter 2, *Project Objectives, Proposed Action, and Alternatives.*

Introduce Contaminants from Coal Spills and Coal Dust

Potential impacts related to introducing contaminants from coal spills and coal dust during rail and vessel transport would be the same as those described under *Operations—Direct Impacts.*

Introduce Contaminants from Maintenance and Operations

Potential impacts related to introducing contaminants from maintenance and operations during rail and vessel transport would be the same as those described under *Operations—Direct Impacts.*

Introduce Contaminants from Vessel or Rail Transport

Coal would be transported to the coal export terminal via rail, then loaded onto vessels and transported to its final destination in Asia. Water quality could be indirectly affected as a result of transportation of coal within the study area. Details regarding vessel operations are available in Chapter 5, Section 5.4, *Vessel Transportation.* Details regarding a release of hazardous materials during rail operations and collision or derailment are discussed in Chapter 3, Section 3.6, *Hazardous Materials.*).

- **Propeller wash.** Propeller wash increases the potential for scour and erosion of the sides and bottom of the navigation channel, and thus, could cause temporary, localized increase in

turbidity. During transit of the Columbia River to and from Docks 2 and 3, the large propellers on cargo vessels would create turbulence close to the river bottom that could erode bottom sediments. The propeller wash from tugboats transiting to and from Docks 2 and 3 to assist cargo vessels would be nearer the surface and would, thus, have less potential to result in scour or erosion of bottom sediments.

Counihan et al. (2014) surveyed sediment contaminants in several reaches of the lower Columbia River (including a reach adjacent to the study area) and found that contaminant presence and concentrations in the deeper parts of the river channel, which includes the navigation channel, are lower than other areas of the river channel. The Columbia River navigation channel is routinely dredged, and the study found that the deepest parts of the river channel have erosional deposition patterns where flows are the greatest, sediment transport is high, and coarser sediments are found. These coarser sediments require more energy to mobilize and become suspended. Areas closer to the shoreline were found to be depositional areas with higher amounts of fine sediments, which were found to correlate with the higher presence and concentration of contaminants compared to the deeper erosional areas with coarse sediments. These sediments outside of the navigation channel would be unlikely to be affected by vessels transiting within the navigation channel. Therefore, it is unlikely that contaminant resuspension would be an issue given the low potential for turbidity from vessel movements in the study area and lower occurrence and concentrations of contaminants in the navigation channel.

- **Ballast water.** Ballast water could contain materials that degrade surface waters. Common contaminants include invasive marine plants and animals, bacteria, and pathogens that could result in harm or displace native aquatic species. However, the likelihood of such occurrences is considered low because Proposed Action-related vessels would be required to adhere to the state and federal regulations that control discharge and water quality of ballast water. Oversight of federal ballast water regulations is provided by the U.S. Coast Guard and EPA, and Washington State regulations are administered by WDFW. Specifically, Proposed Action-related vessels would be required to implement one of the following ballast water management methods per U.S. Coast Guard ballast discharge regulations (33 CFR 151.2025): install a ballast water management system, use only water from a U.S. public water system, not discharge ballast water, or discharge ballast to a facility onshore or to another vessel for treatment. Regardless of the ballast water management option selected by vessel operators, all ballast water discharge must meet the U.S. Coast Guard ballast discharge standards (33 CFR 151.2030) and EPA NPDES Vessel General Permit standards. In addition, the Washington State ballast discharge regulations (RCW 77.120.040) include reporting, monitoring, and sampling requirements of ballast water, and all vessels must submit nonindigenous species ballast water monitoring data. WDFW may also board and inspect vessels under WAC 220-150-033 without advance notice to provide technical assistance, assess compliance, and enforce the requirements of Washington State ballast water management program laws and regulations. All vessel operators would be required to comply with federal and state ballast regulations or risk penalties for violations.
- **Spills from vessel.** Coal and fuel spills could occur if the cargo tanks on a vessel are ruptured during such events as a grounding or collision; however, the potential for a vessel rupture incident is low. Chapter 5, Section 5.4, *Vessel Transportation*, evaluates the risk of vessel-related incidents. Chapter 3, Section 3.6, *Hazardous Materials*, also discusses actions to be taken for emergency response and cleanup. A spill from a vessel could have significant

potential impacts on water quality based on the location, quantity spilled, and response actions taken.

- **Day-to-day rail operations.** Day-to-day rail operations could release contaminants to stormwater, including coal dust, metals, hydraulic and brake fluid, oil, and grease from track lubrication. As discussed in Chapter 3, Section 3.6, *Hazardous Materials*, if a release of hazardous materials were to occur, the rail operator would implement emergency response and cleanup actions per the Federal Railroad Administration requirements and state law, including Washington State regulations under RCW 90.56. Chapter 3, Section 3.6, *Hazardous Materials*, also discusses actions to be taken for emergency response and cleanup.
- **Spill from collision or derailment of train.** Fuel or hazardous material spills could occur if trains or rail cars collide or derail. As discussed in Chapter 3, Section 3.6, *Hazardous Materials*, if a release of hazardous materials were to occur, the rail operator would implement emergency response and cleanup actions as required by the Federal Railroad Administration requirements and state law, including Washington State regulations under RCW 90.56. Chapter 3, Section 3.6, *Hazardous Materials*, also discusses actions to be taken for emergency response and cleanup. Spills of coal from a rail car could affect water quality based on the location, quantity spilled, and response actions taken.

4.5.5.2 No-Action Alternative

Under the No-Action Alternative, current operations would continue, and the existing bulk product terminal would be expanded. Because existing industrial import and export activities would be expanded, impacts on water quality would be similar to those described for the Proposed Action regarding potential oils and grease spills from equipment or other raw materials shipped from the terminal. The existing NPDES permit would remain in place, maintaining the water quality of existing stormwater discharges. Maintenance dredging at Dock 1 would continue in accordance with a future maintenance dredging permit, with dredging occurring every 2 to 3 years.

Any new or expanded industrial uses would trigger a new or modified NPDES permit. Upland buildings could be demolished and replaced for new industrial uses. Ground disturbance would not result in any impacts on waters of the United States and would not require a permit from the Corps. Any new impervious surface area would generate stormwater, but all stormwater would be collected and treated to meet state and federal water quality requirements prior to discharge to the Columbia River.

4.5.6 Required Permits

The Proposed Action would require the following permits for water quality.

- **NPDES Construction Stormwater Permit—Washington State Department of Ecology**. The construction of the Proposed Action would result in more than 1 acre of ground disturbance and would require a construction stormwater permit. As part of the NPDES permit process, stormwater and wastewater generated on the site would be evaluated and characterized, after which the specific language and type of NDPES permit would be determined.
- **NPDES Industrial Stormwater Permit—Washington State Department of Ecology.** The Proposed Action would result in industrial activities such as the operation of a transportation facility or bulk station and terminal and would require an industrial stormwater permit. All

wastewater and stormwater generated in the project area, and potentially discharged from the project area after treatment, would be evaluated and characterized by the state. Once the water to be discharged has been accurately evaluated and characterized by the state, the specific standards for water discharged from the project area would be defined and the type of NPDES permit would be determined and issued.

- **Water Rights—Washington State Department of Ecology.** The Applicant would need to ensure its original water rights are current prior to using those rights. If the Applicant's water rights are current, the Applicant must maintain those water rights. If the Applicant's water rights are partially or fully relinquished, the Applicant must apply for and obtain the necessary water rights. If stormwater is collected and reused for a beneficial use, a Water Right Permit would be required in accordance with Chapter 90.03 RCW.
- **Clean Water Act Section 404—U.S. Army Corps of Engineers**. Construction of the Proposed Action would require Department of the Army authorization from the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act.
- **Clean Water Act Section 401—Washington State Department of Ecology**. An Individual Water Quality Certification from Ecology under Section 401 of the Clean Water Act would be required for construction of the Proposed Action.
- **Rivers and Harbors Act—U.S. Army Corps of Engineers**. Construction of the Proposed Action would require Department of the Army authorization from the U.S. Army Corps of Engineers under Section 10 of the Rivers and Harbors Act. The Rivers and Harbors Act authorizes the Corps to protect commerce in navigable streams and waterways of the United States by regulating various activities in such waters. Section 10 of the RHA (33 USC 403) specifically regulates construction, excavation, or deposition of materials in, over, or under navigable waters, and any work that would affect the course, location, condition, or capacity of those waters.
- **Hydraulic Project Approval—Washington Department of Fish and Wildlife**. The Proposed Action would require a Hydraulic Project Approval from WDFW because project elements would affect and cross the shoreline of the Columbia River. The approval would consider impacts on riparian and shoreline/bank vegetation in issuance and conditions of the permit, including for the installation of the proposed docks and piles, as well as for project-related dredging activities and other project-related in-water work.

4.5.7 Proposed Mitigation Measures

This section describes the proposed mitigation measures that would reduce impacts related to water quality from construction and operation of the Proposed Action. These mitigation measures would be implemented in addition to project design measures, best management practices, and compliance with environmental permits, plans, and authorizations that are assumed as part of the Proposed Action.

4.5.7.1 Applicant Mitigation

The Applicant will implement the following measures to mitigate impacts on water quality.

MM WQ-1. Locate Spill Response Kits Near Main Construction and Operations Areas.

The Applicant will locate spill response kits throughout the project area during construction and operations. The spill response kits will contain response equipment and personal protective equipment appropriate for hazardous materials that will be stored and used during construction and operations. Site personnel will be trained in the storage, inventory, and deployment of items in the spill response kits. Spill response kits will be checked a minimum of four times per year to ensure proper-functioning condition, and will otherwise be maintained and replaced per manufacturer recommendations. Should a spill response kit be deployed, the Applicant will notify Cowlitz County and Ecology immediately. The Applicant will submit a map indicating the types and locations of spill response kits to Cowlitz County and Ecology for approval prior to beginning construction and operations.

MM WQ-2. Develop and Implement a Coal Spill Containment and Cleanup Plan.

To limit the exposure of spilled coal to the terrestrial, aquatic, and built environments during coal handling, the Applicant will develop a containment and cleanup plan. The plan will be reviewed by Cowlitz County and Ecology and implemented prior to beginning export terminal operations. In the event of a coal spill in the aquatic environment by the Applicant during export terminal operations, action will be taken based on the specific coal spill, and the Applicant will develop a cleanup and monitoring plan consistent with the approved containment and cleanup plan. This plan will include water quality and sediment monitoring to determine the potential impact of the coal spill on the aquatic habitat and aquatic species. The Applicant will develop the cleanup and monitoring plan in coordination with Cowlitz County, Ecology, and the Corps. The cleanup and monitoring will be similar in scope to the monitoring completed for the Aquatic Impact Assessment (Borealis Environmental Consulting 2015) associated with a coal spill in British Columbia, Canada in 2014.

MM CDUST-1. Monitor and Reduce Coal Dust Emissions in the Project Area.

To address coal dust emissions, the Applicant will monitor coal dust during operation of the Proposed Action at locations approved by the Southwest Clean Air Agency (SWCAA). A method for measuring coal dust concentration and deposition will be defined by SWCAA. If coal dust levels exceed nuisance levels, as determined by SWCAA, the Applicant will take further action to reduce coal dust emissions. Potential locations to monitor coal dust concentration and deposition will be along the facility fence line in close proximity to the coal piles, where the rail line enters the facility and operation of the rotary dumper occurs, and at a location near the closest residences to the project area, if agreed to by the property owner(s). The Applicant will conduct monthly reviews of the concentration and deposition data and maintain a record of data for at least 5 years after full operations, unless otherwise determined hy SWCAA. If measured concentrations exceed PM air quality standards, the Applicant will report this information to SWCAA, Cowlitz County and Ecology. The Applicant will gather 1 year of fence line data on particulate matter (PM) 2.5 and PM10 prior to beginning operations and maintain the data as reference. This data will be reported to SWCAA, Cowlitz County, and Ecology.

MM CDUST-3. Reduce Coal Dust Emissions from Rail Cars.

To address coal dust emissions, the Applicant will not receive coal trains unless surfactant has been applied at the BNSF Railway Company (BNSF) surfactant facility in Pasco, Washington for BNSF trains traveling through Pasco. While other measures to control emissions are allowed by BNSF, those measures were not analyzed in this EIS and would require additional environmental review. For trains that will not have surfactant applied at the BNSF surfactant facility in Pasco, before heginning operations, the Applicant will work with rail companies to implement advanced technology for application of surfactants along the rail routes for Proposed Action-related trains.

4.5.8 Unavoidable and Significant Adverse Environmental Impacts

Compliance with laws and implementation of the measures and design features described above would reduce impacts on water quality. There would be no unavoidable and significant adverse environmental impacts on water quality.

4.6 Vegetation

Vegetation is the foundation of most aquatic and terrestrial ecosystems. Among other functions, plants release oxygen and sequester carbon, provide wildlife habitat and food, affect soil development, and can increase slope stability. Plants are involved in the regulation of biogeochemical cycles such as the movement and filtration of water, carbon, and nitrogen. Plants can also have cultural, spiritual, and psychological benefits for humans.

This section describes vegetation in the study area. It then describes impacts on vegetation that could result from construction and operation of the Proposed Action and under the No-Action Alternative. This section also presents the measures identified to mitigate impacts resulting from the Proposed Action.

4.6.1 Regulatory Setting

Laws and regulations relevant to vegetation are summarized in Table 4.6-1.

Table 4.6-1. Regulations, Statutes, and Guidelines for Vegetation

Regulation, Statute, Guideline	Description
Federal	
Clean Water Act (33 USC 1251, *et seq.*)	Authorizes EPA to establish the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Regulates activities in streams, wetlands, and other aquatic resources, including integral vegetated components.
Endangered Species Act (16 USC 1531-1544)	Provides for the conservation of species listed as threatened or endangered and the habitat upon which they depend. Section 7 of the ESA requires federal agencies to consult with USFWS and/or NMFS to ensure a federal action is not likely to jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of designated critical habitat.
State	
Washington State Growth Management Act (RCW 36.70A)	Defines a variety of critical areas, which are designated and regulated at the local level under city and county critical areas ordinances.
Washington State Shoreline Management Act (RCW 90.58)	Requires cities and counties (through their Shoreline Master Programs) to protect shoreline natural resources against adverse impacts.
State Water Pollution Control Act (RCW90.48)	Provides Ecology with the jurisdiction to control and prevent the pollution of streams, lakes, rivers, ponds, inland water, salt waters, watercourses, and other surface and groundwater in the state.
Washington Natural Resource Damage Assessment (RCW 90.56.370)	Holds parties responsible for spilling oil into state waters liable for damages resulting from injuries to public resources.

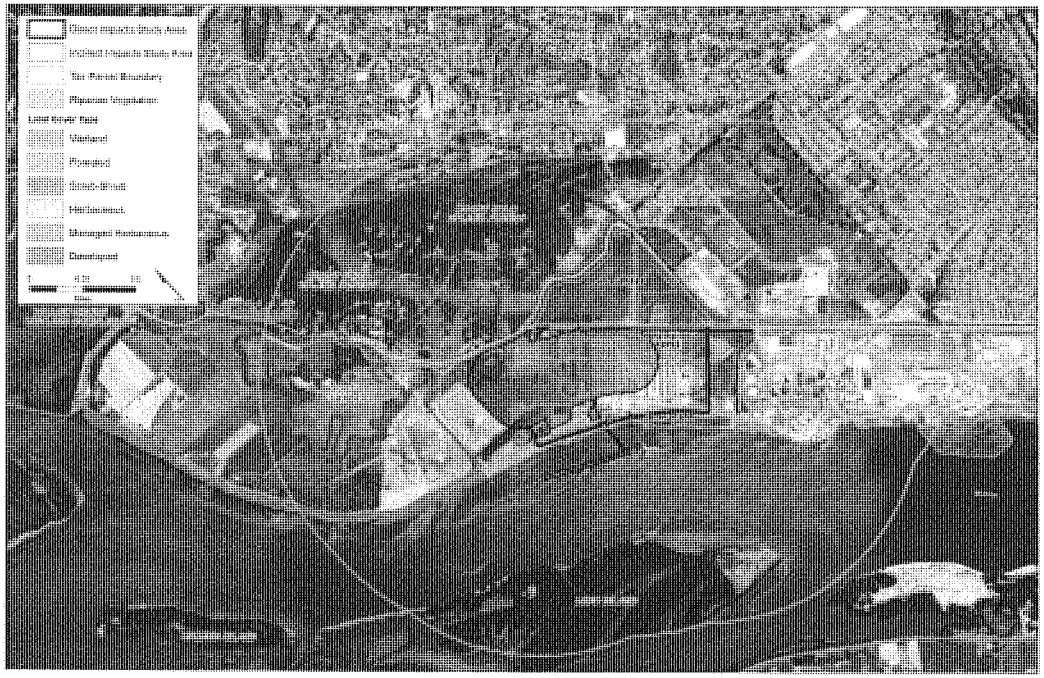
Regulation, Statute, Guideline	Description
Oil Spill Natural Resource Damage Assessment (WAC 173-183)	Establishes procedures for convening a resource damage assessment committee and screening of resource damages resulting from oil spills to determine which damage assessment to use. Provides for determining damages in cases where the compensation schedule is selected as the damage assessment method to apply.
Washington Natural Area Preserves Act	Establishes the Washington Natural Heritage Program to identify candidates for natural areas designated to preserve special-status plant species and regionally important or unique plant communities. Authorizes the program to track plant species and high-quality natural ecosystems in the state and to designate plants with a state status as threatened, sensitive, or endangered. WDNR is the implementing agency.
Washington State Noxious Weed Control Act (RCW 17.10, WAC 16-750)	Establishes noxious weed control boards, which designate certain plant species as Class A, B, or C noxious weeds. Authorizes the management, control, and/or elimination of noxious weed populations in the state.
Washington State Hydraulic Code (WAC 220-110)	WDFW issues a hydraulic project approval for certain construction projects or activities in or near state waters. Considers effects on riparian and shoreline or bank vegetation in issuance and conditions of the permit.
Clean Water Act Section 401 Water Quality Certification	Ecology issues Section 401 Water Quality Certification for in-water construction activities to ensure compliance with state water quality standards and other aquatic resources protection requirements under Ecology's authority as outlined in the federal Clean Water Act.
Local	
Cowlitz County Critical Areas Protection Ordinance (19.15)	Requires the County to designate critical areas, including vegetation in wetlands and their buffers.
City of Longview Critical Areas Ordinance (17.10.140)	Regulates activities within and adjacent to critical areas including vegetation occurring in wetlands and their buffers, fish and wildlife habitat conservation areas (including streams and their buffers), frequently flooded areas, and geological hazard areas.
Cowlitz County Shoreline Master Program (CCC 19.20)	Regulates development in the shoreline, including the shoreline of the Columbia River, a Shoreline of Statewide Significance.

Notes:
USC = United States Code; ESA = federal Endangered Species Act; EPA = U.S. Environmental Protection Agency; USFWS = U.S. Fish and Wildlife Service; NMFS = National Marine Fisheries Service; WDFW = Washington Department of Fish and Wildlife; RCW = Revised Code of Washington; WAC = Washington Administrative Code

4.6.2 Study Area

The study area for direct impacts on vegetation is the 190-acre project area plus additional elements (e.g., access roads, docks, and rail line), a total of 212 acres, as shown in Figure 4.6-1.

Figure 4.6-1. Vegetation Study Area



The indirect impacts study area for vegetation related to operations in the project area is the area within 1 mile of the project area, for a total of 4,401 acres (Figure 4.6-1). This area considers the extent to which potential coal dust deposition (Chapter 5, Section 5.7, *Coal Dust*) could affect vegetation during operations.

Further vegetation indirect impact study areas were also established for vessel and rail traffic associated with the Proposed Action. These include the lower Columbia River to evaluate the potential impacts on shoreline vegetation resulting from Proposed Action-related vessels transiting the Columbia River and rail routes for Proposed Action-related trains in Cowlitz County and Washington State to evaluate the potential impacts that could occur because of a coal spill. Wetland vegetation is discussed in more detail in Section 4.3, *Wetlands*.

4.6.3 Methods

This section describes the sources of information and methods used to evaluate the potential impacts on vegetation associated with the construction and operation of the Proposed Action and No-Action Alternative.

4.6.3.1 Information Sources

The following sources of information were used to describe the existing conditions relevant to vegetation and identify the potential impacts of the Proposed Action and No-Action Alternative on vegetation in the study area.

- Two site visits conducted by ICF biologists on April 8, 2014, and December 11, 2014.
- Historical aerial photos from 1994 and 2014 accessed through Google Earth Professional, a 2010 aerial photo provided by ESRI, and a 2012 aerial photo from the North Agriculture Imagery Program.
- Reports prepared by Grette Associates for the Applicant as part of the permit application materials (Grette 2014a through 2014i).
- U.S. Fish and Wildlife Service (USFWS) (2015) Information for Planning and Conservation, online database.
- 2011 National Land Cover Database (Homer et al. 2015) to describe land cover classes in the indirect impacts study area. Washington Department of Fish and Wildlife (WDFW) Priority Habitat and Species (PHS) spatial data provided by WDFW on May 5, 2014, for the study area (Washington Department of Fish and Wildlife 2014).
- The Washington State Department of Natural Resources (WDNR) Natural Heritage Program Information System (Washington State Department of Natural Resources 2015) list of known occurrences of rare plants in Cowlitz County, Washington, and details regarding their occurrence, habitat, and range.

4.6.3.2 Impact Analysis

The following methods were used to evaluate the potential impacts of the Proposed Action and No-Action Alternative on vegetation. A full description of analysis methods is provided in the *SEPA Vegetation Technical Report* (ICF 2017).

- Five land cover types (developed lands, uplands, wetlands, riparian lands, and open water) were mapped to describe vegetation for the direct impacts study area based on site visits, aerial photographs, federal databases, and information provided by the applicant. Vegetation cover within these land cover types was then characterized (e.g., forested, scrub-shrub, herbaceous, and managed herbaceous). Land cover type mapping was adjusted based on field observations.
- Land cover types in the indirect impacts study area within 1 mile of the project area are described based on the 2011 National Land Cover Database GIS data (Homer et al. 2015); land cover classifications described in these data consist of open water, developed, forest, shrub, herbaceous, barren land, agriculture (planted/cultivated and hay/pasture), and wetlands.
- Direct impacts on vegetation from construction of the Proposed Action would result when portions of the study area are cleared to construct the coal export terminal and associated infrastructure. These impacts were quantified by overlaying the study area on the land cover map. The approximate acreage of each affected cover type was calculated and expressed as a percentage of all cover types in the study area.
- Direct and indirect impacts from operations are qualitatively described, including the impact mechanism, potential impacts, duration (i.e., temporary or permanent), and likelihood of occurrence.

For the purposes of this analysis, construction impacts are based on peak construction period and operations impacts are based on maximum throughput capacity (up to 44 million metric tons per year).

4.6.4 Existing Conditions

This section describes the existing environmental conditions in the study areas related to vegetation that could be affected by the construction and operation of the Proposed Action and the No-Action Alternative.

4.6.4.1 Direct Impacts Study Area

The following land cover types are found in the direct impacts study area.

Developed Lands

Developed lands account for 151.14 acres (71%) of the direct impacts study area. Developed lands are those areas where the majority of the vegetation has been removed and replaced with pavement, buildings, or other types of infrastructure. Developed lands also include disturbed areas of land comprising widely scattered patches of invasive shrubs such as Himalayan blackberry (*Rubus armeniacus*) and Scotch broom (*Cytisus scoparius*). These areas are typically found on higher mounds and around derelict structures and equipment. Developed lands include all of the areas previously developed by the former Reynolds Metals Company facility (Reynolds facility) and the Bonneville Power Administration (BPA) and Cowlitz County Public Utility District substations. Named features and facilities described below are shown in Figure 4.2-3 in Section 4.2, *Surface Water*. Wetlands discussed below are shown in Section 4.3, *Wetlands*, Figures 4.3-1 through 4.3-4.

Uplands

Uplands are undeveloped vegetated areas that do not exhibit wetland characteristics. Uplands account for 26.26 acres (12%) of the direct impacts study area and consist of the following vegetation types.

- **Forested uplands.** Forested uplands are areas where trees more than 16 feet high provide more than 20% canopy cover (Multi-Resolution Land Characteristic Consortium 2011). Approximately 8.90 acres (4%) of the direct impacts study area were identified as forested uplands. On the former Reynolds facility, forested uplands occur around Wetlands A, C, and Y between the closed Black Mud Pond (BMP) facility and the former cable plant and along the U-Ditch and Interceptor Ditch. Dominant trees in the uplands adjacent to Wetlands A, C, and Y include black cottonwood (*Populus balsamifera* ssp. *trichocarpa*), some Pacific willow (*Salix lucida*), and Oregon ash (*Fraxinus latifolia*). Common shrubs include Himalayan blackberry, red elderberry (*Sambucus racemosa*), and sweetbriar rose (*Rosa rubiginosa*), with black cottonwood and Oregon ash saplings also present. Dominant trees in the forested corridor along the U-Ditch and Interceptor Ditch include black cottonwood, red alder (*Alnus rubra*), and some Oregon ash along the ditch banks. Himalayan blackberry is the most common plant in the shrub layer, but has been recently cleared from some areas on the western end of the U-Ditch. Red osier-dogwood (*Cornus sericea*) is also common. Several types and sizes of fallen trees are present in this forested corridor, as are various snags. Reed canarygrass (*Phalaris arundinacea*) is common in the herbaceous layer in all of these forested upland areas.

  Forested uplands in the direct impacts study area also include a small area (0.05 acre) of forest in the riparian zone along the Columbia River between the ordinary high water mark (OHWM) and the top of the Consolidated Diking Improvement District (CDID) #1 levee.

- **Scrub-shrub uplands.** Scrub-shrub uplands are areas with more than 20% canopy cover of shrubs or small trees that are less than 16 feet high (Multi-Resolution Land Characteristic Consortium 2011). Approximately 2.11 acres (1%) of the direct impacts study area were identified as scrub-shrub uplands. Scrub-shrub uplands on the former Reynolds facility occur around the former cable plant and north of the closed BMP facility around Wetland Y. Common species in these areas include young black cottonwood, willows, and Himalayan blackberry. Reed canarygrass is also common in the herbaceous layer.

- **Unmanaged herbaceous uplands.** Unmanaged herbaceous uplands are areas dominated by native and nonnative grasses and forbs and not maintained or managed (e.g., mowed) on a regular basis. Approximately 10.88 acres (5%) of the direct impacts study area were identified as unmanaged herbaceous uplands. These areas occur on the former Reynolds facility and BPA Parcel 61954. Unmanaged herbaceous uplands in the direct impacts study area occur along the CDID #1 Ditch 10 to the northwest of the former cable plant; in the former borrow area to the east of the closed BMP facility; and in the southeastern portion of the direct impacts study area along the Reynolds Lead spur. These areas are primarily dominated by reed canarygrass. Unmanaged herbaceous uplands on BPA Parcel 61954 are located in a transmission line easement to the northwest of the Longview Substation. This area is dominated by species similar to those listed above for the direct impacts study area, as well as Himalayan blackberry.

- **Managed herbaceous uplands.** Managed herbaceous uplands are areas regularly managed by mowing, grazing, or other activities. Approximately 4.37 acres (2%) of this cover type occur on the former Reynolds facility, CDID #1 levee, lawns around the administrative and maintenance

buildings, and caps of the closed BMP facility. All of these areas are dominated by grasses and forbs that are regularly mown. Species present include reed canarygrass, haired bentgrass (*Agrostis scabra*), colonial bentgrass (*Agrostis capillaris*), broadleaf plantain (*Plantago major*), orchard grass (*Dactylis* spp.), short-awn foxtail (*Alopecurus aequalis*), western bittercress (*Cardamine oligosperma*), blue wildrye (*Elymus glaucus*), common horsetail (*Equisetum arvense*), Queen Anne's lace (*Daucus carota*), scouring rush (*Equisetum hyemale affinis*), bedstraw (*Galium aparine*), velvetgrass (*Holcus lanatus*), perennial ryegrass (*Lolium perenne*), Kentucky bluegrass (*Poa pratensis*), and American vetch (*Vicia Americana*).

Wetlands

Wetlands exhibit the wetland vegetation, soil, and hydrology characteristics defined in the federal wetland delineation manual and account for 26.93 acres (11%) of the direct impacts study area. The most prevalent wetland type is herbaceous wetlands, followed by forested wetlands and scrub-shrub wetlands. Section 4.3, *Wetlands*, discusses wetlands and wetland vegetation in detail.

Open Water

Open water accounts for 10.78 acres (5%) of the direct impacts study area and consist of the Columbia River and various ditches and ponds. This land cover is described in more detail in Sections 4.2, *Surface Water and Floodplains*, and 4.8, *Wildlife*, as an aquatic habitat. These areas support vegetation along their perimeters, typically including native plants as well as noxious weeds. Curly pondweed (*Potamogeton crispus*) was observed at approximately -1 foot Columbia River Datum downstream of Dock 1 during a period of high visibility. The gently sloping portion of the shallow water habitat area between the east and west pile dikes near the project area may support a narrow band of sparse aquatic vegetation in the uppermost elevations where increased light penetration and reduced river velocity are present, relative to the deeper portions of the river in this area.

4.6.4.2 Indirect Impacts Study Area

Table 4.6-2 summarizes the areas and percent cover of land cover classes in the indirect impacts study area within 1 mile of the project area. Approximately 70% of the indirect impacts study area is occupied by developed lands, open water (primarily the Columbia River), and agricultural lands; the remaining 30% consists of forest, shrub, herbaceous, wetlands, and barren lands.

Land cover immediately surrounding the project area is similar to the project area, consisting primarily of developed areas, managed/unmanaged herbaceous areas, wetlands, and open water (the Columbia River). Riparian lands are found predominantly along the Columbia River between the OHWM and the top of the CDID #1 levee, and include vegetation adjacent to the active channel margin in riparian zones identified in the previous upland and shoreline habitat inventories (Grette Associates 2014e, 2014g, 2014h).

Table 4.6-2. Land Cover in the Indirect Impacts Study Area

Land Cover Classification	Area in Indirect Impacts Study Area (acres)	Percent Cover in Indirect Impacts Study Area
Developed	1631	37
Forest	347	8
Shrub	106	2
Herbaceous	62	2
Agriculture	573	13
Wetlands	719	16
Open water	880	20
Barren land	83	2
Total	**4401**	**100**

Notes:
Source: National Land Cover Data Base 2011 (Homer et al. 2015).

The riparian lands consist of three vegetation types: forest, scrub-shrub, and herbaceous.

- **Riparian forest.** Riparian forest extends in a band of varying width along most of the shoreline, with the widest areas found on the southern portion of the shoreline near the previous dredged material storage area. Dominant vegetation in this cover type includes black cottonwood and various willow trees, underlain by a mixture of native shrubs such, as red osier dogwood, and invasive shrubs, such as Himalayan blackberry and Scotch broom. Scattered accumulations of large woody material are present in these areas.
- **Riparian scrub-shrub.** Riparian scrub-shrub contains similar species to riparian forest. Two scrub-shrub riparian areas were found on BPA Parcel 61950 between the Columbia River and the levee. These areas are dominated by black cottonwood saplings, various willows, and nonnative vegetation including Himalayan blackberry and Scotch broom. Native and nonnative herbaceous species are also present.
- **Riparian herbaceous.** Riparian herbaceous areas are generally dominated by grasses and weeds including reed canarygrass, velvet grass, common horsetail, and broadleaf plantain. These sparse patches of herbaceous vegetation occur under the existing Dock 1 conveyor and trestle, and on sandy flats between the OHWM and the approximate elevation of mean higher high water.

The following areas in the indirect impacts study area contain higher quality vegetation communities and generally represent contiguous forest and other intact vegetation communities (Figure 4.6-1).

- **Mount Solo upland forest**. Mount Solo is a forested ridge north of the project area. It supports a large area (approximately 505 acres) of native forest intermixed with rural residential areas and some light industrial uses. This area is the largest inland forested area in the indirect impacts study area. Vegetation includes Douglas fir (*Pseudotsuga menziesii*), big leaf maple (*Acer macrophyllum*), red alder, and western hemlock (*Tsuga heterophylla*). It supports a diversity of native plant communities and provides habitat for a variety of wildlife species.

- **Mint Farm wetland mitigation sites.** Two compensatory wetland mitigation sites for the Mint Farm Industrial Park are located east of the project area. The Phase I mitigation site is 4.28 acres and is a complex of forested, scrub-shrub and emergent wetlands; the Phase II mitigation site is 67 acres and is a mixture of forested, scrub-shrub and emergent wetlands intermixed with forested uplands.
- **Lord Island.** Lord Island is located in the Columbia River near the project area. The 234-acre island was previously used for dredge material disposal. It is densely forested and bisected by various high-flow channels that support tidal marshes and shallow babitat areas. Vegetation on the island is largely native. Refer to Section 4.8, *Wildlife*, for habitats and wildlife of Lord Island.

4.6.4.3 Special-Status Plant Species

As shown in Table 4.6-3, there are 15 plant species with some type of federal or state status in Cowlitz County (Wasbington State Department of Natural Resources 2015).

Table 4.6-3. Known Occurrences of Threatened, Endangered, Sensitive, and Rare Plants in Cowlitz County

Scientific Name	Common Name	Federal Status[a]	State Status[b]	Historical Record[c]
Agoseris elata	Tall agoseris	--	S	C
Buxbaumia viridis	Buxbaumia moss	--	R1	C
Cimicifuga elata	Tall bugbane	SC	S	H
Corydalis aquae-gelidae	Clackamas corydalis	SC	S	C
Erythronium revolutum	Pink fawn-lily	--	S	C
Euonymus occidentalis var. *occidentalis*	Western wahoo	--	S	C
Isoetes nuttallii	Nuttall's quillwort	--	S	C
Physostegia parviflora	Western false dragonhead	--	R1	H
Poa laxiflora	Loose-flowered bluegrass	--	S	C
Poa nervosa	Wheeler's bluegrass	--	S	C
Salix sessilifolia	Soft-leaved willow	--	S	C
Sidalcea nelsoniana	Nelson's checker-mallow	LT	E	C
Tetraphis geniculata	Tetraphis moss	--	R1	C
Utricularia gibba	Humped bladderwort	--	R1	C
Wolffia columbiana	Columbia water-meal	--	R1	C

Notes:

[a] Federal Status under the Endangered Species Act:
LT = Listed Threatened (likely to become endangered)
SC = Species of Concern. An unofficial status, the species appears to be in jeopardy, but insufficient information to support listing.

[b] State Status of plant species is determined by the Washington Natural Heritage Program. Factors considered include abundance, occurrence patterns, vulnerability, threats, existing protection, and taxonomic distinctness. Values include:
E = Endangered. In danger of becoming extinct or extirpated from Washington.
S = Sensitive. Vulnerable or declining and could become Endangered or Threatened in the state.
R1 = Review group 1. Of potential concern but needs more fieldwork to assign another rank.

[c] Historical Record refers to when the occurrence was documented:
C = Most recent sightings after 1977.
H = Most recent sighting before 1977.

Source: Washington State Department of Natural Resources 2014.

None of these species has been recorded in the direct or indirect study areas. The nearest record of occurrence of a special-status plant species is a documented siting of the obligate wetland species Columbia water-meal (*Wolffia columbiana*) approximately 1.5 miles northwest of the project area and outside of the direct and indirect study areas (Washington State Department of Natural Resources 2015).

The special-status plant species, and the preferred elevation, habitat and geographic range for each are provided in Table 4.6-4. As indicated in Table 4.6-4, of the 15 special-status plant species known to occur in Cowlitz County, six were identified as potentially occurring in the direct impacts study area, based on the presence of potentially suitable habitat. These species are Nelson's checker-mallow (*Sidalcea nelsoniana*), western waboo (*Euonymus occidentalis* var *occidentalis*), western false dragonhead (*Physostegia parviflora*), loose-flowered bluegrass (*Poa laxiflora*), soft-leaved willow (*Salix sessilifolia*), and Columbia water-meal.

Table 4.6-4. Elevation, Habitat, and Geographic Range of Listed Threatened, Endangered, Sensitive, and Rare Plants in Cowlitz County

Common Name	Scientific Name	Elevation Range	Habitat	Geographic Range	Occurrence Relative to Project Area
Tall agoseris	*Agoseris elata*	500 to 7,800 feet	Found in meadows, prairies, open woods, and exposed rocky ridges. Occurs in areas with little to no canopy cover and assumed to be shade intolerant.	Throughout California, Oregon, and Washington.	Documented in northeastern Cowlitz County. Not likely to occur on the project area due to elevation.
Buxbaumia moss	*Buxbaumia viridis*	Low to subalpine elevations	Found in coniferous forests on well-rotted logs and peaty soil and humus.	Western North America including the western portion of Washington.	Documented in east-central Cowlitz County. Not likely to occur on the project area due to lack of suitable coniferous habitat.
Tall bugbane	*Cimicifuga elata*	100 to 2,800 feet, with majority below 700 feet	Occurs in or along margins of mixed mature or old growth forests, including mesic coniferous or mixed coniferous-deciduous stands. Frequently found on north or east-facing slopes.	Southwestern British Columbia to southern Oregon, west of Cascade range.	Documented in western Cowlitz County in areas along the Columbia River. Not likely to occur on the project area due to lack of appropriate forest habitat.
Clackamas corydalis	*Corydalis aquae-gelidae*	1,250 to 4,200 feet	Occurs in or near cold flowing water, including seeps and small streams; often occurring in stream channels. Moist shady woods in western hemlock (*Tsuga heterophylla*) and silver fir (*Abies amabilis*) zones. Prefers intermediate levels of overstory canopy closure.	Regionally endemic of Washington; Clackamas and Multnomah Counties in Oregon.	Documented in eastern Cowlitz County. Not likely to occur on the project area due to elevation and lack of suitable habitat.

Common Name	Scientific Name	Elevation Range	Habitat	Geographic Range	Occurrence Relative to Project Area
Pink fawn-lily	*Erythronium revolutum*	100 to 600 feet	Occurs in high-precipitation areas within 100 km of the coast, in moist soil in open or moderately shaded forests that provide full light at ground level. Habitats in Washington include swampy western redcedar (*Thuja plicata*)-lodgepole pine (*Pinus contorta*) forests, Sitka spruce (*Picea sitchensis*) woods on consolidated sand dunes, Sitka spruce-western hemlock forests, and shaded river bottoms.	Pacific coast region from southern British Columbia to northwestern California.	Documented in northwestern Cowlitz County. Not likely to occur on the project area due to lack of suitable coniferous forest habitat.
Western wahoo	*Euonymus occidentalis* var. *occidentalis*	20 to 600 feet	Occurs in moist woods and forested areas on west side of Cascades. Often found in shaded draws, riparian areas, and ravines. Sometimes found in grassy areas with scattered trees. In Washington, it typically occurs on fine sandy loam, silty loam, and silty clay loams.	British Columbia, western Washington, and Oregon, south to central California.	Documented in west-central Cowlitz County, potentially near the project area. Appropriate habitat may occur on and near the project area.
Nuttall's quillwort	*Isoetes nuttallii*	200 to 345 feet	Terrestrial species found in seasonally wet ground, seepages, temporary streams, and mud near vernal pools.	Southeast Vancouver Island, British Columbia to southern California.	Documented in west-central Cowlitz County, potentially near the project area. Not likely to occur on the project area due to elevation.

Common Name	Scientific Name	Elevation Range	Habitat	Geographic Range	Occurrence Relative to Project Area
Western false dragonhead	*Physostegia parviflora*	None provided	Occurs along shores of streams and lakes, marshes, and other low, wet places in the valleys and foothills.[a]	East of the Cascade summits, British Columbia south through Washington to the Columbia Gorge, then west to Portland, Oregon; east to Idaho and North Dakota.[a]	Most recent documentation in Cowlitz County is prior to 1977. Appropriate habitat may occur on and near the project area.
Loose-flowered bluegrass	*Poa laxiflora*	50 to 3,700 feet	Found on moss-covered rocks and logs, along streams and rivers, and on edges of wet meadows in moist shady woods.	Found in coastal Alaska, British Columbia, western Washington, and western Oregon.	Documented in northwestern Cowlitz County. Appropriate habitat may occur on and near the project area.
Wheeler's bluegrass	*Poa nervosa*	10 to 800 feet	Found in low-elevation wet habitats west of the Cascade crest in forest openings with minimal canopy cover, mossy rock outcrops, cliff crevices, and occasionally talus. Sites are often sparsely vegetated with little soil development.	Endemic from Vancouver Island, British Columbia, to northwest Oregon.	Documented in west-central Cowlitz County, potentially near project area. Unlikely to occur on the project area due to lack of preferred habitat elements.
Soft-leaved willow	*Salix sessilifolia*	None provided	Found in wet lowland habitats, including silty or sandy riverbanks, riparian forests, dredge spoils, sandy beaches, and at the upper edge of an intertidal zone.	Found in southern British Columbia to northern California.	Documented in northern Cowlitz County. Appropriate habitat may occur on or near the project area.
Nelson's checker-mallow	*Sidalcea nelsoniana*	None provided	Found in low-elevation meadows, prairie, or grassland, along fencerows, streams, and roadsides, drainage swales, and edges of plowed fields adjacent to wooded areas.	Regionally endemic of Benton County, Oregon, north to Lewis County, Washington, and from central Linn County, Oregon to just west of the crest of the Coast Range.	Documented in northwestern Cowlitz County. Appropriate habitat may occur on and near the project area.

Common Name	Scientific Name	Elevation Range	Habitat	Geographic Range	Occurrence Relative to Project Area
Tetraphis moss	*Tetraphis geniculata*	Sea level to subalpine elevations	Occurs on the cut or broken ends or lower half of large decay class rotten logs or stumps, and occasionally on peaty banks in moist coniferous forests.	From Alaska and British Columbia through western Washington and select sites in Oregon.	Not documented in Cowlitz County. Not likely to occur on project area due to lack of suitable coniferous habitat with logs and stumps.
Humped bladderwort	*Utricularia gibba*	160 to 490 feet	Occurs in lakes, lake edges, and muddy disturbed sites in the lowland zone.	Southern British Columbia south to California.	Documented in northern Cowlitz County. Not likely to occur on project area due to elevation.
Columbia water-meal	*Wolffia columbiana*	10 to 250 feet	Found in freshwater lakes, ponds, and slow streams.	From California to British Columbia, east to Quebec, and south to Florida, excluding the interior southwestern states.	Occurs within 1.5 miles of the project area; could occur in ponded habitats on or near the project area.

Notes:
[a] Herbarium, Burke Museum of Natural History and Culture 2014.
Source: Unless noted otherwise, this information came from the Washington State Department of Natural Resources, Washington Natural Heritage Program plant species fact sheets at http://www1.dnr.wa.gov/nhp/refdesk/lists/plantsxco/cowlitz.html.

4.6.4.4 Noxious Weeds

The project area supports plant species regulated as noxious weeds. Fourteen noxious weed species have been documented in the project area (Table 4.6-5) (Cowlitz County Noxious Weed Control Board 2015; Washington State Noxious Weed Control Board 2015). No species designated for Cowlitz County as Class A noxious weeds has been observed in the project area (Table 4.6-6 provides definitions for the noxious weed classifications). Six of the species identified in the project area (indigobush [*Amorpha fruticosa*], Scotch broom, policeman's helmet [*Impatiens glandulifera*], Eurasian water milfoil [*Myriophyllum spicatum*], parrotfeather [*Myriophyllum aquaticum*], and water primrose [*Ludwigia hexapetala*]) are considered Class B weeds, and identified as priorities for control, either by Washington State or Cowlitz County. The remaining eight species in the study area are listed Class C noxious weeds, a classification assigned to weeds that are not typically considered a priority for weed control because they are already widespread throughout the state. These species are Canada thistle (*Cirsium arvense*), bull thistle (*Cirsium vulgare*), English ivy (*Hedera helix*), yellow-flag iris (*Iris pseudacorus*), reed canarygrass, Himalayan blackberry, common tansy (*Tanacetum vulgare*), and nonnative cattail.

Table 4.6-5. Noxious Weeds Identified in the Project Area

Noxious Weed Species			Classification		State/County Priority Weed for Control[e]
Common Name	Scientific Name	Location Observed[a,b,c]	State[d]	Cowlitz County[e]	
Indigobush	*Amorpha fruticosa*	Riparian[b]	B	B	Yes/No
Scotch broom	*Cytisus scoparius*	W/U[a, b]	B	B	No/Yes
Policeman's helmet	*Impatiens glandulifera*	W/U[a]	B	B	Yes/Yes
Eurasian water milfoil	*Myriophyllum spicatum*	W/OW[a]	B	B	Yes/No
Parrotfeather	*Myriophyllum aquaticum*	W/OW[a]	B	B	No/No
Water primrose	*Ludwigia hexapetala*	D[c]	B	B	No/No
Canada thistle	*Cirsium arvense*	W/U[a, b]	C	C	No/Yes
Bull thistle	*Cirsium vulgare*	W/U[a, b]	C	C	No/No
English ivy	*Hedera helix*	W/U[a, b]	C	C	No/No
Yellowflag iris	*Iris pseudacorus*	W/D[b]	C	C	No/No
Reed canarygrass	*Phalaris arundinacea*	W/U[a, b]	C	Not listed	No/No
Himalayan blackberry	*Rubus armeniacus*	U[a, b]	C	C	No/No
Common tansy	*Tanacetum vulgare*	U[a]	C	C	No/Yes
Nonnative cattail	*Typha* spp.	W[a, b]	C	C	No/No

Notes:

[a] *Appendix F: Noxious Weeds and Sensitive Plants* in Grette Associates 2014a. Location values: W = wetland; U = upland; D = Ditches; OW = open water

[b] Observations made by ICF during site investigations in April and December 2014.

[c] Observations by Washington State Noxious Weed Control Board (1999).

[d] State classification based on Washington State Noxious Weed Control Board 2015 Noxious Weed List.

[e] County classification and priority for weed control (state and county level) based on Proposed 2015 Cowlitz County Noxious Weed List (Cowlitz County Noxious Weed Control Board 2015).

Table 4.6-6. Washington State Noxious Weed Classification

Class	Definition
A	Nonnative species whose distribution in Washington is still limited. Preventing new infestations and eradicating existing infestations are the highest priority. Eradication of Class A plants is required by law.
B	Nonnative species presently limited to portions of the State. Species are designated for control in regions where they are not yet widespread. Preventing new infestations in these areas is a high priority. In regions where a Class B species is already abundant, control is decided at the local level, with containment as the primary goal.
C	Noxious weeds that are typically widespread in Washington or are of special interest to the state's agricultural industry. The Class C status allows counties to require control if locally desired. Other counties may choose to provide education or technical consultation.

Notes:
Source: Washington State Noxious Weed Control Board 2015.

4.6.5 Impacts

This section describes the potential direct and indirect impacts on vegetation that would result from construction and operation of the Proposed Action and the No-Action Alternative.

4.6.5.1 Proposed Action

This section describes the potential direct and indirect impacts related to vegetation that would result from construction and operation of the Proposed Action and the No-Action Alternative. Direct impacts could result from activities that directly disturb or damage vegetation including such actions as removing vegetation during clearing and grading activities and the physical and chemical management of vegetation and noxious weeds as part of routine facility maintenance. Indirect impacts include the future spread of noxious weeds into areas adjacent to the construction site and the associated changes in plant communities that could result from this activity.

Potential impacts on vegetation were also considered in terms of duration. Permanent impacts would modify vegetation cover types to such a degree that they would not return to their preconstruction state for the life of the project. Temporary vegetation impacts would result in the disturbance of vegetation cover types, but implementation of best management practices, project design components, regulatory requirements, or an on-site vegetation management plan would facilitate reestablishment of vegetation cover types similar to preproject conditions after construction is completed.

The following measures have been identified by the Applicant as measures that would be implemented during operations to suppress coal dust. These measures were considered part of the Proposed Action when evaluating the potential impacts on vegetation.

- The Applicant would implement best management practices and the following project components (and related activities) to avoid and minimize potential impacts associated with coal dust.
    - Conveyors would be:
        - Monitored for general status and washed down regularly.

- Cleaned using high-pressure water in the collection and containment areas, including belts.

- Transfer points would be:
  - Cleaned using high-pressure water as part of regular washdowns of underbelt plating, and water collection and containment system.
- Rail car unloaders would:
  - Use dry fog and water spray systems to control dust.
- Stockpiles would be:
  - Sprayed via a spray system controlled by local and remote weather stations.
  - Managed via a controlled dropper from the stackers to manage height of piles.
  - Cleaned along conveyor berms and sealed roadways.
- Shiploading equipment would be:
  - Discharged below deck of vessel.
  - Cleaned and washed by high-pressure water.

Construction—Direct Impacts

Construction-related activities associated with the Proposed Action would result in direct impacts as described below. As explained in Chapter 2, *Project Objectives, Proposed Action, and Alternatives,* construction-related activities include demolishing existing structures and preparing the site, constructing the rail loop and docks, and constructing supporting infrastructure (e.g., conveyors and transfer towers).

Permanently Remove Vegetation

Clearing and grading would permanently alter or remove approximately 212 acres of land cover types from the direct impacts study area (Table 4.6-7). Most of the clearing would affect disturbed vegetation and weedy areas (Figure 4.6-2).

The majority of the total impact (71%) would occur in areas occupied by developed lands, typically consisting of areas of existing infrastructure and scattered grasses and weeds in and around the developed portions of the project area. Approximately 26.26 acres of upland vegetation would be removed, or 12% of the direct impacts study area. Herbaceous upland vegetation surrounding Wetlands A, C, and Z make up the majority of this acreage. These herbaceous upland areas are generally dominated by reed canarygrass. Approximately 8.90 acres of upland forest would be removed, with most impacts occurring around Wetland A and the areas surrounding the interception ditch and stormwater conveyance. These areas are dominated by native trees, primarily black cottonwood, red alder, Oregon ash, and Pacific willow trees, with an understory of mixed native and invasive shrubs dominated by red elderberry, sweetbriar rose, and Himalayan blackberry. The impacts would occur as a result of construction of the rail loop, stockpile pads, and a series of stacking and reclaim conveyors.

Table 4.6-7. Permanent Impacts by Land Cover and Vegetation Cover Type in the Direct Impacts Study Area

Land Cover Category	Vegetation Cover Type	Impacts in Direct Impacts Study Area (Acres)[b]	Percentage of Cover Type[c]
Developed land	**Developed land total**	**151.14**	**71**
	Forested	8.90	4
	Scrub-shrub	2.11	1
Upland	Herbaceous	10.88	5
	Managed herbaceous	4.37	2
	Upland total	**26.26**	**12**
Wetlands	**Wetlands total[a]**	**24.10**	**12**
Open water	**Open water total**	**10.78[d]**	**5**
Total		**212.28**	**100**

Notes:

[a] For a detailed discussion of wetland impacts, refer to Section 4.3, *Wetlands*.

[b] These are direct impacts on vegetation in the 212-acre project area, which includes the 190-acre terminal plus additional elements (e.g., access roads, docks, and the rail line).

[c] This column represents the percent of cover type in the direct impacts study area that would be affected by construction.

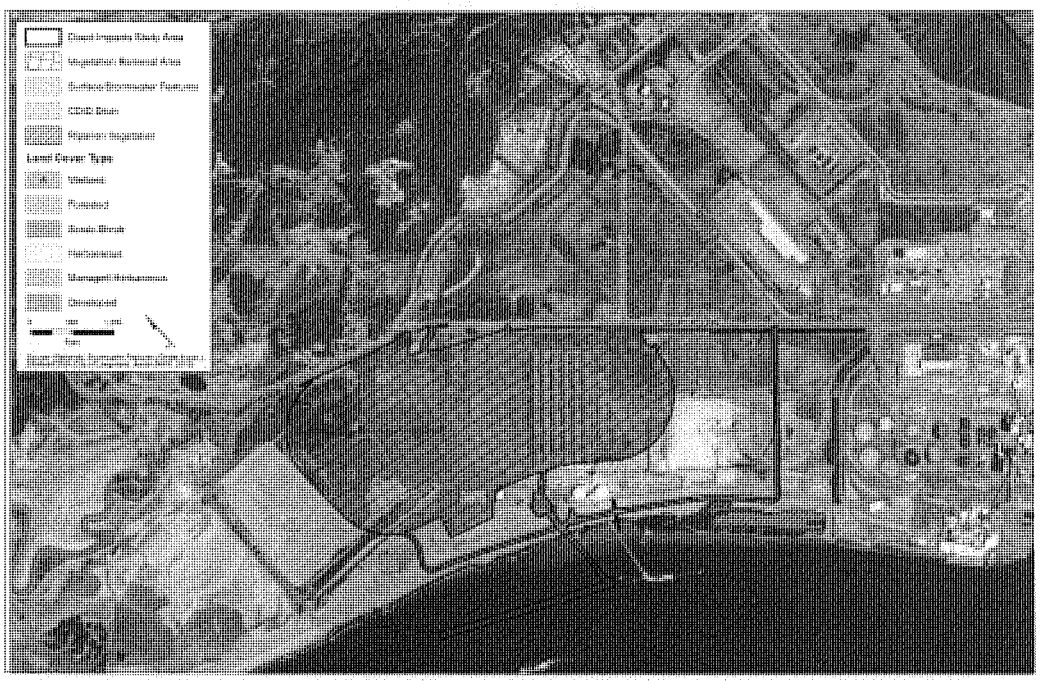
[d] Approximate open water area within footprint of project area. This area includes area of docks and trestle over the open water of the Columbia River. For details on permanent impacts to open water, see Section 4.8 *Wildlife*.

Approximately 0.05 acre of upland forest impact consists of riparian forest. This impact would occur as a result of construction of the trestle that would connect the surge bin to Docks 2 and 3, and would include removing and trimming black cottonwood and willow trees, and understory shrubs as red-osier dogwood and Himalayan blackberry.

Construction would result in the permanent loss of 24.10 acres of vegetated wetland from placement of permanent fill in all of Wetlands A, C, Z, and P2, and a portion of Wetland Y. For a detailed discussion of wetland impacts, refer to Section 4.3 *Wetlands*.

Although no special-status plant species have been recorded in the project area, potentially suitable habitat is present. Should any special-status plant species occur in the project area, they could be destroyed as a result of project construction depending on the location of the plant. Implementation of the proposed mitigation measure to conduct a special-status plant survey would determine presence of special-status plants in the project area and would determine if any special-status plants identified could be avoided or impacts minimized. These surveys would occur during the appropriate time of year, prior to any project related construction activities beginning.

Figure 4.6-2. Impacts on Existing Land Cover Classes and Vegetation Cover Types



Temporarily Disturb Adjacent Vegetation

Construction and staging activities along the edges of the project area could crush and bury adjacent vegetation and compact soil in the direct impacts study area through vehicle use, material storage and stockpiling, and ground disturbance. Ground disturbance related to these activities could also increase the opportunity for stormwater runoff to carry sediments, spilled vehicle fluids, or other construction materials into areas outside of the project area, potentially affecting the health and vigor of adjacent vegetation. Depending on the extent, duration, and content of this runoff, vegetation could be affected through interference with photosynthesis, respiration, growth, and/or reproduction.

Dust from construction activities could also affect vegetation by collecting on leaves and other plant surfaces, potentially inhibiting photosynthesis and other plant functions.

The 35-foot-high preload material piles could provide an area for invasive plant species, including noxious weeds, to colonize. Such conditions would provide a seed source that could be readily dispersed into adjacent areas by wind and runoff, increasing the potential for invasive species and noxious weeds to spread and displace native vegetation.

Special-status plants adjacent to the project area could be temporarily affected by construction. The extent of any such impact cannot be quantified until a special-status plant survey is conducted.

Construction—Indirect Impacts

Construction of the Proposed Action would not result in indirect impacts on vegetation because construction impacts would be limited to the project area, and would not occur later in time or farther removed in distance than the direct impacts.

Operations—Direct Impacts

Direct impacts on vegetation from operation of the Proposed Action would likely be limited to the continued existence and possible colonization by noxious weeds around (and outside) the periphery of the project area, impacts from vessel loading and transport along rail tracks, and control of vegetation under the conveyor and along the rail tracks and rail loop.

Promote Colonization by Noxious Weeds

The disturbed nature of the project area during operations would favor colonization by noxious weeds, which are generally adapted to highly disturbed areas, such as the periphery and other portions of the project area. Areas along rail tracks, along stacking conveyors, and between tracks of the rail loop would be most likely to support noxious weed species. Reed canarygrass, Himalayan blackberry, Canadian and/or bull thistle, and Scotch broom, which are already present on the project area, would likely persist during operations.

Disturb Vegetation during Rail and Vessel Loading

Operation of the Proposed Action could disturb vegetation along the railroad tracks entering the project area, along the shoreline of the Columbia River, and in the shallow waters of the Columbia River near the project area. Such impacts could occur as the result of spills of coal or

other materials associated with operation of the rail cars, the conveyor and stockpiling systems, the mobile maintenance equipment, and the shiploaders.

Direct impacts on aquatic vegetation along the shoreline of the Columbia River cannot be quantified until an aquatic vegetation survey is conducted. Mitigation is proposed to conduct an aquatic vegetation survey (described in Section 4.6.7, *Proposed Mitigation Measures*) to reduce potential impacts on aquatic vegetation prior to initiating in-water work. Impacts on water quality associated with the routine movement of coal near water bodies could also affect vegetation along or in receiving waters. However, stormwater runoff would be collected and treated to remove potential contaminants associated with the operations and maintenance activities (e.g., coal, diesel fuel, oil, hydraulic fuel, antifreeze, tire, and brake dust, exhaust particulates) prior to discharge to the Columbia River. Best management practices and mitigation to reduce potential water quality impacts are detailed in Section 4.5, *Water Quality*.

Although hazardous material spills or leaks could occur, the potential for these to occur and affect the environment would be minimized by appropriate training and the implementation of prevention and control measures. Best management practices and mitigation to reduce potential impacts from spills and leaks are detailed in Chapter 3, Section 3.6, *Hazardous Materials*, Chapter 5, Sections 5.1, *Rail Transportation*, and 5.4, *Vessel Transportation*.

Alter Vegetation during Maintenance Activities

Trees and tall shrubs around the trestle and conveyor to Docks 2 and 3 would likely be regularly trimmed or removed, slightly reducing organic material delivered to the river, shading for the upper beach and shoreline, and native foraging, resting, and perching opportunities for birds. The affected 45- to 50-foot-wide area would be small relative to the approximately 5,000 linear feet of vegetated shoreline in the project area.

Routine vegetation maintenance along the perimeter road, rail tracks, and rail loop would involve trimming trees and tall shrubs within approximately 25 feet of either side of the perimeter road. This maintenance would artificially stunt individual trees and shrubs in these areas but would not measurably reduce the functions of native plant communities because it would be confined to the outermost edges of such communities. Any vegetation that colonizes the disturbed interior of the project area along the rail loop would likely also be removed, controlled, or trimmed to eliminate any interference with the movement of the rail cars, equipment, or personnel.

Any special-status plants that occur along the periphery of the project, along the rail tracks and rail loop, or under the conveyor would be affected by operations as described above. The spatial extent of any such impact cannot be quantified until a special status plant survey is conducted.

Spill Coal during Operations of the Proposed Action

Direct impacts resulting from a coal spill during coal handling at the coal export terminal would likely be minor because the amount of coal that could be spilled would be expected to be small due to the contained nature and features of the terminal and safety mechanisms to stop operations of coal moving equipment. It is anticipated that a small spill could be cleaned up by hand, hand tools, or small mechanized equipment in a short period so as to not stop or delay routine terminal operations. Also, impacts would be negligible because of the absence of vegetation in the project area and the contained nature and design features of the terminal.

Coal spilled into terrestrial environments could affect vegetation. Herbaceous vegetation would be more susceptible to damage and smothering from a coal spill compared to more rigid, woody vegetation like shrubs and trees, which may be better able to withstand the weight and force of a coal spill, depending on the magnitude of the spill. The magnitude of potential impacts would depend on the size (volume) and extent (area) of the coal spill. The physical impact of coal spilled on vegetation would range from minor plant damage to complete loss of vegetation. Some plant species may be more sensitive to coal than other species. Coal dust associated with a coal spill could also cover vegetation, resulting in reduced light penetration and photosynthesis, which could lead to reduced vegetation density and plant diversity. The magnitude of potential coal dust impact would depend on duration of exposure, tolerance of vegetation, and aggressiveness of nonnative species. Cleanup of coal spilled during operations could further affect vegetation by either removing or further damaging vegetation as a result of ground disturbance related to cleanup activities. Any coal remaining on the ground after a cleanup effort could leach chemicals from exposure to rain, which could damage or kill vegetation. However, if this were to occur, the impact area would generally be highly localized and limited to the extent of the spill, and unlikely to disrupt the overall plant community in the project area.

Operations—Indirect Impacts

Operation of the Proposed Action would result in the following indirect impacts.

Deposit Coal Dust on Vegetation

The movement of coal into and around the project area, creation of large stockpiles of coal, and use of open conveyors could generate approximately 14.6 tons of coal particles and fugitive coal dust per year at maximum throughput. Figure 5.7-4 depicts estimated maximum annual coal deposition at varying distances from the project area. Windborne coal dust can deposit on vegetation, soils, and sediments. The potential extent and deposition rate of coal dust particles less than 75 microns in diameter was modeled as part of the air quality analysis. Based on this modeling, the highest rate of coal dust deposition would be expected in the area adjacent to the project area, but smaller particles could also deposit in a zone extending around and downwind of the project area. Deposition rates could range from 1.99 grams per square meter per year ($g/m^2/year$) closest to the project area, gradually declining to less than 0.01 $g/m^2/year$ approximately 2.4 miles from the project area.

The potential zone of deposition includes the coniferous forest vegetation on the hills adjacent to the northern extent of the project area, as well as the riparian vegetation along the shoreline of the river. Deposition rates of less than 0.1 $g/m^2/year$ are projected to occur over the forested communities on Lord Island within the Columbia River just east of the project area, with declining concentrations across the island and to the south and west toward Walker Island.

The impacts of dust on vegetation, including special-status plants, would vary depending on dust load, climatic conditions, and the physical characteristics of the vegetation. Impacts could be physical, such as blocked stomata that alters gas diffusion into and out of the leaves, causing reduced respiration or increased transpiration; altered leaf surface reflectance and light absorption potential; and increased leaf temperature due to optical properties of the dust (Chaston and Doley 2006; Doley 2006; Farmer 1993). The *SEPA Vegetation Technical Report* summarizes studies of the impacts of dust deposition on vegetation. Coal dust deposition is also discussed in Chapter 5, Sections 5.6, *Air Quality*, and 5.7, *Coal Dust*.

Although coal transport could release contaminants such as arsenic and polycyclic hydrocarbons into the soil, concentrations would vary greatly and impacts on vegetation communities in the study area are not known. Given the number and variety of environmental, climatic and plant factors affecting the deposition of dust (Doley 2006), information regarding foliage density, leaf dimensions and characteristics, as well as particle size distribution, dust color, and climatic conditions would likely be needed to determine the level of dust deposition that could affect vegetation or plant functions.

The movement of coal by rail could generate coal particles and fugitive coal dust, which could be deposited on vegetation, soil, and sediments. Coal transported by vessel would be in enclosed cargo holds and is not likely to result in deposition of coal on vegetation along the vessel route in the Columbia River. Coal dust deposition from rail cars is discussed in Chapter 5, Sections 5.6, *Air Quality*, and 5.7, *Coal Dust*. Potential impacts from coal dust deposition on vegetation are the same as described above for the proposed coal export terminal.

Erode Vegetation Due to Vessel Wakes

Increased vessel traffic resulting from the coal export terminal and associated wakes could contribute to erosion of vegetation along the Columbia River. Operation of the coal export terminal at maximum throughput would result in 1,680 vessel transits (i.e., one-way trips either to or from the coal export terminal) a year (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, tidal stage, 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 erodibility), as well as the amount and type of vegetation that occurs along the shoreline.

Shoreline erosion is both a natural process as well as a human-caused process that removes sediment from the shoreline. It is caused by a number of factors including storms, wave action, and wind. Erosion of shoreline sediment can remove the substrate in which vegetation grows, eventually leading to loss of plants. Although erosion does naturally occur, it can be increased by vessel wakes, which can intensify the impacts and/or rate of the erosion process. In riverine environments the wave periods of vessels are longer compared to waves generated by wind. Riverbank vegetation is naturally adapted to the shorter period of wind waves, but not to the longer periods of vessel wakes. Long-period waves are an erosion mechanism to which the riverbank vegetation may be susceptible (Macfarlane and Cox 2004 in Gourlay 2011). While shoreline erosion along the Columbia River currently occurs due to existing vessel traffic, operation of the terminal would increase vessel traffic and probably increase or intensify the extent and/or rate of shoreline erosion and subsequent loss of shoreline vegetation.

The potential for vessel wake impacts on vegetation along the project area shoreline would be limited due to the slope of the shoreline and the general lack of aquatic vegetation near the docks. Additionally, vessels maneuvering near the docks would move very slowly and likely would not generate a wake sufficient to cause shoreline erosion. However, there is potential for erosion along 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 occurring when tugs push vessels into position at docks. There is higher potential for vessel wake impacts on vegetation along the shoreline of the lower Columbia River as a result of

the Proposed Action. Vessel operations in the Lower Columbia River are federally regulated, including size, speed, and navigation. Additionally, large vessels in the lower Columbia River must be operated by pilots licensed by the United States Coast Guard to perform this function. The navigation channel and its ongoing maintenance are also managed and regulated at the federal level.

Disturb Vegetation during Rail and Vessel Transport

Operation of the Proposed Action could indirectly affect vegetation outside of the project area along the rail tracks entering the project area, along the shoreline of the Columbia River, and in the shallow waters of the Columbia River. Such impacts could occur as the result of spills of coal or hazardous materials associated with operation of the trains and vessels transporting coal within the study area. Chapter 3, Section 3.6, *Hazardous Materials*, and Chapter 5, Sections 5.1, *Rail Transportation*, and 5.4, *Vessel Transportation*, provide further details. Washington State oil transfer rules include requirements for trained personnel, procedures, and equipment to prevent a spill during a transfer of oil over water, such as diesel for emergency ship generators.

Spill Coal during Rail Transport

The magnitude of the potential indirect impact from a coal spill on terrestrial environments would be similar to those described previously and would depend on the location of the spill, the volume of the spill, and success of efforts to contain and clean up the spill, none of which can be predicted.

The potential impact of a coal spill from a Proposed Action-related train is directly related to the probability of a Proposed Action-related train incident occurring. Chapter 5, Section 5.2, *Rail Safety*, estimates the number of Proposed Action-related train incidents that could occur during coal transport within Cowlitz County and Washington. The predicted number of incidents of loaded trains related to the Proposed Action is approximately one every 2 years in Cowlitz County or five per year in Washington.

Not every incident of a loaded coal train would necessarily result in a rail car derailment or a coal spill. A train incident could involve one or multiple rail cars, and could include derailment in certain circumstances. The size and speed of the train and the terrain at the location of an incident would influence whether the incident resulted in a coal spill that could have impacts on vegetation. A broad range of spill sizes from a partial rail car to multiple rail cars could occur as a result of a Proposed Action-related train incident.

Additionally, containment and cleanup efforts for coal spills from a rail incident factor into the potential impact on vegetation and the environment. It is expected that coal spills in the terrestrial and built environments would be easier to contain and clean up than spills occurring in an aquatic environment. Spills occurring on land may have a quicker response time and cleanup in some locations due to their visibility and access for cleanup equipment, as compared to spills into aquatic environments. Cleanup of spills in the terrestrial environment could affect vegetation and require restoration.

Potential physical and chemical effects of a coal release in terrestrial environments would be the same or similar to those described above under direct impacts.

4.6.5.2 No-Action Alternative

Under the No-Action Alternative, the Applicant would not construct the Proposed Action. Current operations would continue and the existing bulk product terminal site would be expanded. However, any expansion would be limited to activities that would not require a permit from the U.S. Army Corps of Engineers (Corps) or a shoreline permit from Cowlitz County. Therefore, no construction impacts on aquatic habitats or plant species would be expected to occur as a result of an expansion of the existing bulk production terminal under the No-Action Alternative.

Continued industrial use of the project area over the 20-year analysis period (2018 to 2038) would likely result in the redevelopment of the largely developed upland areas of the project area. New construction, demolition, and activities related to this development could affect the disturbed vegetation that is present throughout the developed portions of the site. Cleanup activities, relative to past industrial uses, would also continue, potentially affecting vegetation in disturbed areas.

4.6.6 Required Permits

No permits related to vegetation would be required for the Proposed Action.

4.6.7 Proposed Mitigation Measures

This section describes the proposed mitigation measures that would reduce impacts related to vegetation from construction and operation of the Proposed Action. These mitigation measures would be implemented in addition to project design measures, best management practices, and compliance with environmental permits, plans, and authorizations that are assumed as part of the Proposed Action.

4.6.7.1 Applicant Mitigation

The Applicant would implement the following measures to mitigate impacts on vegetation.

MM VEG-1. Conduct Rare Plant Surveys Prior to Construction.

To ensure that threatened, endangered, or rare plants are not affected, the Applicant will conduct rare plant surveys of the project area, including the ditches and stormwater conveyance features. Surveys for rare plants will be performed for those rare plants that may occur in Cowlitz County, according to the Washington Natural Heritage Program. Surveys will be performed prior to any project related ground disturbance and during the appropriate survey windows for each species. If such plant species are found, the Applicant will notify and consult with the Washington State Department of Natural Resources, and the U.S. Fish and Wildlife Service (if federally protected species are found). The Applicant and the agencies will work together to determine the appropriate conservation and mitigation measures should potential impacts on any rare plants be possible as a result of ground-disturbing activities.

MM VEG-2. Conduct Aquatic Vegetation Surveys Prior to Construction.

To ensure that aquatic plants along the shoreline of the Columbia River are not affected, the Applicant will conduct an aquatic plant survey along the shoreline of the project area prior to commencing in-water work associated with construction of Docks 2 and 3 and construction related dredging, including all areas within the shallow water zone adjacent to the proposed

docks. If areas of aquatic vegetation are found, the Applicant will notify the Washington State Department of Natural Resources, Cowlitz County, and the U.S. Fish and Wildlife Service, and work with these agencies to develop appropriate conservation or mitigation measures before beginning any in-water work.

MM VEG-3. Replant Areas Temporarily Disturbed during Construction.

To ensure that disturbed native vegetation is restored, after construction the Applicant will replant vegetated areas temporarily disturbed during construction with native vegetation suitable for site conditions post-construction. The Applicant will monitor replanted vegetation annually for 5 years and will ensure the survival of 80% of all replanted vegetation. The Applicant will submit annual monitoring reports to Cowlitz County.

MM VEG-4. Develop and Implement a Revegetation Plan.

To mitigate permanent removal of vegetation from project construction, the Applicant will develop and implement a revegetation plan for the project area. This plan will be approved by Cowlitz County prior to implementation and will be consistent with the Cowlitz County Critical Areas Ordinance 19.15.170.

MM VEG-5. Control Noxious Weeds.

To limit further invasion and colonization of noxious weeds on disturbed land, the Applicant will monitor for noxious weeds during construction and operations and remove noxious weeds that invade new areas of the site. The Applicant will coordinate with the Cowlitz County Noxious Weed Control Board if Class A and B noxious weeds are detected.

MM CDUST-3. Reduce Coal Dust Emissions from Rail Cars.

To address coal dust emissions, the Applicant will not receive coal trains unless surfactant has been applied at the BNSF Railway Company (BNSF) surfactant facility in Pasco, Washington for BNSF trains traveling through Pasco. While other measures to control emissions are allowed by BNSF, those measures were not analyzed in this EIS and would require additional environmental review. For trains that will not have surfactant applied at the BNSF surfactant facility in Pasco, before beginning operations, the Applicant will work with rail companies to implement advanced technology for application of surfactants along the rail routes for Proposed Action-related trains.

MM WQ-2. Develop and Implement a Coal Spill Containment and Cleanup Plan.

To limit the exposure of spilled coal to the terrestrial, aquatic, and built environments during coal handling, the Applicant will develop a containment and cleanup plan. The plan will be reviewed by Cowlitz County and Ecology and implemented prior to beginning export terminal operations. In the event of a coal spill in the aquatic environment by the Applicant during export terminal operations, action will be taken based on the specific coal spill, and the Applicant will develop a cleanup and monitoring plan consistent with the approved containment and cleanup plan. This plan will include water quality and sediment monitoring to determine the potential impact of the coal spill on the aquatic habitat and aquatic species. The Applicant will develop the cleanup and monitoring plan in coordination with Cowlitz County, Ecology, and the Corps. The cleanup and monitoring will be similar in scope to the monitoring completed for the Aquatic

Impact Assessment (Borealis 2015) associated with a coal spill in British Columbia, Canada in 2014.

4.6.8 Unavoidable and Significant Adverse Environmental Impacts

Compliance with laws and implementation of the mitigation measures and design features described above would reduce impacts on vegetation. There would be no unavoidable and significant adverse environmental impacts on vegetation.

4.7 Fish

Fish and fish habitat are important resources of the Columbia River. They include fish listed as endangered or species of concern under state or federal regulations. Resident or anadromous[1] fish species support important tribal, commercial, and recreational fisheries and are integral to healthy freshwater and marine ecosystems.

This section describes fish in the study area. It then describes impacts on fish that could result from construction and operation of the Proposed Action and under the No-Action Alternative. This section also presents the measures identified to mitigate impacts resulting from the Proposed Action.

4.7.1 Regulatory Setting

Laws and regulations relevant to fish are summarized in Table 4.7-1.

Table 4.7-1. Regulations, Statutes, and Guidelines for Fish

Regulation, Statute, Guideline	Description
Federal	
Endangered Species Act (16 USC 1531 *et seq.*)	Requires that applicants seeking a federal action such as issuing a permit under a federal regulation (e.g., NEPA, Clean Water Act, Clean Air Act) undergo consultation with USFWS and/or NMFS. This will ensure the federal action is not likely to jeopardize the continued existence of any listed threatened or endangered animal species or result in the destruction or adverse modification of designated critical habitat. NMFS is responsible for managing, conserving, and protecting ESA-listed marine species. USFWS is responsible for terrestrial and freshwater species. Both NMFS and USFWS are responsible for designating critical habitat for ESA-listed species.
Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267)	Requires fishery management councils to include descriptions of essential fish habitat and potential threats to essential fish habitat in all federal fishery management plans. Also requires federal agencies to consult with NMFS on activities that may adversely affect essential fish habitat.
State	
Washington State Growth Management Act (36.70A RCW)	Defines a variety of critical areas, which are designated and regulated at the local level under city and county critical areas ordinances. These critical areas may include shorelines or portions of fish habitat.
Washington State Shoreline Management Act (90.58 RCW)	Requires cities and counties (through Shoreline Master Programs) to protect shoreline natural resources.

[1] *Anadromous* describes a life history of migration between fresh water and salt water. Reproduction and egg deposition occur in fresh water while rearing to the adult stage occurs in the ocean.

Regulation, Statute, Guideline	Description
Washington State Hydraulic Code (WAC 220-660)	WDFW issues a hydraulic project approval for certain construction projects or activities in or near state waters. The hydraulic code was specifically designed to protect fish life.
Clean Water Act Section 401 Water Quality Certification	Ecology issues Section 401 Water Quality Certification for in-water construction activities to ensure compliance with state water quality standards and other aquatic resources protection requirements under Ecology's authority as outlined in the federal Clean Water Act.
Local	
Cowlitz County Critical Areas Ordinance (CCC 19.15)	Regulates activities within and adjacent to critical areas.
Cowlitz County Shoreline Master Program (CCC 19.20)	Regulates development within shoreline jurisdiction, including the shorelines of the Columbia River, a Shoreline of Statewide Significance.

Notes:
USC = United States Code; NEPA = National Environmental Policy Act; USFWS = U.S. Fish and Wildlife Service; NMFS = National Marine Fisheries Service; ESA = Endangered Species Act; RCW = Revised Code of Washington; WAC = Washington Administrative Code; WDFW = Washington Department of Fish and Wildlife; CCC = Cowlitz County Code; Ecology = Washington State Department of Ecology

4.7.2 Study Area

The study area for direct impacts on fish is the main channel of the Columbia River 3.92 miles upstream and downstream of the project area, measured from the two proposed docks (Figure 4.7-1). This study area accounts for the area where noise from construction or operation of the Proposed Action could affect fish.

The study area for indirect impacts on fish extends downstream from the project area to the mouth of the Columbia River (Figure 4.7-2) and includes areas with shallow-sloping beaches where fish could be stranded by wakes from vessels related to the Proposed Action. The study area for indirect impacts related to potential coal spills from Proposed Action-related trains includes the rail routes in Cowlitz County and Washington State that would be used to transport coal to the coal export terminal (refer to Chapter 5, Section 5.1, *Rail Transportation,* for rail routes in Cowlitz County and Washington State).

4.7.3 Methods

This section describes the sources of information and methods used to evaluate the potential impacts on fish associated with the construction and operation of the Proposed Action and No-Action Alternative.

Figure 4.7-1. Fish Direct Impacts Study Area

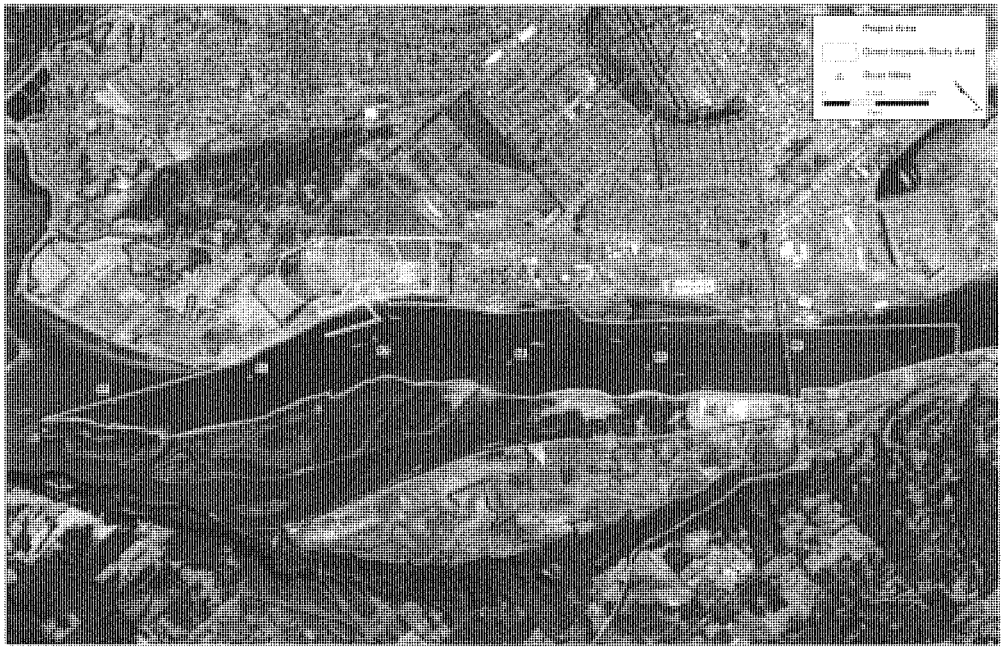
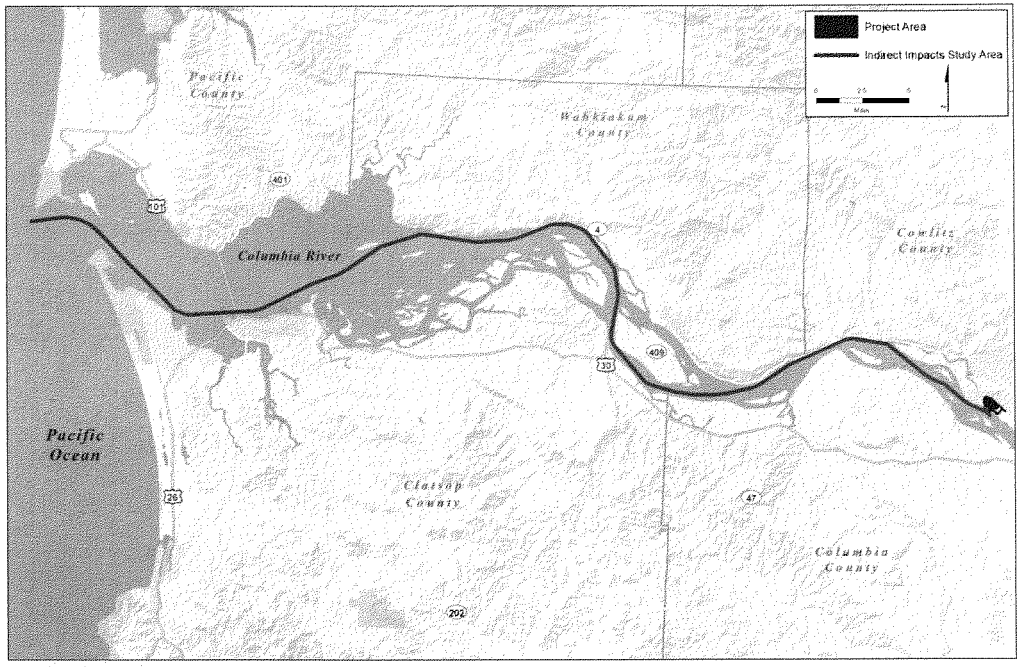


Figure 4.7-2. Fish Indirect Impacts Study Area



4.7.3.1 Information Sources

The following sources of information were used to define the existing conditions relevant to fish and identify the potential impacts of the Proposed Action and No-Action Alternative on fish in the study areas. These sources focus on fish, fish habitat, and aquatic resources in the study areas and, specifically, the aquatic and shoreline habitat adjacent to the project area.

- One site visit conducted by ICF fish biologists on January 29, 2014.
- Reports prepared by Grette Associates for the Applicant as part of the permit application materials. (Grette Associates 2014a, 2014b, 2014c, 2014d).
- National Oceanic and Atmospheric Administration (NOAA) Fisheries West Coast Region species list and listing packages (2014a, 2014b).
- U.S. Fish and Wildlife Service (USFWS) (2014) Information, Planning, and Conservation system online database.
- Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) geographic information system (GIS) data (2015a) and SalmonScape data (2015b).
- Washington Department of Natural Resources, Natural Heritage Program (2014).
- Washington State Department of Ecology (Ecology) 303(d)/305(b) Integrated Report Viewer (2016).
- Fish Passage and Timing Data Columbia River Data Access in Real Time, Columbia Basin Research, University of Washington (juvenile and adult fish passage) (Columbia River Research 2014).

A detailed list of references is provided in the *SEPA Fish Technical Report* (ICF 2017a).

4.7.3.2 Impact Analysis

Potential fish and fish habitat that could be affected by construction and operation of the Proposed Action were determined as follows. For more information on these methods, see the *SEPA Fish Technical Report.*

Identifying Resources in the Study Area

The following species and habitat characteristics were identified and quantified, where possible.

- Documented species occurrences.
- Species likely to occur in the study area.
- Suitable habitat conditions.

Impacts on fish species are qualitatively described because fish are generally mobile and their presence and abundance in the study area cannot be quantitatively predicted at a specific location or time. Where appropriate, species sensitivity to construction or operation impacts is discussed.

Assessing Noise Impacts

Federal agencies have established interim criteria to protect fish from underwater noise generated by pile driving (Fisheries Hydroacoustic Working Group 2008; Carlson et al. 2007). The criteria indicate sound pressure levels of 150 decibels $(dB)_{RMS}$ could result in behavioral changes, while sound pressure levels of 206 dB_{PEAK} could result in injury to fish. Specific dB criteria for Endangered Species Act (ESA)-listed fish are provided in Table 4.7-2. NMFS assumes that a 12-hour recovery period with no exposure to sound is necessary to return to appropriate cumulative sound levels (Stadler and Woodbury 2009).

Table 4.7-2. Underwater Sound-Level Thresholds for Endangered Species Act-Listed Fish

Species	Effect Type	Threshold
All Listed Fish[a]	Injury, cumulative sound (fish ≥2 grams): onset of TTS (auditory response), with onset of auditory tissue damage and nonauditory tissue damage with increasing cumulative sound	187dBSELcum
	Injury, cumulative sound (fish <2 grams): similar to above, onset of nonauditory tissue damage occurs at lower sound levels with smaller fish	183dBSELcum
	Injury, single strike: onset of TTS and auditory tissue damage from single strike	206dBPEAK
	Behavioral disruption	$150dB_{RMS}$

Notes:

[a] Injury thresholds are based on interim criteria that were developed for salmonids based on data specific to hearing generalists with swim bladders (Carlson et al. 2007). NMFS also applied these thresholds to other listed fish with swim bladders (e.g., green sturgeon) and sometimes conservatively to fish without swim bladders (e.g., eulachon). Injury descriptions are based on information summarized in Carlson et al. (2007).

Source: Grette Associates 2014a.

TTS = temporary threshold shift; dB = decibel; SEL = sound exposure level; cum = cumulative; RMS = root mean square.

The criteria for sound pressure levels and underwater noise thresholds described above were applied to proposed pile-driving activities for the Proposed Action. Because the project area is similar to the Columbia River Crossing (the site of a proposed interstate crossing of the Columbia River, between Portland, Oregon and Vancouver, Washington), underwater noise characteristics from pile-driving at that site were used to calculate per-pile levels of underwater noise for the 36-inch diameter pile used for the Proposed Action (Grette Associates 2014a).

A complete description of noise impact models, calculations, and assessments is provided in the *SEPA Fish Technical Report*. Further, project-related vessels could generate underwater noise levels that could cause disturbance, as measured by the applicable noise thresholds for fish. Vessel noise levels were obtained from available literature and are described in the *SEPA Fish Technical Report*.

4.7.4 Existing Conditions

This section describes the existing environmental conditions in the direct and indirect study areas related to fish that could be affected by the construction and operation of the Proposed Action and the No-Action Alternative. Key terms used in this section are defined in Table 4.7-3.

Table 4.7-3. Definitions of Key Terms

Term	Acronym	Definition
Active channel margin	ACM	The shoreline and nearshore edge habitat, extending from the OHWM (+11.1 feet) to 0 feet (Columbia River Datum)
Columbia River Datum	CRD	The adopted fixed low water reference plane for the lower Columbia River.
Decibel	dB	A logarithmic unit used to express the ratio of two values of a physical quantity, often power or intensity.
Deepwater zone	DWZ	The area extending waterward from the edge of the SWZ, approximately 450 feet ranging in depth from -20 feet CRD to -45 feet CRD. Water depths are based on an OHWM of +11.1 feet, CRD.
Distinct population segment	DPS	The smallest division of a taxonomic species permitted to be protected under the ESA.
Essential fish habitat	EFH	Per the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act, EFH includes those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.
Evolutionarily significant unit	ESU	A population of organisms that is considered distinct for purposes of conservation.
Peak	PEAK	The instantaneous maximum overpressure or underpressure observed during each pulse during pile driving.
Primary constituent element	PCE	A physical or biological feature essential to the conservation of a species for which its designated or proposed critical habitat is based on, such as space for individual and population growth, and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, rearing of offspring, germination, or seed dispersal; and habitats that are protected from disturbance or are representative of the species' historic geographic and ecological distribution.
Priority habitat and species	PHS	Program fulfilled by WDFW to provide important fish, wildlife and habitat information to local governments, state and federal agencies, private landowners and consultants, and tribal biologists for land use planning purposes.
Root mean square	RMS	The square root sound of the energy divided by the impulse duration. Essentially, the average of the PEAK energy measured over time.
Shallow water zone	SWZ	The fully inundated near-shore zone extending from the edge of the ACM at 0 feet CRD out to -20 feet CRD.
Sound exposure level	SEL	A metric for acoustic events, often used as an indication of the energy dose.
Temporary threshold shift	TTS	Temporary shift in auditory threshold, such as temporary hearing loss.

The lower Columbia River (Bonneville Dam to the mouth of the Columbia River), which encompasses the study areas, has been affected by extensive modifications for flood control, industrial development, and deep draft vessel traffic. The mainstem Columbia River is deeper than it was historically because of the deepening and periodic maintenance dredging of the navigation channel and the berths in and adjacent to the existing and proposed docks. The hydrologic regime and water temperature have been altered by the operation of dams throughout the Columbia River basin. River flows reverse direction during periods when river flows are low and incoming tides are large. Although the flow reverses in response to tidal fluctuation, saltwater does not intrude as far upstream as the study area and the water remains fresh through the tidal cycle. The study area can be considered a high-energy environment, characterized by strong currents, active bedload transport, and variable patterns of sediment of deposition and erosion (Grette Associates 2014b).

Floodplain habitats have been disconnected from the riverine environment and in some cases eliminated. The shoreline and riparian environment has been substantially altered by extensive shoreline armoring and protection, construction of overwater structures, and development in adjacent upland and riparian zones. These modifications have eliminated and substantially altered habitat conditions and degraded habitat-forming processes, resulting in corresponding changes to the biological communities associated with these habitats.

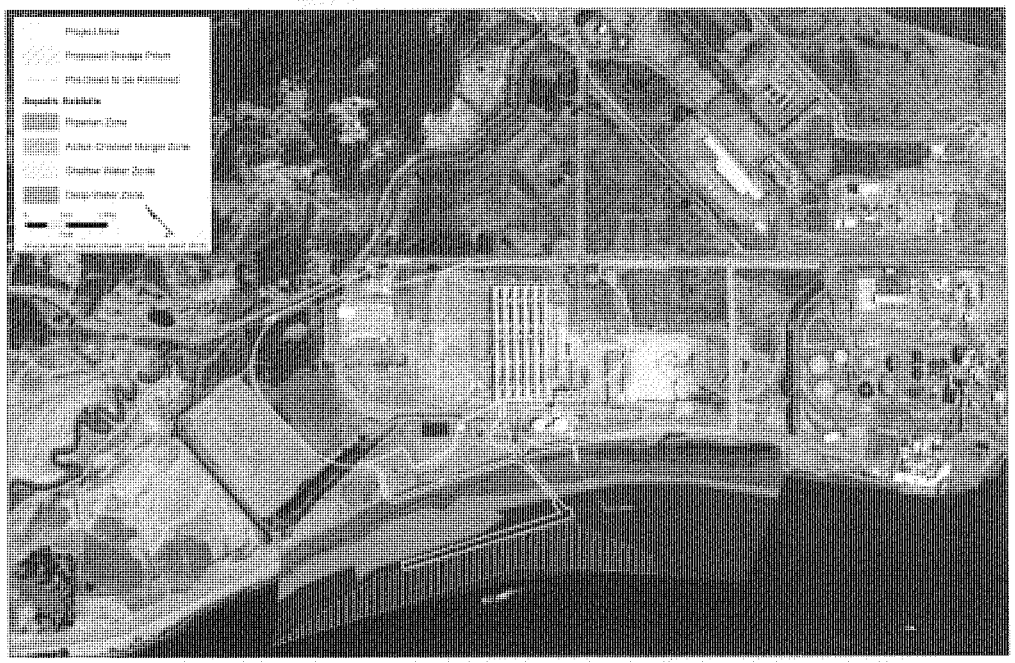
The *SEPA Fish Technical Report* provides information on all the habitat restoration projects that are known to have occurred in the lower Columbia River subbasin (i.e., watershed below Bonneville Dam). This information is from the Lower Columbia River Estuary Partnership database. The Columbia River estuary extends upstream from the mouth of the Columbia River to the Bonneville Dam (Simenstad et al. 2011). It has been considerably degraded from past use due to diking and filling and from water withdrawal for agricultural, municipal, navigation, and industrial purposes. The estuary is also influenced by a number of physical structures (e.g., jetties, piles, pile dikes, bulkheads, revetments, and docks) that contribute to its overall degradation. Habitat-forming processes in the estuary have also been altered by loss of upriver sediment input (now constrained behind upriver dams), changes in flow patterns that move sediments and modify landforms, and channel deepening and dredging.

4.7.4.1 Aquatic Habitat Types

The aquatic habitat in the study area is discussed in terms consistent with habitat equivalency analysis,[2] which describes habitat quality in the context of habitat availability and suitability as a function of water depth and physical attributes. The aquatic portion of the study area adjacent to the project area is composed of three broad habitat types (Grette Associates 2014b): the active channel margin (ACM), the shallow water zone (SWZ), and the deepwater zone (DWZ). The riparian zone is also considered in terms of its interactions with aquatic habitats, as the riparian zone is the transition from aquatic to upland/terrestrial habitat. A plan view showing the extent of each habitat type is provided in Figure 4.7-3.

[2] Habitat equivalency analysis is a tool that can be used to estimate habitat gains and losses across a range of habitat types

Figure 4.7-3. Aquatic Habitat Types Potentially Affected by the Proposed Action



Riparian Zone

The riparian zone includes lands extending approximately 200 feet landward from ordinary high water mark (OHWM). Shoreline armoring and Consolidated Diking Improvement District (CDID) #1 levees have contributed to a low-complexity and artificially steepened upper shoreline with no floodplain connectivity downstream of the proposed new docks. Landward of the shoreline, most of the riparian area has been heavily modified such that there is little remaining habitat function (Grette Associates 2014b). Relative to shoreline areas with intact riparian habitat, the habitat equivalency analysis would rank shoreline habitat at a lower value, especially when compared to similar areas with intact riparian habitat (e.g., Lord Island, immediately across the river) (Grette Associates 2014b). Lord Island also provides habitat for Columbia white-tailed deer. Refer to Section 4.8, *Wildlife*, for further information on Columbia white-tailed deer.

Active Channel Margin

The ACM is defined as the shoreline and nearshore edge habitat, extending from the OHWM line (+11.1 feet CRD) to CRD 0 feet. The ACM near the proposed docks covers approximately 25 acres and extends from 25 to 350 feet offshore (Figure 4.7-2). Water levels in the ACM fluctuate continuously. Portions of the ACM are periodically dewatered by tidal influence and river flow conditions, with the extent and duration of exposure dependent on site-specific topography. Habitat functions in the ACM are strongly influenced by the condition of the shoreline and adjacent riparian zone. The shoreline in this area is highly modified by levees and riprap armoring with scattered large woody debris.

Shallow Water Zone

The SWZ includes the fully inundated near-shore zone extending waterward from the edge of the ACM at 0 feet CRD out to -20 feet CRD. The SWZ covers approximately 34 acres near the proposed docks and extends from approximately 25 to 500 feet offshore. Bottom structure is primarily (90%) flat or shallow sloping substrate, with some moderate slopes out to depths of about -25 feet CRD, where the slope becomes markedly steeper. The substrate consists primarily of silty river sand with little organic matter (Grette Associates 2014b).

Deepwater Zone

The DWZ encompasses approximately 117 acres near the proposed docks, extending waterward from the edge of the SWZ beyond -20 feet CRD. At approximately 450 feet from the shore, it is -20 feet deep CRD; at 1,200 feet from shore, it reaches -45 feet deep CRD. The DWZ is a dynamic environment, characterized by relatively high flows (high water velocity) and sediment transport. Sediments are composed of fine grain sands with little to no gravel or cobble for structure (Grette Associates 2014b).

4.7.4.2 Focus Fish Species

Fish species of special interest include federally and state-listed threatened and endangered fish and their designated critical habitat, as well as species of commercial, recreational, or cultural importance. Table 4.7-4 outlines the focus fish species, the listing status of each species (i.e., state

and federal), habitat types these species typically occupy, and their seasonal occurrence in the study area. Other common native and introduced fish species also occur in the study area.

Salmon and Trout

Eight threatened or endangered salmon evolutionarily significant units (ESUs), five threatened steelhead distinct population segments (DPSs), one threatened bull trout DPS, and their designated critical habitats occur in the study area (Table 4.7-4) (Bottom et al. 2008; National Marine Fisheries Service 2011). In addition, essential fish habitat (EFH) has heen designated for Chinook and coho salmon in the lower Columbia River. The Columbia River estuary is used primarily as migratory and rearing habitat by salmon, steelhead, and bull trout (salmonid), and no salmonid spawning takes place in the study area. Adult anadromous salmonids travel through the estuary and lower river relatively quickly during their migration to upstream spawning grounds, remaining primarily in offshore deepwater habitats. In contrast, juvenile salmonids are present year round and use a wider variety of habitats and exhibit more variable downstream migration speed, taking advantage of shallow water and ACM for foraging and seeking cover.

General salmon reproductive strategies can be divided into two groups: stream-rearing and ocean-rearing. Stream-rearing fish tend to spend extended periods, usually more than a year, rearing in fresh water before immigrating to the ocean. Examples of stream-type fish are steelhead, coho, and spring-run Chinook salmon. In contrast, ocean-type juvenile salmonids tend to return to the ocean in the same year they were spawned. Examples of ocean-type fish are chum salmon, and fall-run Chinook salmon. These strategies affect how each population uses the estuary and how it may be affected by the Proposed Action.

Designated critical habitat for federally protected salmonids within the study area consists of two primary elements: migration corridors and estuarine areas. Additionally, the Columbia River is also EFH, as defined by the Magnuson-Stevens Fishery and Management Conservation Act for Chinook salmon and coho salmon. EFH for Pacific salmon is defined as those waters and substrate necessary for salmon production needed to support a long-term sustainable salmon fishery and salmon contributions to a healthy ecosystem.

A fully functioning ACM provides natural cover (large woody debris, undercut banks, overhanging vegetation), shoreline complexity, shade, submerged and overhanging large woody debris, logjams, and aquatic vegetation. All of these elements are identified in the primary constituent elements (PCEs) of critical habitat for ESA-listed salmon and steelhead, as well as bull trout (Grette Associates 2014b). PCEs are defined as those physical and biological features that a species needs to survive and reproduce. The ACM provides important habitat for juvenile salmon, with different species using different habitat types at different life stages. Table 4.7-4 identifies the seasons when salmon and steelhead species could be present in the ACM portion of the study area.

The SWZ is used primarily as a migratory corridor by adult salmon and steelhead and as foraging habitat by larger juveniles that are capable swimmers in open water. Juvenile Chinook salmon, and sockeye salmon and steelhead smolts are typically found in deeper open water in the SWZ, where they forage on phytoplankton, invertebrates, and small fish (Bottom et al. 2008; Carter et al. 2009).

Table 4.7-4. Status of Focus Species and Seasonal Presences in the Study Area[a]

Species, ESU/DPS	Federal Status[a]	Life Stage	September			October			November			December		
			A[b]	S[b]	D[b]	A	S	D	A	S	D	A	S	D
Chinook Salmon														
Snake River fall-run ESU	T	Adults			X[c]			...						
		Subyr		...[d]	...		...	...		...	...			
Lower Columbia River ESU	T	Adults			X			X						
		Yrlng												...
		Subyr		...	...		...	...		...	...	...		
Upper Willamette River ESU	T	Yrlng												...
		Subyr		...	...		...	...		...	...	...		
Coho Salmon														
Lower Columbia River ESU	T	Adults			X			X			X			X
		Subyr		...			...			...		...	...	
Chum Salmon														
Columbia River ESU	T	Adults						X			X			
		Subyr										...	...	
Steelhead Trout														
Snake River DPS	T	Adults			X			...						
Upper Columbia River DPS	T	Adults			X			...						
Middle Columbia River DPS	T	Adults			X			...[e]						
Lower Columbia River DPS	T	Adults			X			X			X			X
Bull Trout														
Columbia River DPS	T	Adults		...	...		...	...		...	...		...	...
Cutthroat Trout														
Columbia River DPS	NL	Adults/Juveniles		X	X		X	X		X	X		X	X
Green Sturgeon														
Southern DPS	T	Adults/Subadults		X	X		X	X						
Northern DPS	SOC	Adults		X	X		X	X						

Species, ESU/DPS	Federal Status[a]	Life Stage	September		October		November		December	
		Subadults	X	X	X	X				
White Sturgeon										
Lower Columbia River		Adults	X	X	X	X	X	X	X	X
		Subadults	X	X	X	X	X	X	X	X
Eulachon										
Southern DPS	T	Adults					...	...	X	X
		Eggs/Larvae					...	...	X	X
Pacific & River Lamprey										
Multiple populations	NL	Adults	X	X	X	X				
		Ammocoetes	X	X	X	X	X	X	X	X

Notes:
[a] T denotes federally threatened (no Endangered in this table), "NL denotes Not Listed, SOC denotes Species of Concern.
[b] A, S, and D represent the HEA habitat categories of ACM, SWZ, and DWZ; see Grette (2014b) Section 3.2.3.1 for additional information.
[c] X denotes expected or potential presence; see Grette Associates (2014b), Section 3.3 for additional information.
[d] "..." denotes expected presence but low relative abundance; see Grette Associates (2014b), Section 3.3 for additional information.
[e] The Middle Columbia River DPS includes a very small proportion of winter-run fish (Klickitat River, Fifteen-Mile Creek); because passage data at Bonneville Dam indicate that the vast majority of steelhead have passed the dam by early October, it is assumed that this includes winter steelhead spawning above it.
ESU = Evolutionary Significant Unit; DPS = Distinct Population Segment; Subyr = subyearling; Yrlng = yearling.

Juvenile Chinook salmon are most commonly present from March through July but juveniles of certain runs may be found in the SWZ during any month of the year. Juvenile coho salmon and steelhead are less likely to be found in the shallower areas but are abundant in deepwater offshore habitats during their outmigration period (Roegner and Sobocinski 2008), indicating that they likely occur in the deeper areas of the SWZ.

The DWZ provides a migratory corridor for adult salmon and steelhead and foraging and migratory habitat for larger juvenile Chinook salmon, coho salmon, and sockeye salmon and steelhead smolts pursuing phytoplankton, invertebrates, and small fish (Bottom et al. 2008; Carter et al. 2009; Roegner and Sobocinski 2008). Generally, juvenile salmonids do not reside in specific habitats in the lower Columbia River for extended periods, remaining in a given area for just a day or two before moving downstream to new suitable habitats (Bottom et al. 2008; Johnson et al. 2003). Juvenile and adult salmon and steelhead are likely to be found in the DWZ during their respective migration and rearing periods (Table 4.7-4) as outmigrating salmonids (particularly stream type) tend to use deepwater (Carter et al. 2009).

Bull Trout (Char)

Columbia River bull trout are listed as threatened, and there is one extant population in the Lewis River subbasin, which drains to the lower Columbia River below Bonneville Dam. Bull trout migrate to the mainstem Columbia River to rear, overwinter, or migrate to and from spawning areas. This indicates the possibility that more distant populations (e.g., Klickitat, Deschutes, Willamette) may migrate to and forage in the project vicinity or could in the future, but the extent to which different bull trout populations use the lower Columbia River is uncertain (Carter et al. 2009). The Lower Columbia Recovery Team considers the mainstem Columbia River to contain core habitat that may be important for full recovery of Columbia River bull trout (U.S. Fish and Wildlife Service 2002). Bull trout have occasionally been observed in the lower Columbia River as foraging or migrating adults and subadults, most likely originating from accessible lower Columbia River tributaries with extant bull trout populations. Subadults may occur in the study area throughout the year in shallow rearing habitats of the ACM and SWZ while adults are more likely to occur in the deeper areas of the SWZ and the DWZ (U.S. Army Corps of Engineers 2004).

Eulachon

Eulachon are small anadromous fish in the smelt family (*Osmeridae*), sometimes known as Columbia River smelt (among other names), that spawn in coastal rivers and migrate to the ocean to rear to adulthood. The lower Columbia River up to Bonneville Dam and the lower reaches of those tributary streams that provide potential spawning habitats (i.e., Grays, Elochoman, Cowlitz, Kalama, Lewis and Sandy Rivers) have been designated as critical habitat (76 *Federal Register* [FR] 65324). Currently, the lower mainstem Columbia River and the Cowlitz River support the majority of eulachon production in the system (Gustafson et al. 2010). However, in years of relative abundance, spawning occurs broadly in the tidally influenced portions of the Columbia River and its tributaries (Grette Associates 2014b).

WDFW and ODFW conducted plankton tows to sample for eulachon eggs and larvae between the Port of Longview above Barlow Point and the channel below the Cowlitz River mouth including four sample sites offshore near the project area (Mallette 2014). Peak larval abundance occurred in mid-March during two of the three survey years and in late April/early May in the third (Mallette 2014).

As part of a related one-time sampling effort, eulachon eggs/larvae were documented in plankton tows at six sample sites (inshore and offshore) near the project area between river miles 62.8 and 64.0 in February 2012 (Mallette 2014: Report B). Eggs could be present from December through April; however, peak of spawning season is usually in February or March. Larval eulachon, particularly from spawning aggregations in the Cowlitz River, likely pass through the study area as they are transported downriver. Further, it is likely that at least limited spawning occurs in the mainstem Columbia River, as documented on the Oregon side of the Columbia River by Mallette (2014). Mallette (2014) found the greatest numbers of eulachon larvae were found in samples collected well downstream of the Lewis, Kalama, and Cowlitz rivers and upstream of the Elochoman (rivers with known eulachon spawning). While the relatively distant proximity of sampling events to known spawning areas does not discount the possibility that larvae in samples may be the product of spawning in these tributaries, Mallette (2014) concluded that these findings highlight the potential for at least limited spawning in the mainstem Columbia River.

Adult eulachon could arrive in the study area as early as November, although most adults would migrate through the study area during peak spawning between February and March. Eggs from early spawners could be transported with currents from the tributaries downstream to portions of the study area where suitable incubation conditions exist (i.e., sand waves) shortly thereafter. Emergent larvae could be present in the study area as early as December. However, based on the timing of peak spawning, and because incubation occurs for 1 to 2 months (Grette Associates 2014b), peak larval transport has been shown to occur between mid-March and early May (Mallette 2014).

Dredging in the Columbia River is identified as an activity of concern for eulachon conservation because this activity takes place in proximity to known and potential eulachon habitats. Dredging activities during the migratory and spawning period could entrain and kill adult fish, eggs, and larvae; bury and smother incubating eggs; or cause stress and disturbance that could contribute to decreased spawning success (National Marine Fisheries Service 2010).

Sturgeon

Both green and white sturgeon may be present in the deepwater habitats of the study area as adults and subadults. Two green sturgeon DPSs occur in in the lower Columbia River. While this species does not spawn in the Columbia River or its tributaries, subadult and adult green sturgeon from all major spawning populations use the lower Columbia River and other coastal estuaries in Oregon and Washington for holding habitat in the summer and early fall (Adams et al. 2002; Lindley et al. 2011; Moser and Lindley 2007). Sturgeon are most commonly found in association with the bottom, where they feed on a mixture of aquatic insects and benthic (i.e., bottom dwelling) invertebrates (Adams et al. 2002; Independent Scientific Review Panel 2013). The water depth preferences of white sturgeon indicate this species is most likely to be found in the DWZ, but individuals may also be present in the SWZ and, infrequently, in the ACM. The DWZ near the proposed docks does not provide suitable substrates for white sturgeon spawning or larval rearing, so these life stages are unlikely to occur for extended periods in this area. In contrast, juvenile white sturgeon are found throughout the lower Columbia River and use a wide variety of habitats, including both main-channel and off-channel areas. They are most commonly found at water depths greater than 33 feet (Independent Scientific Review Panel 2013).

The white sturgeon population in the Columbia River downstream from Bonneville Dam has been among the most productive sturgeon populations in North America. White sturgeon downstream from Bonneville Dam continue to range freely throughout the lower river mainstem, estuary, and marine habitats to take advantage of dynamic seasonal patterns of food availability. Individual growth, condition, and maturation values from the Lower Columbia River remain among the highest observed for white sturgeon range-wide. Habitat use of subadults and adults varies with habitat availability. Given the abundance and mobility of white sturgeon in the Lower Columbia River, there likely would be some present during construction and operation of the Proposed Action.

Lamprey

Lamprey are primitive anadromous fish that spend their adult lives in the ocean but return to freshwater habitats for spawning and larval rearing. Two species, Pacific and river lamprey, spawn in tributaries to the Columbia River and migrate through the study area as adults and juveniles. Adults migrate through the lower Columbia River from March through October on their return to spawning tributaries (Columbia River Research 2014). Adult lamprey ascend rivers by swimming upstream briefly, sucking to rocks, resting, and then proceeding. Larval lamprey (ammocoetes) hatch after 2 to 3 weeks and are dispersed downstream by currents to slack-water areas with soft substrates, where they settle in sediments. The larval lamprey burrow into soft substrate where they may reside for 3 to 8 years as filter feeders. Late in tbe larval lamprey's life stage, unknown factors trigger metamorphosis, when larval lamprey become juvenile lamprey. During late winter or early spring, juvenile lamprey migrate to the ocean where they mature. The study area lacks suitable spawning substrates for either species. Juvenile and adult lamprey may be present in the SWZ and DWZ during their respective migration periods (Table 4.7-4).

4.7.4.3 Nonfocus Fish

The nonfocus fish (Table 4.7-5) are important food fish (harvested commercially and recreationally), game fish (harvested recreationally), or on Washington's PHS list. Two of the species, mountain whitefish (*Prosopium williamsoni*) and leopard dace (*Rhinichthys falcutus*), are on Washington's PHS list as state candidate species. Both species are widely distributed in the Columbia and Fraser River basins. The remainder of the species in this group are important as commercial or recreational species. Most are abundant and widely distributed in the system, including several introduced species. Some are known predators of juvenile salmonid, such as largemouth bass, northern pikeminnow, smallmouth bass, striped bass, and walleye.

Table 4.7-5. Nonfocus Fish Species that Could Occur in the Study Area

Species	Reason for Interest	Native or Introduced
Channel catfish (*Ictalurus punctatus*)	WDFW game fish	I
Common carp (*Cyprinus carpio*)	WDFW food fish	I
Largemouth bass (*Micropterus salmoides*)	WDFW game fish	I
Leopard dace (*Rhinichthys falcutus*)	WDFW PHS	N
Mountain sucker (*Catostomus platyrhuchus*)	WDFW PHS, WDFW game fish	N
Mountain whitefish (*Prosopium williamsoni*)	WDFW game fish	N
Northern pikeminnow (*Ptychocheilus oregonensis*)	WDFW game fish	N
Peamouth (*Mylocheilus caurinus*)	WDFW game fish	N
Perch (family Percidae)	WDFW game fish	I
Shad (subfamily Alosinae)	WDFW food fish	I
Smallmouth bass (*Micropterus dolomieu*)	WDFW game fish	I
Suckers (family Catostomidae)	WDFW game fish	N
Sunfish (family Centrarchidae)	WDFW game fish	I
Striped bass (*Morone saxatilis*)	WDFW game fish	I
Walleye (*Sander vitreus*)	WDFW game fish	I

Notes:
Source: Grette Associates 2014b.
WDFW = Washington Department of Fish and Wildlife; PHS = Priority Habitats and Species; I = introduced; N = native

4.7.4.4 Commercial, Tribal and Recreational Fishing

Commercial, tribal, and recreational fisheries in the lower Columbia River are managed by the States of Washington and Oregon, and tribes, subject to the terms of the 2008–2017 *United States v. Oregon* Management Agreement. The agreement establishes tribal harvest allocations and upholds the right of tribes to fish for salmon in their usual and accustomed fishing grounds. Commercial and recreational fishing primarily target hatchery-produced salmon and steelhead, as well as sturgeon and other game fish. Tribal fish resources are discussed in Chapter 3, Section 3.6, *Tribal Resources*.

Commercial fisheries in these waters are managed under the Columbia River Compact, a congressionally mandated process that adopts seasons and rules for Columbia River commercial fisheries (National Marine Fisheries Service 2015). The Columbia River Compact consists of the Washington and Oregon Departments of Fish and Wildlife Directors or their delegates, acting on behalf of the Oregon and Washington Fish and Wildlife Commission. The Columbia River Compact is charged by congressional and statutory authority to adopt seasons and rules for Columbia River commercial fishers. When addressing commercial seasons for salmon, steelhead, and sturgeon, the Columbia River Compact must consider the effect of the commercial fishery on escapement, treaty rights, and sport fisheries, as well as the impact on species listed under the federal ESA. Although the Columbia River Compact has no authority to adopt sport fishing seasons or rules, its inherent responsibility is to address the allocation of limited resources among users. This responsibility has become increasingly demanding in recent years. The Columbia River Compact can be expected to be more conservative than in the past when considering fisheries that will affect listed salmon and steelhead (National Marine Fisheries Service 2015).

In Washington, recreational fishing seasons and rules are updated annually and presented in the Washington Sport Fishing Rules pamphlet. Sport fishing seasons are generally established for July 1 through June 30 of the following year. The pamphlet covers all fresh waters and marine waters in Washington, including the lower Columbia River, and describes the seasons and rules for recreational fishing for finfish and shellfish or seaweed.

4.7.4.5 Water Quality Conditions

Sediment conditions in the study area are generally uniform with slight variations between aquatic habitat types. ACM sediments are primarily sand mixed with silt, SWZ sediments are primarily sand, and DWZ sediments are primarily silt mixed with sand (Grette Associates 2014b). The lower Columbia River is listed as a Washington State 303(d) impaired water and is classified by Ecology as a Category 5 polluted water for dissolved oxygen, bacteria, temperature, Dieldrin (organochlorine insecticide), PCB (polychlorinated biphenyl), 2,3,7,8 TCDD (tetrachlorodibenzo-p-dioxin), and 4,4,4 DDE (dichlorodiphenyldichloroethylene) (Washington State Department of Ecology 2016). At the project area, the Columbia River is listed as 303(d) impaired for bacteria and temperature. Over the years, downstream salinity patterns have changed, but intrusion and salinity within the study area are generally similar to historic patterns. Turbidity in the study area is variable based on a number of factors. For example, over 5 days of water quality monitoring for dredging, background levels (upstream from active dredging) ranged from the mid-20s to the mid-60s nephelometric turbidity units (NTUs) at all water depths (U.S. Army Corps of Engineers Dredged Material Management Office 2010 in Grette Associates 2014b). Water temperature within the study area ranges from low 40s to low 70s (°F), which is slightly warmer than historic values (Bottom et al. 2008). Salmonids typically move from habitat areas as temperatures approach 66°F, and the study area habitat within the ACM and upper SWZ likely reaches this threshold and may become unsuitable for juveniles salmonids in the summer months. Refer to Section 4.5, *Water Quality*, for further information regarding water quality conditions near the project area.

4.7.4.6 Fish Stranding

A growing body of evidence indicates that juvenile salmon and other fish are at risk of stranding on wide, gently sloping beaches because of wakes generated by deep draft vessel passage (Bauersfeld 1977; Hinton and Emmett 1994; Pearson et al. 2006; ENTRIX 2008). Depending on the slope and breadth of a beach, wakes from passing vessels can travel a considerable distance, carrying fish and depositing them on the beach where they are susceptible to stress, suffocation, and predation.

Pearson et al. (2006) published the most detailed study of Columbia River fish stranding completed to date. They evaluated stranding at three sites in the lower Columbia River: Sauvie Island, Barlow Point (adjacent to the project area), and County Line Park. The sites were chosen because prior work had established them as sites with a high risk of stranding (Bauersfeld 1977). Pearson et al. (2006) observed 126 vessel passages, 46 of which caused stranding. They also measured numerous site variables such as fish density (measured via beach seining), site topography, river stage, current velocity, tidal stage, tidal height, and a variety of vessel variables including direction of movement, velocity, ship type, ship size, and draft. Although the study provides an understanding of the factors that contribute to stranding, it does not create a predictive model because it was limited to analysis of known or suspected high-risk sites. From the study, certain sites appear to be more susceptible to stranding than others. For example, the highest occurrence of stranding occurred at Barlow Point, where 53% of the observed passages resulted in stranding. Stranding occurred less frequently at

Sauvie Island (37% of the observed passages resulted in stranding) and County Line Park (15% of observed passages resulted in stranding) (Pearson et al. 2006). The Proposed Action would add 1,680 vessel transits to the Columbia River at full buildout (840 vessels transiting to and from the project area), which would introduce additional permanent risk of fish stranding in the Columbia River. However, Barlow Point is directly downstream from the Proposed Action and vessels would be slowing as they approach the docks and accelerating as they leave the docks, which could reduce the size of vessel wakes generated by vessels associated with the Proposed Action at Barlow Point. Other sites downstream of Barlow Point would be susceptible to increased risk of fish stranding because of the vessels associated with the Proposed Action.

4.7.5 Impacts

This section describes the potential direct and indirect impacts related to fish and fish habitat that would result from the construction and operation of the Proposed Action and the No-Action Alternative.[3] The Corps is conducting a review of the Proposed Action under NEPA, as the lead federal agency, and will be consulting under Section 7 of the federal ESA with both the USFWS and the NMFS. Additional measures may be identified under one or both of these processes that could further reduce potential impacts on fish and fish habitat.

4.7.5.1 Proposed Action

This section describes the potential impacts that could occur in the study areas as a result of construction and operation of the Proposed Action. The Applicant has identified the following design features and best management practices to be implemented as part of the Proposed Action, and were considered when evaluating potential impacts of the Proposed Action. Some or all of these measures may be terms and conditions of permits that would be issued for the project, should the project be permitted.

- The Applicant would design the trestle to be long and narrow, and at a height above the OHWM to minimize shading in the shallow water zone. From shore, the trestle would measure 24 feet in width for 700 feet, and 51 feet in width for the final 150 feet. The top of the deck would be +22 feet CRD and the bottom of the deck +19.5 feet CRD. Therefore, the bottom of the deck would be more than 8 feet above OHW. This design would minimize overall impacts in shallow water, including impacts on habitat connectivity along the shoreline.
- The Applicant would locate Docks 2 and 3 entirely in deepwater habitat to distance the structure and terminal activities from shallow water areas.
- The Applicant would install pile caps on all project-related piling to minimize perching/roosting opportunities for piscivorous birds on the trestle and docks.
- The Applicant would locate the berthing area at water depths of at least -20 feet CRD to avoid habitat conversion from shallow to deepwater during dredging.
- The Applicant would locate the berthing area in deepwater closer to the navigation channel to minimize the scope of future maintenance dredging.

[3] Acreages presented in the impacts analysis were calculated using Geographic Information System (GIS), thus, specific acreage of impacts are an estimate of area based on the best available information.

- The Applicant would direct project lighting downward or at structures, and would incorporate shielding to avoid spillage of light into aquatic areas.
- The Applicant would include a pinpoint light source at the end of the shiploading boom, aimed straight down into the ship hold area to avoid a broader beam that could cause light spillage.
- The Applicant would remove the piles slowly to minimize sediment disturbance and turbidity in the water column.
- Prior to pile extraction, the Applicant would break the friction between the pile and substrate to minimize sediment disturbance.
- The Applicant would conduct impact pile-driving using a confined bubble curtain or similar sound attenuation system capable of achieving approximately 9 dB of sound attenuation.
- During pile removal and pile driving, the Applicant would place a containment boom around the perimeter of the work area to capture wood debris and other materials released into the waters as a result of construction activities. The Applicant would collect all accumulated debris and dispose of it upland at an approved disposal site. The Applicant would deploy absorbent pads should any sheen be observed.
- The Applicant would provide a containment basin on the work surface on the barge deck or pier for piles and any sediment removed during pulling. The Applicant would dispose of any sediment collected in the containment basin at an appropriate upland facility, as with all components of the basin (e.g., straw bales, geotextile fabric) and all pile removed.
- Upon removal from substrate, the Applicant would move the pile expeditiously from the water into the containment basin. The Applicant would not shake, hose, strip, or scrape the pile, nor leave it hanging to drip or any other action intended to clean or remove adhering material from the pile.
- The Applicant would limit the impact of turbidity to a defined mixing zone and otherwise comply with WAC 173-201A.
- The Applicant would not stockpile dredged material on the river bottom surface.
- The Applicant would contain all dredged material in a barge prior to flow lane disposal; dredged material would not be stockpiled on the riverbed.
- During hydraulic dredging, the Applicant would not operate hydraulic pumps unless the dredge intake is within 3 feet of the bottom.
- The Applicant would remove any floating oil, sheen, or debris within the work area as necessary to prevent loss of materials from the site. The Applicant would be responsible for retrieval of any floating oil, sheen, or debris from the work area and any damages resulting from the loss.
- The Applicant would dispose materials to the flow lane using a bottom-dump barge or hopper dredge. These systems release material below the surface, minimizing surface turbidity.
- The Applicant would have a spill containment kit, including oil-absorbent materials, on site to be used in the event of a spill or if any oil product is observed in the water.
- The Applicant would not allow barges to ground out during construction.
- The Applicant would be required to retrieve any floating debris generated during construction using a skiff and a net. The Applicant would dispose of debris at an appropriate upland facility. If

necessary, the Applicant would install a floating boom to collect any floated debris generated during in-water operations.

- The Applicant would not allow land-based construction equipment to enter any shoreline body of water except as authorized.
- The Applicant would store, handle, and use all fuel and chemicals in a fashion to ensure that they do not enter the water.

Construction activities that could affect fish or fish habitat include the following.

- Permanent removal or temporary alteration of fish habitat and prey resources from dredging and pile installation.
- Noise impacts on fish associated with pile driving.
- Shading of aquatic habitat during construction from construction vessels and construction of docks.
- Spills and leaks during construction from equipment or storage of potentially hazardous materials.

Operation activities that could affect fish or fish habitat include the following.

- Shading of aquatic habitat from Docks 2 and 3 and vessels.
- Spills and leaks of potentially hazardous materials associated with operations (i.e., fuel, hydraulic fluids, lubricants, or other chemicals).
- Vessel generated noise.
- Vessel generated wakes resulting in fish stranding.
- Impacts on fish and benthic habitat during maintenance dredging.
- Coal dust deposition in aquatic environments.

Construction—Direct Impacts

Construction-related activities associated with the Proposed Action could result in direct impacts as described below. As explained in Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, construction-related activities include demolishing existing structures and preparing the site, constructing the rail loop and dock, and constructing supporting infrastructure (i.e., conveyors and transfer towers).

Temporarily Alter and Permanently Remove Aquatic Habitat

Construction of the proposed docks would temporarily alter or permanently remove aquatic habitat in the Columbia River adjacent to the project area. A total of 610, 36-inch-diameter steel piles would be placed in-water, permanently removing 0.10 acre (4,312 square feet) of benthic habitat. The majority of this habitat is located in the DWZ, and pile placement would result in the loss of benthic habitat and primary and secondary production from affected benthic habitat. Benthic, epibenthic (i.e., living at the water-substrate interface), or infaunal (i.e., beneath the surface of the river floor) organisms within the footprint of individual piles at the time of pile driving would likely perish.

Existing creosote-treated piles would be removed from portions of two existing timber pile dikes. Removal of approximately 225 lineal feet of pile dike would result in long-term benefits by removing a source of creosote, a mixture of polycyclic aromatic hydrocarbons (PAHs) and other chemicals that are toxic to aquatic organisms (Brooks 1995). However, removal could temporarily increase suspended sediments, resulting in short-term contamination of water and long-term contamination of sediments from creosote piling that have been in place for many years, which may be mobilized during extraction and result in temporary water contamination.

Dredging would permanently alter a 48-acre area of benthic habitat in the DWZ by removing approximately 500,000 cubic yards of benthic sediment to achieve a water depth of -43 feet CRD, with a 2-foot overdredge allowance. Water depth would be increased by up to 16 feet in the dredge prism (i.e., extent of the area to be dredged).

Sediment sampling from within, adjacent to, and upstream of the project area has demonstrated that in deepwater areas of the Columbia River, sediments are typically composed of silty sands with a low proportion of fines (e.g., silt or mud) and very low total organic carbon. Further, sediments sampled from deepwater areas in the project vicinity have consistently met suitability requirements for flow lane disposal or beneficial use in the Columbia River (Grette Associates 2014b). Sediment within the dredge prism for Docks 2 and 3 would be evaluated in the permit process for suitability for flow lane disposal or beneficial use in the Columbia River. However, as part of the permit process for the Proposed Action, including dredging, the Applicant would conduct site-specific sediment sampling to characterize the proposed dredge prism and comply with the dredged materials management plan (Grette Associates 2014b). The disposal area for dredged materials is anticipated to be approximately 80 to 110 acres. The actual acreage and specific location of the disposal site would be determined by the permitting agencies and would be based on sediment characteristics (i.e., consistency and density of sediments). Recent authorizations for flow lane disposal of dredged materials in the Columbia River in the vicinity of the project area were generally in or adjacent to the Columbia River navigation channel between approximately river miles 60 and 66 (Grette Associates 2014c). Riparian vegetation at the project area is sparse and degraded. Project construction would not result in measurable impacts on riparian vegetation or habitat conditions.

Entrain Aquatic Organisms during Hydraulic Dredging

Fish, fish eggs, and fish larvae (i.e., eulachon eggs, lamprey ammocoetes) that occur within the dredge prism could become entrained during hydraulic dredging. It is assumed that adherence to the in-water work window for the Proposed Action, to be defined within permits issued for the Proposed Action, would be protective of the most vulnerable life-history stages for affected fish, however some life-history stages could occur in the dredge prism year-round (i.e., lamprey ammocoetes). Thus, it is recognized that not all potential impacts associated with entrainment during hydraulic dredging would be avoided. Additionally, because the in-water work window is unknown at this time and would not be defined until the Applicant obtains the necessary permits to construct the Proposed Action, and dredging would occur periodically over the life of the project, mitigation is proposed for the Applicant to conduct monitoring during hydraulic dredging operations to avoid and minimize potential impacts to fish (refer to Section 4.7.7, *Proposed Mitigation Measures,* for further details). Additionally, this mitigation is also proposed because the magnitude of the periodic dredging would vary both in terms of frequency and quantity, which cannot be fully defined at this time. This mitigation measure would contribute to

avoiding and minimizing potential impacts to fish, fish eggs and fish larvae related to hydraulic dredging.

The majority of benthic, epibenthic, and infaunal organisms within the proposed dredge prism would likely perish during dredging. Recolonization by benthic, epibenthic, and infaunal organisms would be rapid, and disturbed habitats would return to reference conditions following recolonization by benthic organisms (McCabe et al. 1996). Typically benthic organisms require 30 to 45 days to recolonize disturbed environments.

Cause Physical or Behavioral Reponses from Elevated Turbidity during Pile-Driving and Dredge Disposal

Removal of piles and the dredging and disposal of dredge materials would temporarily increase turbidity. The Proposed Action would permanently affect approximately 48 acres of benthic habitat due to dredging activities (i.e., removal of benthic habitat and benthic organisms) and 610 piles for construction of the docks. Suspended sediment concentrations near dredging activity do not typically cause gill damage to salmonids (Servizi and Martens 1992; Stober et al. 1981).

Behavioral effects related to increased turbidity are another consideration. Some of the documented behavioral effects of turbidity on fish include avoidance, disorientation, decreased reaction time, increased or decreased predation and increased or decreased feeding activity. However, many fish species (especially estuarine species) have been documented to prefer higher levels of turbidity for cover from predators and for feeding strategies. For example, increased foraging rates for juvenile Chinook salmon were attributable to increase in cover provided by increased turbidity, while juvenile steelhead and coho salmon had reduced feeding activity and prey capture rates at relatively low turbidity levels. Juvenile Chinook salmon were also found to have reduced predator-avoidance recovery time after exposure to turbid water. (ECORP Consulting 2009). Thus, while there may be some beneficial behavioral effects from increased turbidity, it is expected that for many of the focus fish species and native nonfocus fish species behavior effects from increased turbidity would generally be negative. Although it is difficult to determine exactly how much of a temporary increase in turbidity would result from the construction activities, increases in suspended sediments are expected to be relatively short term, occurring during in-water construction activities and maintenance dredging. Thus, in-water construction and maintenance activities would not result in chronic sediment delivery to adjacent waters, because sediments would be disturbed only during in-water work and, thus, temporary.

The temporary increase in turbidity from the Proposed Action is expected to be short term and would not result in chronic sediment delivery to adjacent waters. Construction-related dredging is proposed to occur from August 1 through December 31, when many fish species would be present in the study area. Impacts on water quality from dredging would be minimized with the preparation and implementation of a dredging plan in compliance with the dredged material management program (DMMP) as required by state agencies (Ecology and Washington State Department of Natural Resources) and federal agencies (the Corps and EPA). Adhering to a plan developed in compliance with DMMP would minimize, but not eliminate, water-quality impacts, ensuring that potential impacts are temporary and localized in nature. No long-term changes in the baseline conditions in the study area would be expected to occur.

Cause Physical or Behavioral Responses to Underwater Noise during Pile-Driving

Installation of 610 structural steel piles to support Docks 2 and 3 would generate underwater noise during pile-driving (Grette Associates 2014a). Most piles would be installed to a depth approximately 140 to 165 feet below the mudline to provide the necessary resistance to support Docks 2 and 3, the shiploaders, and conveyors (Grette Associates 2014a). The duration of vibratory and impact pile-driving required to install each pile would depend on the depth at which higher-density materials (e.g., volcanic ash or dense sand and gravels) are encountered; shallower resistance would require less vibratory and more impact driving, while deeper resistance would require more vibratory and less impact driving.

Pile driving would occur over two construction seasons, with multiple rigs operating simultaneously between September 1 and December 31. The sequence of pile driving and the number of pile-driving rigs operating at the same time would be determined during permitting. Each pile would be installed using a vibratory driver until it meets resistance, at which point an impact pile driver would be used to proof the pile to the necessary weight-bearing capacity. Impact pile driving would be expected to last 20 to 120 minutes per pile.

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 sound strike) to 3.92 miles (cumulative sound). The specific distances and effects on ESA-listed fish are provided in Table 4.7-6.

Table 4.7-6. Underwater Noise Thresholds and Distances to Threshold Levels

Species	Effect Type	Threshold	Distance to Effect Threshold[a]
All Federally Protected Fish	Injury, cumulative sound (≥2 grams)	187 dB_{SEL}	1,775 feet[b]
	Injury, cumulative sound (<2 grams)	183 dB_{SEL}	1,775 feet[b,c]
	Injury, single strike	206 dB_{PEAK}	45 feet[d]
	Behavior	150 dB_{RMS}	3.92 miles

Notes:

[a] Impact pile-driver operation, 36-inch steel pile with 9 dB attenuation from use of confined bubble curtain.

[b] This represents the point at which the model for distance to threshold for cumulative sound no longer increases with increased pile strikes. For 187 dB $_{SEL,cum}$ (fish ≥ 2 grams), this is at 5,003 strikes; for 187$dB_{SEL,cum}$ (fish >2 grams), this is at 1,992 strikes. The concept of effective quiet makes the 1,775-foot distance applicable to both thresholds and therefore is applicable to fish both greater than and less than 2 grams.

[c] Given the On-Site Alternative location and adherence to the proposed in-water work window, most salmonids in the area during construction are assumed to be greater than 2 grams (187 $dB_{SEL,cum}$ threshold), except possibly for very early subyearling chum salmon in December

[d] Because the distance to cumulative sound thresholds are greater than the distance to the single-strike sound threshold, this analysis follows the NMFS dual criteria guidance and moves forward solely considering the larger values.

dB_{SEL} = decibels sound exposure level; dB_{PEAK} = decibels at peak sound level; dB_{RMS} = decibels root mean square

Because the number of pile strikes per day would be variable, it was assumed that a minimum of 5,000 strikes/day would occur. Increasing pile strikes beyond 5,000 would not affect the distance at which thresholds would be exceeded for all federally protected fish. Predicted noise reduction using confined or unconfined bubble curtains or similar attenuation devices would be at least 9 dB, based on observations at the Columbia River Crossing (David Evans Associates 2011) and at Puget Island (Washington State Department of Transportation 2010).

Underwater sound generated by impact pile driving could affect fish in several ways, ranging from alteration of behavior to physical injury or mortality. The impact would depend on the intensity and characteristics of the sound, the distance, and location of the fish in the water column relative to the sound source, the size and mass of the fish, and the fish's anatomical characteristics (Hastings and Popper 2005).

Based on calculations of where underwater noise thresholds would be exceeded by pile-driving noise (Section 4.7.3.2, *Impact Analysis, Assessing Noise Impacts*), the area where cumulative sound levels could reach or exceed the injury threshold (potential injury area) would extend from the proposed trestle and dock to a maximum distance of 1.1 miles along the shoreline (1,775 feet upstream and downstream plus the 2,300-foot length of Docks 2 and 3). The total potential injury area would encompass 0.44 square mile. Although the thresholds were developed for salmonids, they would apply to other fish species. The potential for injury or behavioral effects depends on the duration of the fish in the potential injury area.

Five threatened salmon species could occur in the study area during the proposed in-water work window of September 1 through December 31 (Table 4.7-7). All life history stages of the Snake River spring/summer-run Chinook salmon, upper Columbia River spring-run Chinook salmon, Snake River sockeye salmon, and upper Willamette River steelhead populations units would likely be absent from the study area and not affected by pile-driving. Bull trout are expected to occur infrequently and in very low numbers relative to all other salmonids. The likelihood of bull trout presence at any given time is very low, and the potential for pile-driving activities to affect bull trout is, therefore, negligible. According to the USFWS (2002), bull trout in the Lower Columbia River Recovery Unit could have migrated seasonally from tributaries downstream into the Columbia River to overwinter and feed. However, the extent to which bull trout in the Lower Columbia River Recovery Unit currently use the mainstem Columbia River is unknown.

Green sturgeon, eulachon, and other salmonid populations could be present in the study area during the proposed in-water work window. For these species, pile driving could affect fish migrating in the SWZ and the migrants and residents in the DWZ. Approximately 0.09 of the 0.44-square-mile potential injury area would be in the SWZ. The risk of injury could be lower for some populations, depending on their abundance or absence during in-water work, but juvenile salmon present as shallow water subyearlings could be at risk of injury. Larger subyearling or yearling individual salmonids could occur in all of the 0.44-square-mile potential injury area.

Adult salmon could migrate upstream through the study area during the proposed in-water work window, but none of the salmon populations spawn in the potential injury area. Chinook salmon, chum salmon, and steelhead migrate approximately 19 to 25 miles per day (Keefer et al. 2004; English et al. 2006; Buklis and Barton 1984). Coho salmon migrate approximately 9 to 20 miles per day (Sandercock 1991). These migration rates suggest that adult salmon would move through the study area relatively quickly, travelling through the potential injury area in approximately 20 to 90 minutes, depending on the species and actual rate of travel. These migration patterns could limit the potential for and duration of exposure; however, adult salmon migrating through the study area could be injured by pile-driving noise. Injuries to adult salmon could include temporary and long-term hearing damage, referred to as Temporary Threshold Shifts (TTS) and Permanent Threshold Shifts (PTS), respectively (Grette Associates 2014a).

Table 4.7-7. Salmonids in the Study Area during the Proposed Work Window (September 1–December 31) by Life Stage

Species	Federal Status	Shallow-water Subyearling	Deepwater Subyearling	Deepwater Yearling	Adult
Chinook Salmon					
Snake River fall-run ESU	T[a]	Sep–Nov[b]	Sep–Nov[b]		Sept–Oct
Lower Columbia River ESU	T	Sep–Nov[b]	Sep–Dec[b]	Sep–Dec[b]	Sept–Oct
Upper Willamette River ESU	T	Sep–Nov[b]	Sep–Dec[b]	Sep–Dec[b]	
Coho Salmon					
Lower Columbia River ESU	T	Sep–Dec[b]	Sep–Dec[b]		Sept–Dec
Chum Salmon					
Columbia River ESU	T				Sept–Dec
Steelhead Trout					
Snake River DPS	T				Sept–Oct
Upper Columbia River DPS	T				Sept–Oct
Middle Columbia River DPS	T				Sept–Oct
Lower Columbia River DPS	T				Sept–Dec
Green Sturgeon	T				Sept–Dec
Eulachon	T	Dec	Dec	Dec	Nov–Dec

Notes:
[a] T denotes federally threatened (no Endangered in this table).
[b] Denotes expected presence during the proposed in-water work window; see Grette Associates (2014a).
ESU = Evolutionary Significant Unit; DPS = Distinct Population Segment

Exposure to very loud noise or loud noise for extended periods may result in permanent reductions in sensitivity or PTS. Generally, TTS would occur at lower levels than those resulting in auditory tissue damage, which result in PTS. The effect of hearing loss in fish may relate to the fish's reduced fitness, which may increase the vulnerability to predators or result in a reduced ability to locate prey, inability to communicate, or inability to sense their physical environment (Hastings and Popper 2005). Popper et al. (2005) found fish experiencing TTS were able to recover from varying levels of TTS, including substantial TTS, in less than 18 hours post exposure. Meyers and Corwin (2008) reported evidence that fish can replace or repair sensory hair cells that have been damaged in both the inner ear and lateral line, indicating that fish may be able to recover from PTS over a period of days to weeks. Measures to reduce the risk of TTS and PTS to salmonids includes noise attenuation measures to be implemented during in-water pile-driving activities (i.e., use of confined bubble curtain or similar noise attenuation and implementing a soft-start when initiating pile driving). See Section 4.7.7, *Proposed Mitigation Measures*, for further information.

Sound pressure levels could exceed the threshold for behavioral impacts up to 3.92 miles from pile-driving activities per the *SEPA Fish Technical Report*. A line-of-sight rule, meaning that noise may propagate into any area that is within sight of the noise source, is used to determine the extent of noise propagation in river systems. Fish in the potential injury area could exhibit behavioral responses, which could include reduced predator avoidance and foraging efficiency.

Based on studies by Carlson et al. (2007) the potential injury area would extend approximately 10 meters (33 feet) from the pile-driving activity. Because the potential injury area would be limited to such a small area, it is extremely unlikely that adult fish would experience injury.

Increase Temporary Shading that Affects Aquatic Habitat

Overwater structures, barges, and vessels required for construction would increase shading to the aquatic environment beneath and adjacent to the structures and vessels, which could result in changes to primary productivity, fish behavior, predation and migration. The use of these structures and vessels would primarily be during the in-water construction period for installation of support piling for Docks 2 and 3. Pile-driving activities would be expected to be much more disruptive to fish than the shading created by construction-related barges and vessels, and would likely affect migration and foraging opportunities in the study area to a greater extent. During pile driving, fish would likely not be present near pile-driving activities and where barges are located and would not be affected by shading related to construction activities.

Cause Spills and Leaks that Temporarily Contaminate Water Quality

Construction activities could result in temporary water quality impacts from the release of hazardous materials such as fuels, lubricants, hydraulic fluids, or other construction- related hazardous materials. Spills could affect aquatic habitat or fish near the discharge point, resulting in potential toxic acute or subacute impacts that could affect the respiration, growth, or reproduction of the affected fish or other aquatic organisms. It is assumed that spills would be less than 50 gallons because limited quantities of potentially hazardous materials would be stored and used during construction at the project area. However, a spill could cause potential impacts on fish based on the location, weather conditions, quantity, and material spilled. The potential risks, impacts, and mitigation measures related to water quality are addressed in Section 4.5, *Water Quality*. Appropriate training and implementation of prevention and control measures would guard against these risks, greatly reducing the potential for these types of impacts.

Construction—Indirect Impacts

Construction of the Proposed Action would not result in indirect impacts on fish because construction impacts are immediate and no construction impacts would occur later in time or farther removed in distance than the direct impacts.

Operations—Direct Impacts

Operation of the Proposed Action would result in the following direct impacts. Operations-related activities are described in Chapter 2, *Project Objectives, Proposed Action, and Alternatives*.

Increase Shading that Affects Fish and Fish Habitat

Overwater structures (Docks 2 and 3 and large vessels) would increase shading to the aquatic environment, which could result in changes to primary productivity as well as fish behavior, predation and migration. Permanent shading could reduce primary productivity by phytoplankton and macrophytes (Carrasquero 2001). Less primary productivity contributes to less energy for epibenthic communities and ultimately the fish that prey on epibenthic

organisms. Shadows may also directly affect fish migration, prey capture, and predation. Juvenile salmon tend to migrate along the edges of shadows rather than passing through them (Simenstad et al. 1999). Low levels of underwater light are also favorable for predatory fish such as bass and northern pikeminnow to see and capture their prey, including juvenile salmonids. Reduction of primary productivity in DWZ habitat would not likely translate to reductions of epibenthic communities, which are more prevalent in SWZ habitat.

Light attenuation could affect fish migration, prey capture, and predation. While salmon fry are known to use darkness and turbidity for refuge, they generally migrate along the edges of shadows rather than penetrate them. Foraging opportunities for juvenile fish are generally associated with SWZ habitat, which are expected to provide greater availability of benthic organisms as compared to DWZ habitat. Juvenile salmon primarily migrate in SWZ habitat, although larger juveniles do migrate in DWZ habitat. Juveniles migrating in DWZ habitat are likely migrating relatively quickly and not rearing for extended periods in any particular area. The trestle is the only structure that would generate shade in SWZ habitat. The potential shading created by the trestle would be relatively limited because the trestle is elevated over the OHWM by approximately 8 feet. The height of the trestle would allow light to penetrate beneath the structure and would, therefore, not be expected to have measurable shading effects on primary productivity or fish behavior, migration, or predation in SWZ habitat.

The trestle would shade 0.3 acre of SWZ habitat, while Docks 2 and 3 and a portion of the trestle would shade 4.83 acres of DWZ habitat. Vessels loading at Docks 2 and 3 during operations would further increase the shading of DWZ habitat. If two Panamax vessels were being loaded simultaneously, they would shade an additional 4.7 acres of DWZ habitat, or 9.83 total shaded acres. The study area (Figure 4.7-1) encompasses approximately 1,300 acres, primarily DWZ habitat. Shading created by Docks 2 and 3 as well as vessels being loaded at the docks would shade approximately 0.8%. Because, juvenile salmonids tend to migrate in SWZ habitat, shading of DWZ habitat would likely affect juvenile salmonids to a lesser extent than adults or larger juveniles that tend to migrate in DWZ habitat. Shading of DWZ habitat would have low impacts on primary productivity, as primary productivity tends to be higher in SWZ habitat. Based on the location of Docks 2 and 3 over DWZ habitat, and the relatively small area shaded in relation to the overall study area, the overall shading impact would be low.

The trestle is the only structure that would cross the SWZs where juvenile salmon may he present. The design, orientation (north-south), narrow width (24 feet), and height above the water surface (8 feet) would allow some natural light to pass under the structure during all seasons and limit the potential impacts of shading on fish and fish habitat. The dock and moored vessels would be located over DWZ habitats, where shaded habitat could provide suitable conditions for larger predatory fishes and piscivorous (i.e., fish-eating) birds. Piles and moored vessels may also create flow conditions favorable for predatory fishes. The extent or magnitude to which an increase in overwater surface area could alter the predator–prey relationship in the study area is unknown, but it is assumed that the relationship would change and an increase in predation could occur where larger subyearling, yearling, or larger juvenile fish encounter the docks in the DWZ. This likely would likely not apply to smaller subyearling fish when encountering the trestle as they migrate within the ACM and SWZ.

In addition to shading, Proposed Action-related features such as support piling, the docks and trestle could provide suitable habitat for piscivorous birds. The level of activity on the docks and trestle would likely reduce the potential for birds to use these features as roosting habitat

(Grette Associates 2014d). As part of the proposed project design, the Applicant would install pile caps on all Proposed Action-related piling to minimize perching and roosting opportunities for piscivorous birds on the trestle and docks. Thus, the Proposed Action would not result in a measurable increase in predation of fish from piscivorous birds.

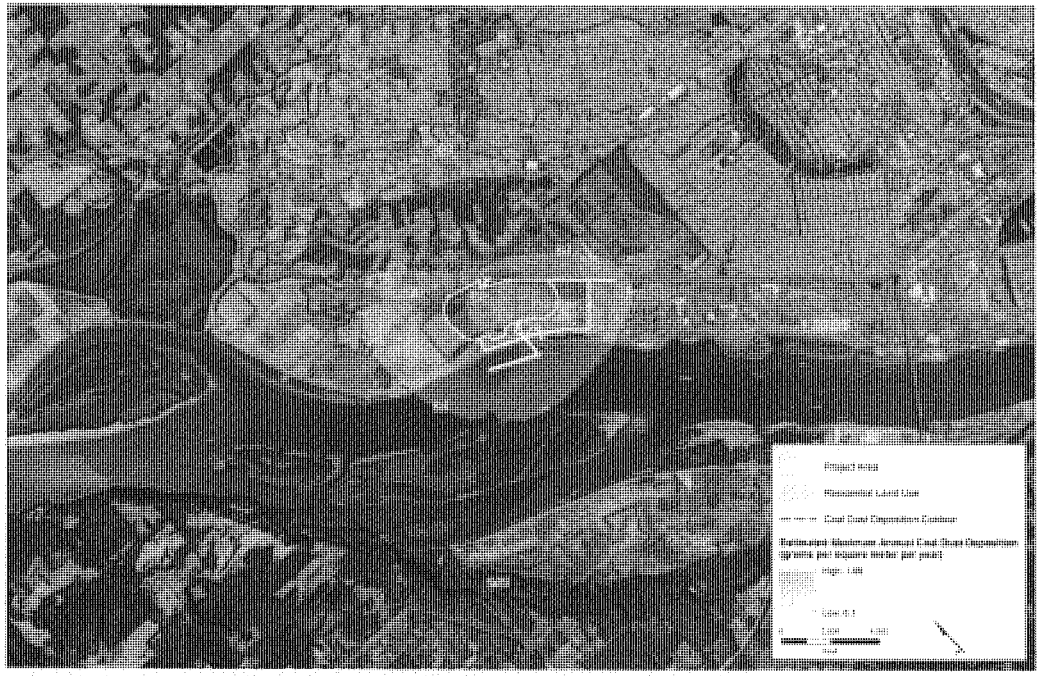
Cause Spills or Leaks that Contaminate Water Quality

Operations activities on land as well as in- and over-water could result in temporary water quality impacts from a release of hazardous materials such as fuels, lubricants, hydraulic fluids, or other chemicals. Spills could affect aquatic habitat or fish that occur near the discharge point, resulting in potential toxic acute or subacute impacts that could affect the respiration, growth, or reproduction of the affected fish. Overall, it is assumed that a spill would be less than 50 gallons because limited quantities of potentially hazardous materials would be stored and used during operations at the project area. Refueling of vehicles during operations would occur off site at approved refueling stations, or fuel would be delivered to the site by a refueling truck (capacity of 3,000 to 4,000 gallons). Refueling trucks are required to carry appropriate spill response equipment, thereby being prepared to respond and reduce the impact associated with a fuel spill. Vessel bunkering (i.e., a vessel receiving fuel while at the dock) would not occur at the project area. Refer to Section 5.4, *Vessel Transportation*, for more information on vessel bunkering. There would be no increased risk of spills in the project area associated with vessel fueling associated with the Proposed Action. The potential risks, impacts, and mitigation measures related to water quality are addressed in Section 4.5, *Water Quality*. Refer to Section 4.9, *Energy and Natural Resources*, as well as Chapter 3, Section 3.6, *Hazardous Materials*, and Chapter 5, Section 5.4, *Vessel Transportation*, for more information related to fuel and refueling activities associated with the Proposed Action. Similarly, appropriate training and implementation of prevention and control measures would guard against these risks, greatly reducing the potential for these types of impacts.

Generate and Disperse Coal Dust in the Aquatic Environment

Fugitive coal dust particles would be generated by the Proposed Action through the movement of coal into and around the project area, as well as during transfer onto vessels (Chapter 5, Sections 5.6, *Air Quality*, and 5.7, *Coal Dust*). Coal dust could also become airborne from stockpiles located within the project area. Estimated maximum annual coal dust deposition at or beyond the project area (Figure 4.7-4) would range from 1.99 grams per square meter per year (g/m^2/year) adjacent to the project area to 0.01 g/m^2/year approximately 2.4 miles from the project area (Chapter 5, Section 5.7, *Coal Dust*).

Figure 4.7-4. 3-Year Annual Average Coal Dust Deposition for the Proposed Action



Assuming a maximum deposition rate of 1.99 g/m^2/year adjacent to the project area, and at the minimum flow[4] recorded over the 23-year period of record for 1 day, coal dust deposition directly into the river, assumed to be an area of approximately 3 million square meters (1.16 square miles) in the study area, would result in a change in suspended sediment concentration of less than 1 part per 10 billion (0.000075 milligrams per liter [mg/L]). One review of the chemical composition of coal dust (U.S. Geological Survey 2007) suggests that the risk of exposure to concentrations of 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. Particles would also be transported downstream by the flow of the river and distributed over a broad area, thus diluting any potential impacts.

Spill Coal during Operations of the Proposed Action

Direct impacts on the natural environment from a coal spill during operations of the Proposed Action could occur; however, local, state, and federal permit processes would require features and site design that would be expected to reduce coal spills. Direct impacts resulting from a spill during coal handling at the coal export terminal would most likely be minor because the amount of coal that could be spilled would be relatively small. Also, impacts would be minor because of the absence of aquatic environments in the project area and the contained nature and design features of the terminal (e.g., enclosed belt conveyors over water, transfer towers, and shiploaders). Potential physical and chemical effects of a coal release on the aquatic environments that occur adjacent to the terminal are described below.

Aquatic environments could potentially be affected from a coal spill both physically and chemically. A coal spill could have physical effects on aquatic environments, including abrasion, smothering, diminished photosynthesis, alteration of sediment texture and stability, reduced availability of light, temporary loss of habitat, and diminished respiration and feeding for aquatic organisms. The magnitude of these potential impacts would depend on the amount and size of coal particles suspended in the water, duration of coal exposure, and existing water clarity (Ahrens and Morrisey 2005). Therefore, the circumstances of a coal spill, the existing conditions of a particular aquatic environment (e.g., river shoreline, open water, pond, wetland), and the physical effects on aquatic organisms and habitat from a coal spill would vary.

Similarly, cleanup of coal released into the aquatic environment could result in temporary impacts on habitat, such as smothering, altering sediment composition, temporary loss of habitat, and diminished respiration and feeding for aquatic organisms. The recovery time required for aquatic resources would depend on the amount of coal spill and the extent and duration of cleanup efforts, as well as the environment in which the incident occurred. It is unlikely that coal handling in the upland portions of the coal export terminal would result in a spill of coal that would affect the Columbia River. This is unlikely because the rail loop and stockpile areas would be contained, and other areas adjacent to the coal export terminal are separated from the Columbia River by an existing levee, which would prevent coal from being conveyed from upland areas adjacent to the rail loop to the Columbia River. Coal could be spilled during shiploading operations because of human error or equipment malfunction. However, such a spill would likely result in a limited release of coal into the environment due to

[4] The minimum recorded flow at the Columbia River at Beavery Army Terminal, Quincy, Oregon, is 65,600 cubic feet per second (1969 to 2014).

safeguards to prevent such operational errors, such as start-up alarms, dock containment measures to contain spillage/rainfall/runoff, and enclosed shiploaders.

The chemical effects on fish, aquatic organisms, and habitats would depend on the circumstances of a coal spill and the existing conditions of a particular aquatic environment (e.g., shoreline, open water, pond, wetland). Some research suggests that physical effects are likely to be more harmful than chemical effects (Ahrens and Morrisey 2005).

A recent coal train derailment and coal spill in Burnaby, British Columbia, in 2014, and subsequent cleanup and monitoring efforts provide some information about the potential impacts of coal spilled in the aquatic environment. Findings from spill response and cleanup found there were potentially minor impacts in the coal spill study area, and that these impacts were restricted to a localized area (Borealis Environmental Consulting 2015). Further information is provided under *Operations—Indirect Impacts*.

Operations—Indirect Impacts

Operation of the Proposed Action would result in the following indirect impacts. Operations-related activities are described in Chapter 2, *Project Objectives, Proposed Action, and Alternatives*.

Cause Fish Stranding from Vessel Wakes

At full build-out, 70 cargo vessels per month (840 vessels per year) would be used for the Proposed Action, resulting in 1,680 vessel transits in the lower Columbia River (840 vessels each transiting to and from the project area). The vessels would consist of Panamax and Handymax vessels. Panamax vessels measure approximately 738 feet long by 105 feet wide with a draft of 43 feet. Handymax vessels measure approximately 490 to 655 feet long by 105 feet wide with a draft of 36 feet. Depending on various factors—such as the slope and breadth of a beach, river stage, tidal stage, depth of water vessel is 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 on the beach, potentially stranding them where they would be susceptible to stress, suffocation, and predation before they could return to the water.

Physical conditions affect the risk of fish stranding in the lower Columbia River caused by vessel wakes have been documented in several studies (Bauersfeld 1977; Hinton and Emmett 1994; Ackerman 2002; Pearson et al. 2006; Pearson and Skalski 2007; Pearson et al. 2008). The physical conditions influencing the risk of fish stranding include gentle shoreline slopes (i.e., less than 5% slope), sandy substrate along the shoreline, confined river channel, close proximity of the navigation channel to the shoreline, river tidal stage/elevation at the time of vessel passage, presence of a berm parallel to the shoreline and shoreward of the 18-foot-deep contour, and presence of shoreline features such as vegetation, riprap, bank faces, and debris.

Prior studies have evaluated the risk for stranding along different portions of the Columbia River (Pearson et al. 2008). Shorelines in the lower estuary (i.e., river miles 0 to 22) were determined to be too distant from the navigation channel to pose a stranding risk. Between river miles 22 and 104, approximately 33 of the 82 miles of shoreline pose a risk of fish stranding by ship wakes due to the shoreline being close to the navigation channel, not shielded from wave action, and having a beach slope of less than 10%. Of the 33 miles of shoreline, approximately 8 miles have a high susceptibility for stranding based on the screening criteria (Pearson et al.

2008). Because Pearson's study considered only the physical conditions that contributed to the susceptibility of stranding along the shoreline in the lower Columbia River, and not the abundance or distribution of fish, there was no attempt to quantify the potential extent of fish stranding in the lower Columbia River (Pearson et al. 2008).

The susceptibility of fish stranding by vessel wakes not only depends on physical conditions existing along the shoreline but also the presence of fish in the channel margins and nearshore areas adjacent to the shoreline. Subyearling Chinook salmon appear to be more susceptible to stranding, accounting for approximately 80% of the fish stranded by vessel wakes along the lower Columbia River (Hinton and Emmett 1994; Dawley et al. 1984; Pearson et al. 2006) while comprising only 49% of fish captured in beach seine samples along the same shorelines (Pearson et al. 2006). Studies indicate juvenile salmon and other fish are at risk of stranding on wide, gently sloping beaches because of wakes generated by deep-draft vessel passage (Bauersfeld 1977; Hinton and Emmett 1994; Pearson et al. 2006; ENTRIX 2008).

Within the lower Columbia River, the presence of fish in nearshore channel margin areas varies seasonally by species. However, fish are present year-round in the lower Columbia River. Previous studies have found that fish also use different areas of the river, depending on age and life-history stage, and not all juvenile salmonids appear to be equally susceptible to stranding. The majority of stranding appears to occur for subyearling Chinook salmon. Subyearling chum and coho salmon are also stranded but in much lower numbers than subyearling Chinook salmon. Other salmonids such as juvenile sockeye salmon, pink salmon, steelhead, yearling Chinook and coho salmon, do not appear to be as susceptible to vessel wake stranding based on their habitat use in the lower Columbia River (Grette Associates 2016). In general, subyearling Chinook salmon are present in the shallow river margin during winter, spring, and early summer but not during the late summer and fall. NMFS (2012) did not identify ship wake stranding as a limiting factor or threat to eulachon. Grette (2016) noted that "overall, eulachon are not expected to be susceptible or exposed to wake stranding risk in the lower Columbia River." This is supported by the fact that eulachon were not observed stranded or in beach seines conducted by Pearson et al. (2006, in Grette Associates 2016).

While the scientific literature generally acknowledges the connection between wakes generated by deep-draft vessels and fish stranding in the lower Columbia River, the literature has not identified methods to quantify the current level of stranding that occurs in the lower Columbia River, or resulted in the development of a model that could accurately predict the extent of stranding that would be caused by deep-draft vessels within the lower Columbia River. Thus, while it is acknowledged that the Proposed Action would increase deep-draft vessel traffic in the lower Columbia River, which could contribute to an increase in fish stranding, it would be speculative to attempt to quantify fish stranding from vessels associated with the Proposed Action, given the uncertainty related to fish stranding and lack of reasonably accurate methods to quantify the potential impact within the lower Columbia River. SEPA Rules require the consideration of environmental impacts that are likely, not merely speculative (WAC 197-11-060). In accordance with this requirement, the EIS discloses the potential for impacts related to fish stranding due to vessel wakes, but does not quantify the potential impact because the worst-case scenario cannot be developed with any reasonable certainty (WAC 197-11-080-3(a)). While vessel operations in the lower Columbia River are federally regulated, the Applicant has no authority to control or influence vessel operations, either directly or indirectly. Thus,

there are no available mitigation measures associated with vessel operations that the Applicant could implement to reduce vessel wake stranding impacts.

Cause Physical or Behavioral Responses to Vessel Noise

Vessels transit the Columbia River carrying oil, freight, and materials to and from ports along the river. Hemmera Envirochem et al. (2014) measured sound pressure levels (RMS) of one Panamax vessel passing Victoria on Vancouver Island, Canada, at a speed of 11.1 knots. Sound pressure levels measured were approximately 155 dB_{RMS} at 67 meters, decreasing to less than 150db_{RMS} at approximately 110 meters. These source sound levels exceed identified thresholds for potential behavioral disturbance for fish and may cause avoidance or other behavioral responses (Fisheries Hydroacoustic Working Group 2008). Fish near transiting vessels could experience behavioral responses to the vessel noise but would not likely be injured.

Remove or Alter Aquatic Habitat during Maintenance Dredging

Maintenance dredging would be scheduled to occur on a multiyear basis, but could occur annually or following extreme flow conditions, as needed, to maintain required water depths at Docks 2 and 3 and to allow for navigation between the docks and the navigation channel (WorleyParsons 2012). Maintenance dredging may require separate local and state permitting beyond those permits issued for construction of the Proposed Action. Maintenance dredging would follow the same methods and have the same impacts as those described for construction-related dredging.

Generate and Disperse Coal Dust in the Aquatic Environment

Indirect impacts associated with fugitive coal dust particles would be the same as those described previously for operational direct impacts.

Spill Coal during Rail Transport

The potential indirect impacts of a coal spill during rail transport from a Proposed Action-related train is based on the likelihood of a Proposed Action-related train incident occurring and the consequences of an incident were it to occur.

Chapter 5, Section 5.2, *Rail Safety*, estimates the number of Proposed Action-related train incidents that could occur during coal transport within Cowlitz County and Washington State. In Cowlitz County, the predicted number of loaded coal train incidents is approximately one every 2 years. The predicted number of loaded coal train incidents within Washington State is approximately five per year.

Not every incident of a loaded coal train would result in a rail car derailment or a coal spill. A train incident could involve one or multiple rail cars, and could include derailment in certain circumstances. The size and speed of the train and the terrain at the location of the incident would influence whether the incident resulted in a coal spill that could have impacts on fish. A broad range of spill sizes from a partial rail car to multiple rail cars could occur as a result of a Proposed Action-related train incident.

If an incident resulted in a coal spill, impacts on aquatic environments would depend on the location of the spill, the volume of the spill, and success of efforts to contain and clean up the spill. It is expected that coal spills in the terrestrial and built environments would be easier to

contain and clean up than spills occurring in an aquatic environment. Spills occurring on land may have a quicker response time and cleanup in some locations due to their visibility and access for cleanup equipment, as compared to spills into aquatic environments.

Research suggests that the bioavailability of contaminants in coal is limited, and that at levels of coal contamination at which estimates of bioavailable concentrations of contaminants might give cause for concern, the acute physical effects are likely to be more harmful than the chemical effects (Ahrens and Morrisey 2005). However, the variable chemical properties of coal could conceivably result in contaminant mobility and enhanced bioavailability in the aquatic environment. Coal can be a source of acidity, salinity, trace metals, PAHs, and chemical oxygen demand (a measure of organic pollutants found in water). Interactions between coal and water could alter pH and salinity, release trace metals and PAHs, and increase chemical oxygen demand. However, if and how much these alterations occur in the aquatic environment and whether the alterations are significant enough to be potentially toxic to aquatic organisms depends on many factors, including the type of coal, the relative amount of time the coal is exposed to water, dilution, and buffering.

The following provides a summary of an Aquatic Impact Assessment following the derailment of a coal train in Burnaby, British Columbia, Canada in 2014 and subsequent clean-up and recovery of the spilled coal. Further information on the spill, efforts to recover the spilled coal, and monitoring results that provide here for context of the potential impacts of a coal spill from a train derailment. On January 11, 2014, a Canadian Pacific train derailed in Burnaby, resulting in the release of metallurgical coal[5] from three rail cars adjacent to and into Silver Creek, approximately 350 meters upstream of Burnaby Lake. Based on discussions with regulatory agencies, the rail company decided to follow a "precautionary principle" risk-management approach, and remove the majority of the coal from the spill site. Coal recovery occurred between March 4 and April 2, 2014, using a vacuum-truck system and/or hand tools. A total of approximately 143 tons of mixed coal, organic and mineral fines were removed.

The conclusions at the end of the monitoring completed as part of the Aquatic Impact Assessment focused on four major elements: water quality, sediment quality, sediment and sediment "leachate"/porewater toxicity, and bioaccumulation potential. Monitoring locations were established upstream and downstream of coal recovery areas to provide a control/impact comparison. In situ and analytical water quality sampling was conducted between February 28 and April 1, 2014, prior to and during cleanup activities. Other monitoring efforts performed for the Aquatic Impact Assessment were completed on two dates, May 30/31 and April 2 (Borealis Environmental Consulting 2015).

The in situ water quality sampling between February 28 and April 1, 2014 focused on temperature, turbidity, conductivity, pH, dissolved oxygen (DO), salinity and oxidation-

[5] The Proposed Action would handle subbituminous or thermal coal from the Powder River Basin, which is different than metallurgical coal. Thermal coal is lower in carbon content and calorific value and higher in moisture.

reduction potential (ORP). The analytical sampling program focused on the following parameters:

- Alkalinity
- Chloride
- Hardness
- Extractable Petroleum Hydrocarbons
- Nutrients (NH3, NO3, NO2, C)
- pH
- PAHs
- Sulphate
- Sulphide
- Total and dissolved metals
- Total and dissolved solids (TDS)
- Total and suspended solids (TSS)

Triton's (2014, in Borealis 2015) compiled in situ and analytical data were compared with available Provincial and federal water quality guidelines for the protection of freshwater aquatic life. The resultant data indicated that sampled parameters were within applicable water quality guidelines, with some exceptions (e.g., that were not deemed to be spill related (CN 2014a, b, in Borealis 2015).

The intent of the monitoring completed for the Aquatic Impact Assessment was to determine the potential agents of effect/impact; where those effects/impacts occur; whether chemicals in water and sediment occur at concentrations seemed to result in effects/impacts; whether chemicals in water and sediment have adverse effects to resident organisms, and; whether those chemicals are taken up by organisms (bioaccumulate) over time.

For water quality, monitoring results indicated that water quality was deemed generally consistent with the BC Ministry of Environment (BCME) and/or the Canadian Council of Ministers of the Environment (CCME) guidelines protective of aquatic life.

For sediment quality, site sediment concentrations of three metals (cadmium, copper, and nickel) and various PAHs (mainly downstream of the coal recovery area) exceeded BCME and/or CCME freshwater sediment guidelines and background/reference area concentrations. The exceedance of site sediment concentrations of the three metals was only noted at one location, the Burnaby Lake reference site, which was located upstream of the spill area and not affected by the spill. No exceedances were noted in the exposed sites or the other reference location. These results support the assertion that the elevated levels of cadmium, copper, and nickel at the Burnaby Lake reference site must either be naturally occurring or originate from a source other than the coal spill.

Additional laboratory toxicity tests (of sediment samples) provided more specific information regarding the bioavailability of these parameters and the potential for biological impacts. The bioaccumulation potential test results for invertebrates (i.e., represented by freshwater oligochaetes) conducted with Silver Creek/Burnaby Lake sediment samples, in comparison with both laboratory control samples and reference areas, indicate that PAHs present in specific, localized areas downstream of the derailment site have the slight potential to accumulate in benthic invertebrates resident in those areas. However, further mitigation of these sediments was not recommended, nor was additional study in the form of a Tier 2 assessment,[6] as it is not anticipated that higher tropic levels would experience any significant adverse effects, and there

[6] The Aquatic Impact Assessment completed a Tier 1 assessment, which focused on risks to water and sediment quality, and resident aquatic biota in Silver Creek and Burnaby Lake. A Tier 2 assessment would have addressed any potential impacts on higher tropic levels (i.e., fish, birds, amphibians, reptiles) and aquatic habitats further downstream of Silver Creek and Burnaby Lake, but was not required or recommended.

are unlikely to be impacts beyond the spatial extent assessed during the Aquatic Impact Assessment (i.e., downstream of the coal recovery area) (Borealis 2015).

For sediment and sediment porewater toxicity, test results for the fish, invertebrate, and algae tests conducted with Silver Creek/Burnaby Lake sediment samples in comparison with both laboratory control samples and reference areas indicate that samples were nontoxic to all species tested in most areas, with the exception of one monitoring site, at which samples yielded marginal but statistically significant effects on the survival of benthic macroinvertebrates (i.e., midges and amphipods). The results indicate that the sediments located approximately 160 meters downstream of the spill site have the potential to affect freshwater invertebrates, and that PAHs in sediments have a slight potential to bioaccumulate in benthic invertebrates. However, the results of the Aquatic Impact Assessment indicate that while there are potentially minor impacts, restricted to a very small localized area, the coal in sediments post-recovery is of a low volume in relation to the volume of coal spilled and that these sediments should be left in place to undergo natural attenuation. Further mitigation of these sediments was not recommended (Borealis Environmental Consulting 2015).

In summary, fugitive coal dust from project operations is not expected to increase suspended solids in the Columbia River to the point that there would be a demonstrable effect on fish distribution, abundance, or survival, or acute physical effects. Additionally, the potential risk for exposure to toxic chemicals contained in coal (e.g., PAHs and trace metals), according to one study, would be relatively low because these chemicals tend to be bound in the matrix structure and not quickly/easily leached. Any coal particles would be transported downstream by the flow of the river and either carried out to sea or distributed over a broad area, further reducing the potential for adverse impacts on fish from suspended solids.

Affect Commercial and Recreational Fishing

Project-related increases in vessel traffic in the lower Columbia River and associated underwater noise could affect the fishing in study area. Increases in vessel traffic could cause behavioral responses including quicker migration or avoidance of the navigation channel. The 70 large commercial vessels anticipated per month under the Proposed Action, would be limited to the navigation channel. If adult fish targeted in commercial and recreational fishing were to alter behavior in response to underwater noise from vessels, they could avoid the navigation lanes or migrate quickly through them. Commercial and recreational fishing vessels in the navigation channel would be disrupted and need to move out of the navigation channel when large vessels are approaching or present. The Proposed Action would slightly affect commercial or recreational fishing access for fishing activities. See Chapter 5, Section 5.4, *Vessel Transportation*, for potential impacts on commercial and recreational fishing vessels associated with Proposed Action-related vessels.

4.7.5.2 No-Action Alternative

Under the No Action Alternative, the Applicant would not construct the Proposed Action. Current operations would continue and the existing bulk product terminal site would be expanded. Any expansion activities would not require a permit from the U.S. Army Corps of Engineers (Corps) or a shoreline permit from Cowlitz County. Therefore, no construction impacts on aquatic habitats or species would be expected to occur as a result of an expansion of the existing bulk production terminal under the No-Action Alternative.

4.7.6 Required Permits

The Proposed Action would require the following permits related to fish and fish habitat.

- **Shoreline Substantial Development and Conditional Use Permits—Cowlitz County**. Cowlitz County administers the Shoreline Management Act through its Shoreline Management Master Program. The project area would have elements and impacts within jurisdiction of the act (Washington Administrative Code (CCC 19.20) and would thus require a Shoreline Substantial Development and Conditional Use permit from Cowlitz County and Ecology.
- **Critical Areas Permits—Cowlitz County**. The Proposed Action would require local permits related to impacts on regulated critical areas. Chapter 19.15 of the Cowlitz County Code regulates activities within and adjacent to critical areas and in so doing regulates fish and wildlife habitat conservation areas (including streams and their buffers), frequently flooded areas, and other sensitive areas.
- **Construction and Development Permits—Cowlitz County**

  The Proposed Action would require fill and grade permits (CCC 16.35) and construction permits (CCC 16.05) for clearing and grading and other ground disturbing activities, as well as construction of structures and facilities associated with the Proposed Action.
- **Clean Water Act Authorization—U.S. Army Corps of Engineers.** Construction and implementation of the Proposed Action would affect waters of the United States, including wetlands. Because impacts would exceed 0.5 acre, Individual Authorization from the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act and appropriate compensatory mitigation for the acres and functions of the affected wetlands would be required.

  An Individual Water Quality Certification from Ecology under Section 401 of the Clean Water Act and a National Pollution Discharge Elimination System permit under Section 402 of the Clean Water Act would also be required for construction of the Proposed Action. Additional details regarding the permitting process related to the Clean Water Act can be found in the *SEPA Water Quality Technical Report.*
- **Rivers and Harbors Act—U.S. Army Corps of Engineers.** Construction and implementation of the Proposed Action would affect navigable waters of the United States (i.e., the Columbia River). The Rivers and Harbors Act authorizes the Corps to protect commerce in navigable streams and waterways of the United States by regulating various activities in such waters. Section 10 of the RHA (33 USC 403) specifically regulates construction, excavation, or deposition of materials into, over, or under navigable waters, or any work that would affect the course, location, condition, or capacity of those waters.
- **Hydraulic Project Approval—Washington Department of Fish and Wildlife.** The Proposed Action would require a Hydraulic Project Approval from WDFW because project elements would affect and cross the shoreline of the Columbia River. The approval would consider impacts on riparian and shoreline/bank vegetation in issuance and conditions of the permit, including for the installation of the proposed docks and piles, as well as for interior culverts or other crossings of drainage features.

4.7.7 Proposed Mitigation Measures

This section describes the proposed mitigation measures that would reduce impacts related to fish from construction and operation of the Proposed Action. These mitigation measures would be implemented in addition to project design measures, best management practices, and compliance with environmental permits, plans, and authorizations that are assumed as part of the Proposed Action and described below.

Additionally, the Corps is conducting a review of the Proposed Action under NEPA, as the lead federal agency, and will be consulting under Section 7 of the federal ESA with both the USFWS and the NMFS. Additional measures may be identified under one or both of these processes that could further reduce potential impacts on fish and fish habitat.

4.7.7.1 Applicant Mitigation

The Applicant would implement the following measures to mitigate impacts on fish.

MM FISH-1. Implement Best Available Noise Attenuation Method for Pile-Driving.

To minimize underwater noise impacts on fish during pile driving, the Applicant will employ the best available noise attenuation methods during pile driving. These methods may include, but are not limited to, confined bubble curtain, temporary noise attenuation pile, double-walled noise attenuation pile, or other similar technology. The Applicant is currently proposing use of a confined bubble curtain, but other methods may be found to be better at attenuating noise impacts during the Endangered Species Act Section 7 consultation or by the time construction begins. Should other methods in the future prove to attenuate underwater noise better than a confined bubble curtain, those methods will be employed.

MM FISH-2. Implement a "Soft-Start" Method during Pile-Driving.

To minimize underwater noise impacts on fish during pile driving, the Applicant will commence impact pile-driving using a "soft-start," or other similar method. The "soft-start" method is a method of slowly building energy of the pile driver over the course of several pile strikes until full energy is reached. This "soft-start" method cues fish and wildlife to pile-driving commencing and allows them to move away from the pile-driving activity.

MM FISH-3. Monitor Pile-Driving and Dredging Activities for Distress to Fish and Wildlife.

To minimize the potential harm to marine mammals, diving birds, or fish, a professional biologist will observe the waters near pile-driving and dredging activities for signs of distress from fish and wildlife during these activities. If any fish or wildlife species were to show signs of distress during pile driving, the biologist will issue a stop work order until the species are recovered, moved, or relocated from the area. The Applicant will immediately report any distressed fish or wildlife observed to the appropriate agencies (i.e., Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service, and National Marine Fisheries Service) and determine the appropriate course of action.

MM FISH-4. Conduct Eulachon Surveys.

Should in-water work be permitted to occur between December and May, the Applicant will conduct advance underwater surveys at least 1 year before in-water work would occur for eulachon (adult, eggs and larvae) in those areas where in-water work would occur (i.e., Docks 2 and 3 and the dredge prism). Surveys would be conducted starting in December when water temperatures are near 40 degrees Fahrenheit (°F) in the lower Columbia River, which appears to trigger river entry for adults, and continue through May, when larval eulachon have generally hatched and drifted out of the system. Survey design and results would be provided to WDFW and NMFS. If adult or larval eulachon or eulachon eggs are observed and in-water work is proposed, the Applicant would coordinate with the fish and wildlife agencies on the appropriate measures to avoid and minimize impacts on eulachon and implement those measures.

MM FISH-5. Conduct Fish Monitoring during Hydraulic Dredging Operations.

The Applicant will develop and implement fish community monitoring in coordination with WDFW, USFWS, and NMFS. Fish community monitoring will include surveys conducted prior to dredging to identify fish species and life-stages present in the area to be dredged. As part of the coordination with WDFW, USFWS, and NMFS, measures to reduce the entrainment of fish anticipated to be present during dredging will also be developed, which may include timing restrictions for hydraulic dredging. The Applicant will also develop and implement dredge entrainment monitoring for hydraulic dredging, in coordination with WDFW, USFWS, and NMFS. Dredge entrainment monitoring will involve screening the dredge output at the point of discharge (i.e., barge) to determine the number, life-stage, and species of fish entrained by hydraulic dredging. The information gathered during dredge monitoring will be provided to WDFW, USFWS, and NMFS.

MM-WQ-2. Develop and Implement a Coal Spill Containment and Cleanup Plan.

To limit the exposure of spilled coal to the terrestrial, aquatic, and built environments during coal handling, the Applicant will develop a containment and cleanup plan. The plan will be reviewed by Cowlitz County and Ecology and implemented prior to beginning operations. To limit the exposure of spilled coal to the terrestrial, aquatic, and built environments during coal handling, the Applicant will develop a containment and cleanup plan. The plan will be reviewed by Cowlitz County and Ecology and implemented prior to beginning export terminal operations. In the event of a coal spill in the aquatic environment by the Applicant during export terminal operations, action will be taken based on the specific coal spill, and the Applicant will develop a cleanup and monitoring plan consistent with the approved containment and cleanup plan. This plan will include water quality and sediment monitoring to determine the potential impact of the coal spill on the aquatic habitat and aquatic species. The Applicant will develop the cleanup and monitoring plan in coordination with Cowlitz County, Ecology, and the Corps. The cleanup and monitoring will be similar in scope to the monitoring completed for the Aquatic Impact Assessment (Borealis 2015) associated with a coal spill in British Columbia, Canada in 2014.

MM CDUST-1. Monitor and Reduce Coal Dust Emissions in the Project Area.

To address coal dust emissions, the Applicant will monitor coal dust during operation of the Proposed Action at locations approved by the Southwest Clean Air Agency (SWCAA). A method for measuring coal dust concentration and deposition will be defined by SWCAA. If coal dust

levels exceed nuisance levels, as determined by SWCAA, the Applicant will take further action to reduce coal dust emissions. Potential locations to monitor coal dust concentration and deposition will be along the facility fence line in close proximity to the coal piles, where the rail line enters the facility and operation of the rotary dumper occurs, and at a location near the closest residences to the project area, if agreed to by the property owner(s). The Applicant will conduct monthly reviews of the concentration and deposition data and maintain a record of data for at least 5 years after full operations, unless otherwise determined by SWCAA. If measured concentrations exceed particulate matter (PM) air quality standards, the Applicant will report this information to SWCAA, Cowlitz County, and Ecology. The Applicant will gather 1 year of fence line data on PM2.5 and PM10 prior to beginning operations and maintain the data as reference. This data will be reported to SWCAA, Cowlitz County, and Ecology.

MM CDUST-3. Reduce Coal Dust Emissions from Rail Cars.

To address coal dust emissions, the Applicant will not receive coal trains unless surfactant has been applied at the BNSF Railway Company (BNSF) surfactant facility in Pasco, Washington for BNSF trains traveling through Pasco. While other measures to control emissions are allowed by BNSF, those measures were not analyzed in this EIS and would require additional environmental review. For trains that will not have surfactant applied at the BNSF surfactant facility in Pasco, before beginning operations, the Applicant will work with rail companies to implement advanced technology for application of surfactants along the rail routes for Proposed Action-related trains.

4.7.8 Unavoidable and Significant Adverse Environmental Impacts

Compliance with laws and implementation of the mitigation measures described above would reduce impacts on fish. There would be no unavoidable and significant adverse impacts on fish.

4.8 Wildlife

A rich diversity of wildlife species historically inhabited or used the waters of, and terrestrial habitat adjacent to, the Columbia River. Although development along the river has altered the natural environment, many wildlife species occur or depend on habitats found in the study area. Wildlife includes terrestrial and marine mammals, birds, reptiles, amphibians, and invertebrates, including species that are currently protected or proposed for protection under the federal Endangered Species Act (ESA) or other federal and state regulations. Fish species are also covered under the ESA and are discussed in Section 4.7, *Fish*, and the *SEPA Fish Technical Report* (ICF 2017a).

This section describes wildlife in the study area. It then describes impacts on wildlife that could result from construction and operation of the Proposed Action and under the No-Action Alternative. This section also presents the measures identified to mitigate impacts resulting from the Proposed Action.

4.8.1 Regulatory Setting

Laws and regulations relevant to wildlife are summarized in Table 4.8-1.

Table 4.8-1. Regulations, Statutes, and Guidelines for Wildlife

Regulation, Statute, Guideline	Description
Federal	
Endangered Species Act (16 USC 1531 *et seq.*)	Requires that applicants seeking a federal action, such as issuing a permit under a federal regulation (e.g., NEPA, Clean Water Act, Clean Air Act) undergo consultation with USFWS and/or NMFS. This will ensure the federal action is not likely to jeopardize the continued existence of any listed threatened or endangered animal species or result in the destruction or adverse modification of designated critical habitat. NMFS is responsible for managing, conserving, and protecting ESA-listed marine species. USFWS is responsible for terrestrial and freshwater species. Both agencies are responsible for designating critical habitat for ESA-listed species.
Migratory Bird Treaty Act of 1918, as amended (16 USC 703–713)	Makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations. Under the regulatory authority of USFWS.
Bald and Golden Eagle Protection Act of 1940, as amended (16 USC 668–668c)	Prohibits the taking of bald eagles, including their parts, nests, or eggs without a permit issued by USFWS, and provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle... [or any golden eagle], alive or dead, or any part, nest, or egg thereof."

Regulation, Statute, Guideline	Description
Marine Mammal Protection Act of 1972, as amended (50 CFR 216)	Protects marine mammals from "take" without appropriate authorization, which may only be granted under certain circumstances. NMFS and USFWS enforce the act. Animals under the jurisdiction of NMFS may be present in the study area. An incidental harassment authorization or letter of authorization (specific authorization to be determined) may be required pursuant to the act.
State	
Washington State Environmental Policy Act (WAC 197-11, RCW 43.21C)	Requires state and local agencies in Washington to identify potential environmental impacts that could result from governmental decisions.
Washington State Growth Management Act (RCW 36.70A)	Defines a variety of critical areas, which are designated and regulated at the local level under city and county critical areas ordinances. These critical areas may include portions of wildlife habitat.
Washington State Shoreline Management Act (RCW 90.58)	Requires cities and counties (through their Shoreline Master Programs) to protect shoreline natural resources.
Washington State Hydraulic Code (RCW 77.55)	WDFW administers the hydraulic project approval program under the state hydraulic code in or near state waters.
Clean Water Act Section 401 Water Quality Certification	Ecology issues permits for in-water construction activities to ensure compliance with state water quality standards and other aquatic resources protection requirements under Ecology's authority.
Marinas and Terminals in Freshwater Areas (WAC 220-660-160)	Applies to constructing, maintaining, and repairing marinas and terminals in freshwater areas and addresses fish life concerns.
Local	
Cowlitz County SEPA Regulations (CCC 19.11)	Provide for the implementation of SEPA in Cowlitz County.
Cowlitz County Critical Areas Ordinance (CCC 19.15)	Requires the County to designate critical areas such as wildlife habitat conservation areas.
Cowlitz County Shoreline Master Program (CCC 19.20)	Regulates development in the shoreline zone, including the shoreline of the Columbia River, a Shoreline of Statewide Significance.
City of Longview Shoreline Master Program (Ord. 3300)	Regulates development in the shoreline, including the shoreline of the Columbia River. Adopted in September 2015.
City of Longview Critical Areas Ordinance (LMC 17.10)	Regulates activities within and adjacent to critical areas and in so doing regulates fish and wildlife habitat conservation areas.

Notes:
USC = United States Code; NEPA = National Environmental Policy Act; USFWS = U.S. Fish and Wildlife Service; NMFS = National Marine Fisheries Service; ESA = Endangered Species Act; CFR = Code of Federal Regulations; RCW = Revised Code of Washington; WDFW = Washington Department of Fish and Wildlife; WAC = Washington Administrative Code; CCC = Cowlitz County Code; SEPA = State Environmental Policy Act; LMC = Longview Municipal Code

4.8.2 Study Area

The study area for direct impacts on terrestrial species and habitats consists of the project area plus the area extending up to 0.5 mile beyond the project area (Figure 4.8-1). This distance accommodates noise and visual disturbance thresholds set by the U.S. Fish and Wildlife Service (USFWS) for some sensitive species (U.S. Fish and Wildlife Service 2006).

The study area for direct impacts on aquatic species and habitats includes the main channel of the Columbia River and extends approximately 5.1 miles upstream and 2.1 miles downstream from the upstream and downstream ends of the proposed docks (Docks 2 and 3), respectively (Figure 4.8-1). The aquatic study area is based on the distances where underwater noise is estimated to reach harassment levels (Section 4.8.3.3, *Impact Analysis*). These distances represent the in-water "line of site" distances from the ends of the dock with respect to underwater noise.

The direct impacts aquatic study area also includes the various surface and stormwater ditches, ponds, and wetlands found throughout the project area.

The study area for indirect impacts on terrestrial species includes the rail corridors in Washington State that would be used by Proposed Action-related trains to account for potential coal spill and wildlife strike impacts (refer to Chapter 5, Section 5.1, *Rail Transportation*, for rail routes in Cowlitz County and Washington State). The study area for indirect impacts on aquatic species includes the Columbia River downstream from the project area to the mouth of the river to account for potential impacts on marine mammals (Section 4.7, *Fish*, Figure 4.7.2).

4.8.3 Methods

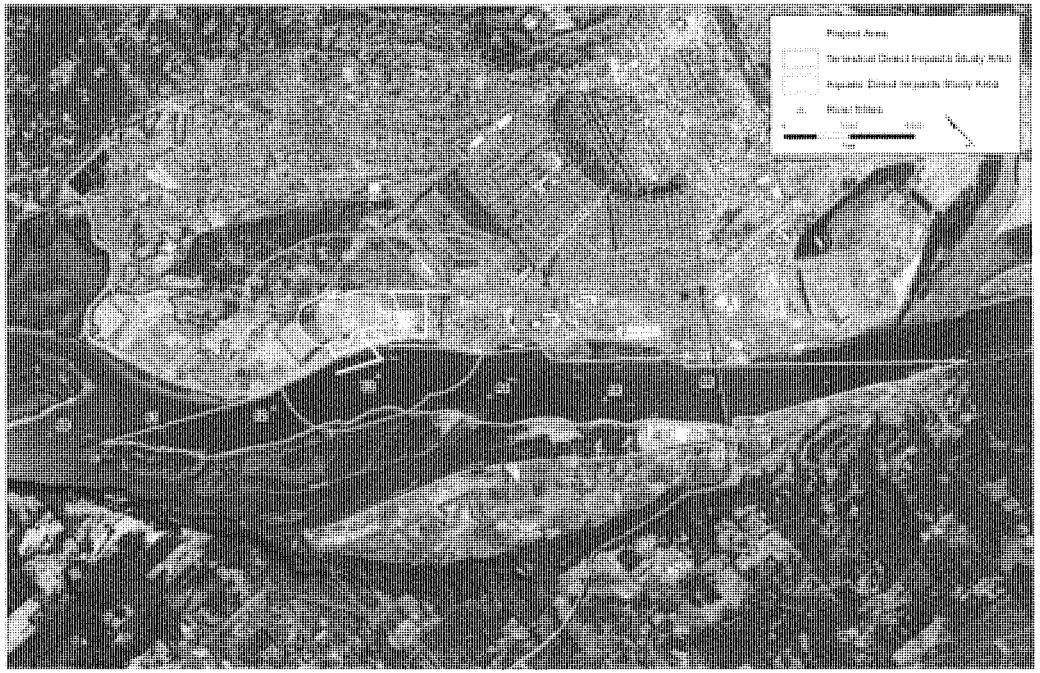
This section describes the sources of information used to evaluate the potential impacts on wildlife and wildlife habitat associated with the construction and operation of the Proposed Action and No-Action Alternative.

4.8.3.1 Information Sources

The following sources of information were used to identify the potential impacts of the Proposed Action and No-Action Alternative on wildlife in the study area. A detailed list is provided in the *SEPA Wildlife Technical Report* (ICF 2017b).

- Two site visits conducted by ICF biologists on April 8, 2014, and December 12, 2014
- Reports prepared by Grette Associates for the Applicant as part of the permit application materials (Grette Associates 2014a through 2014p)
- National Marine Fisheries Service (NMFS) (2015) west coast region species list
- National Oceanic Atmospheric Administration (2016a) technical guidance for assessing the effects of underwater sounds on marine mammals
- USFWS (2015) Information, Planning, and Conservation system online database

Figure 4.8-1. Boundaries for the Terrestrial and Aquatic Study Areas for Direct Impacts of the Proposed Action



The following sources of information were used to define the existing conditions relevant to wildlife and evaluate potential impacts of the Proposed Action and No-Action Alternative in the terrestrial and aquatic study areas. A detailed list is provided in the *SEPA Wildlife Technical Report.*

- Washington Department of Fish and Wildlife (WDFW) Priority Habitat and Species (PHS) Statewide List and Distribution for Cowlitz County (Washington Department of Fish and Wildlife 2015a); PHS spatial data (Washington Department of Fish and Wildlife 2015b)
- Washington State Department of Natural Resources (2015) online Herpetological Atlas spatial database

4.8.3.2 Impact Analysis

Potential wildlife and wildlife habitat that could be affected by the construction and operation of the Proposed Action were determined as described below. For more information on these methods, see the *SEPA Wildlife Technical Report.*

Identifying Resources in the Terrestrial and Aquatic Study Areas

The following species and habitat characteristics were identified and quantified, where possible.

- Documented species occurrences
- Species likely to occur in the terrestrial and aquatic study areas
- Suitable habitat conditions

While impacts on wildlife habitat can be quantified, impacts on wildlife species are qualitatively described. Wildlife species are mobile and their presence and abundance in the terrestrial and aquatic study areas cannot be quantitatively predicted. For documented occurrences, the focus was on wildlife species identified in the WDFW PHS database. Geospatial PHS data containing mapped locations of priority species occurrences and priority habitats were obtained from WDFW (Washington Department of Fish and Wildlife 2014). These data were overlaid with the study area to determine presence of documented priority species and habitat occurrences.

- A list of special-status wildlife species was compiled for the study area, consisting of those species federally listed as threatened, endangered, proposed, or candidate species; wildlife species listed in the WDFW PHS database; and marine mammals.
- A list of federally listed wildlife species for Cowlitz County was generated from the USFWS iPAC online planning tool (U.S. Fish and Wildlife Service 2015).
- A list of state priority species that occur in Cowlitz County was obtained from the WDFW PHS program website (Washington Department of Fish and Wildlife 2013).
- A list of federally protected marine mammals that could occur in the study area was compiled from the NMFS (2015) West Coast Region website.

Assessing Noise and Visual Disturbance

An animal's response to sounds depends on various factors, including noise level and frequency, distance and event duration, equipment type and conditions, frequency of noisy events over time, slope, topography, weather conditions, previous exposure to similar noises, hearing sensitivity,

reproductive status, time of day, behavior during the noise event, and an animal's location relative to the noise source (Delaney and Grubb 2003 in Washington State Department of Transportation 2015). As sound waves spread out from their source, their energy level decreases. This analysis considers potential terrestrial sound impacts on wildlife and potential underwater sound impacts on diving birds and marine mammals.

Terrestrial Noise and Visual Disturbance

USFWS has established terrestrial distance thresholds at which harassment, as defined under ESA, may occur for some sensitive species in Washington due to construction activity (U.S. Fish and Wildlife Service 2006); these species include the bald eagle (*Haliaeetus leucocephalus*), marbled murrelet (*Brachyramphus marmoratus*), Northern spotted owl (*Strix occidentalis caurina*), and Columbian white-tailed deer (*Odocoileus virginianus leucurus*). Table 4.8-2 presents distances from construction activity at which the USFWS predicts these species may experience harassment. Of the four species, the bald eagle has the lowest threshold for disturbance and, therefore, the greatest protective distance (0.5) mile. Therefore, using a conservative approach, the terrestrial study area for the Proposed Action extends 0.5 mile beyond the project area. While this distance is based on the bald eagle's sensitivity to noise and visual impacts, it is a reasonable proxy to use for terrestrial wildlife species in the absence of similar information for other terrestrial wildlife species.

Table 4.8-2. Harassment Distances for Federally Listed Species in Washington State

Species	Scientific Name	Activity and Harassment Distance
Bald eagle	*Haliaeetus leucocephalus*	Noise: 0.25 mile[a] Visual: 0.5 mile
Marbled murrelet	*Brachyramphus marmoratus*	Pile-driving: 33 feet[b] Visual: 300 feet
Northern spotted owl	*Strix occidentalis caurina*	Pile-driving: 180 feet
Columbian white-tailed deer	*Odocoileus virginianus leucurus*	Noise: 0.25 mile

Notes:
[a] Noise level disturbance varies on bald eagles. It has been found that visual disturbance is more likely to provoke escape behavior than noise disturbance (U.S. Department of Transportation 2004).
[b] Injury would occur at 202 decibels at this distance (Washington State Department of Transportation 2015).
Source: U.S. Fish and Wildlife Service 2006.

Underwater Noise Disturbance

For underwater impacts on marine mammals and diving birds due to sound, USFWS and NMFS have determined noise-level thresholds that may result in behavioral changes or injury. The distance at which these thresholds would be reached for the Proposed Action is based on the practical spreading loss model as described by Thomsen et al. (2006).

NMFS currently provides regulatory acoustic thresholds for assessing the effects of noise exposure on marine mammal hearing from impulsive (e.g., impact pile driving) and nonimpulsive (e.g., vibratory pile driving) noise sources (Table 4.8-3) (National Oceanic Atmospheric Administration 2016a). These thresholds represent peak and cumulative sound energy levels that may cause a permanent threshold shift (PTS), a physical injury that results in reduced hearing sensitivity, in the hearing of five functional hearing groups of marine mammals.

Table 4.8-3. NMFS Underwater Sound Level Effect Thresholds for PTS Auditory Injury to Marine Mammals

	PTS Onset Acoustic Thresholds (Received Level)	
Hearing Group[a]	**Impulsive**	**Non-impulsive**
Low-Frequency (LF) Cetaceans	$L_{pk,flat}$: 219 dB $L_{E,LF,24h}$: 183 dB	$L_{E,LF,24h}$: 199 dB
Mid-Frequency (MF) Cetaceans	$L_{pk,flat}$: 230 dB $L_{E,MF,24h}$: 185 dB	$L_{E,MF,24h}$: 198 dB
High-Frequency (HF) Cetaceans	$L_{pk,flat}$: 202 dB $L_{E,HF,24h}$: 155 dB	$L_{E,HF,24h}$: 173 dB
Phocid Pinnipeds (Underwater)	$L_{pk,flat}$: 218 dB $L_{E,PW,24h}$: 185 dB	$L_{E,PW,24h}$: 201 dB
Otariid Pinnipeds (Underwater)	$L_{pk,flat}$: 232 dB $L_{E,OW,24h}$: 203 dB	$L_{E,OW,24h}$: 219 dB

Notes:
[a] Cetacean examples include whales and dolphins; pinniped examples include seals and sea lions.
Source: National Oceanic Atmospheric Administration 2016a.
dB = decibel; $L_{pk,flat}$ = Peak Sound Pressure Level (unweighted); $L_{E,24h}$ = Sound Exposure Level, Cumulative 24 hour; PW = Phocids in Water; OW = Otariids in Water

While NMFS' recent technical guidance on underwater noise impacts on marine mammals (National Oceanic Atmospheric Administration 2016a) provides guidance on injury effects of noise to marine mammals, it does not provide revised guidance on behavioral disturbance of noise to marine mammals. NMFS's interim sound threshold guidance for the potential onset of behavioral disturbance or harassment to marine mammals from nonimpulsive (vibratory) and impulsive (impact) pile driving is 120 decibels root mean square (dB_{RMS}) and 160 dB_{RMS}, respectively (National Oceanic Atmospheric Administration 2016B). Because there is an extremely low probability of cetaceans (e.g., whales and dolphins) using the study area, they are not assessed for underwater sound impacts for the Proposed Action. Pinnipeds (e.g., seals and sea lions) may be found in the aquatic study area during construction.

USFWS has established underwater noise level thresholds for behavioral change, auditory injury, and nonauditory injury (i.e., barotrauma) to the federally listed marbled murrelet (U.S. Fish and Wildlife Service 2011). The underwater effect threshold for behavioral disturbance is 150 dB_{RMS}; auditory injury is 202 dB_{SEL}; and nonauditory injury is 208 dB sel. Underwater noise below 150 dB_{SEL} does not cause injury and is recognized by USFWS as effective quiet (Washington State Department of Transportation 2015). While marbled murrelets are not found in the study area, the underwater noise thresholds provide some guidance on potential underwater noise impacts that could be useful for other diving birds potentially present in the study area. In the absence of any federal or state agency criteria for underwater noise impacts on diving birds, these marbled murrelet criteria were used to establish distances at which underwater noise due to impact pile-driving may affect all diving birds in the aquatic study area. There are currently no vibratory pile-driving thresholds identified for marbled murrelet or other diving birds.

The distance at which underwater noise is reduced to the noise level thresholds described for marine mammals and marbled murrelet is calculated using the model currently preferred by USFWS and NMFS, the practical spreading loss model described by Thomsen et al. (2006). Up to four piles

would be driven per day over an 8-hour period. Pile-driving duration and sound source levels measured during construction activities similar to those described for the Proposed Action provide the basis for calculating the distance at which construction-related noise no longer reaches the marine mammal and marbled murrelet noise impact thresholds. Sound attenuation devices would he used during impact pile-driving and are predicted to reduce sound levels by up to 9dB (Grette Associates 2014a). Attenuated sound levels are used in the calculation of the underwater distances at which murrelets and marine mammals may be affected. The calculated distances are presented in Section 4.8.5.1, *Proposed Action, Construction—Direct Impacts*. Specifics about these analysis methods and criteria are provided in the *SEPA Wildlife Technical Report*.

4.8.4 Existing Conditions

This section describes the existing environmental conditions in the terrestrial and aquatic study areas related to wildlife that could be affected by the construction and operation of the Proposed Action and No-Action Alternative.

Extensive modifications of the lower Columbia River (flood control, industrial development, deep-draft vessel traffic) have altered the habitat conditions in the study area available to wildlife species using terrestrial and aquatic habitats. Floodplain habitats have been disconnected from the riverine environment and in some cases eliminated. The shoreline and riparian environment has been substantially altered (armoring and protection, overwater structures, and development), affecting habitat in adjacent upland and riparian zones. Industrial and transportation development inland have further altered the landscape and habitat conditions, thus changing the biological communities associated with these habitats.

4.8.4.1 Terrestrial Habitat

The project area comprises a disturbed industrial site developed with roads and industrial buildings and relatively small and fragmented vegetated areas primarily in the western portion of the project area. Patches of potentially suitable habitat in the undeveloped areas could support foraging and cover for small to large mammals, foraging and nesting for a variety of birds, and foraging, breeding, and nesting for amphibians (Grette Associates 2014c, 2014d, 2014e, 2014h). A segment of the project area where the trestle would be built crosses a levee with managed vegetation and riparian shoreline that borders the Columbia River. The vegetated riparian shoreline area is a very narrow strip of intermittent forest and shrub habitats that likely provides foraging and cover for small and large mammals, foraging and nesting for a variety of bird species, and foraging, breeding, and refuge for amphibians and reptiles (Grette Associates 2014d). Habitat types in the terrestrial study area for direct impacts include developed (i.e., disturbed), uplands (including riparian), and wetlands land cover classifications, which are described in Section 4.6, *Vegetation*.

In general, areas to the north-northeast and around to the southeast of the project area (in a clockwise direction) are already heavily developed by industrial, commercial, and residential land uses that extend to the Cowlitz River and along the Columbia River; immediately upstream of the project area, the heavily developed shoreline lacks suitable habitat and wildlife species are not present. Because the project area is at the western edge of this development, wildlife dispersal or movement through the project area is unlikely because there is no suitable habitat in these developed areas into which wildlife could move or disperse. Existing conditions currently hinder and create an impediment for wildlife movement toward the City of Longview (i.e., upstream of the project area). Immediately downstream of the project area are uplands, wetlands, and riparian

habitats, as well as disturbed areas; habitat conditions for wildlife are less disturbed than the project area with fewer structures. Immediately north of the project area is a triangular area of the Applicant's leased area bordered by Industrial Way to the south and Consolidated Diking Improvement District (CDID) #1 drainage ditches to the east and west. The habitat likely supports foraging and cover for small to large mammals (e.g., voles to deer); foraging and nesting for a variety of birds; and foraging, breeding, and refuge for amphibians and reptiles.

A small portion of Lord Island, in the Columbia River is located within the terrestrial direct impacts study area. Previously used for dredged material disposal, the forested island connects to Walker Island, downstream, by a narrow band of sand. Between the two islands lies a tidal marsh and shallows. With the exception of several transmission towers, the island is undeveloped and contains habitat for small and large mammals, and a variety of birds, amphibians, and reptiles. The Columbian white-tailed deer is found here and Lord Island is designated as a recovery area. More detail on Lord Island wildlife species and habitat is provided in the *SEPA Wildlife Technical Report*.

The study area for indirect impacts on terrestrial species and habitats along the rail corridors in Washington State consists of many habitat types, which broadly include lowland and montane forests, sagebrush prairie, and shrub-steppe. Various species of wildlife are associated with each of these terrestrial habitats. See Section 4.8.4.3, *Wildlife Species*, for more information on these habitats and associated wildlife.

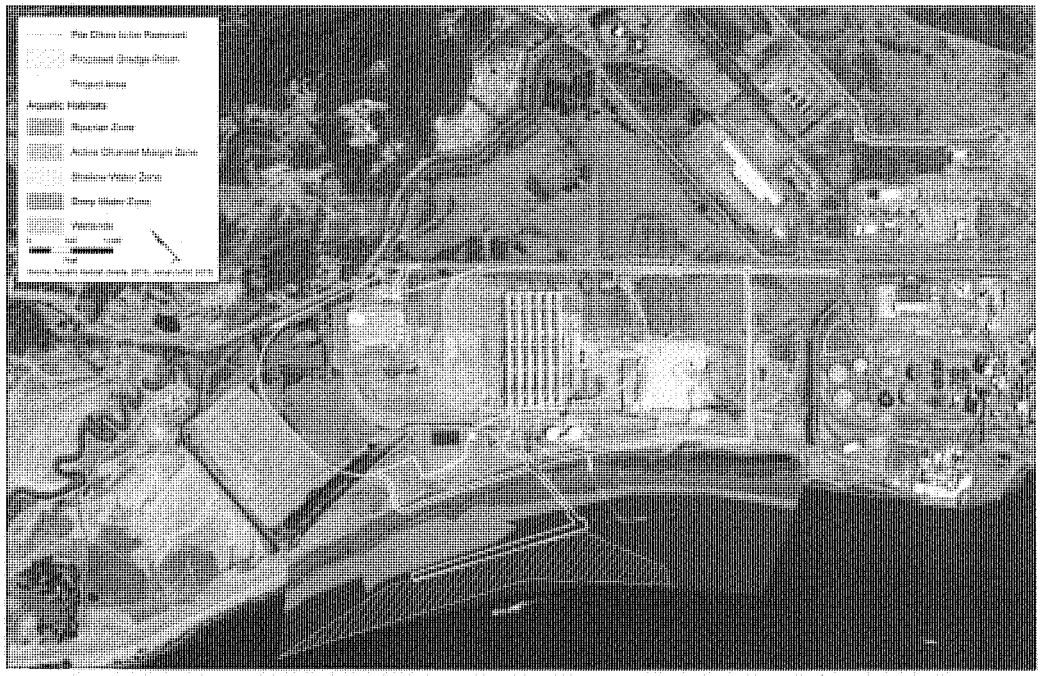
4.8.4.2 Aquatic Habitat

The aquatic direct impacts study area includes the Columbia River smaller areas of open water, including various surface and stormwater ditches and ponds, and wetlands throughout the project area (Section 4.3, *Wetlands*) that provide aquatic habitat. Ditches include those maintained by CDID #1 and privately owned stormwater ditches. The Columbia River supports marine mammals, fish, birds, and a variety of invertebrates (which serve as forage to support wildlife higher on the food chain). Fish are discussed in Section 4.7, *Fish*, other aquatic species are discussed below. Ponds, ditches, and wetlands in the aquatic direct impacts study area could support common species of invertebrates and amphibians as well as small mammals and birds.

Aquatic habitat types in the Columbia River in the aquatic direct impacts study area that could be affected by Proposed Action-related dredging and docks include the deepwater zone (DWZ), shallow water zone (SWZ), and active channel margin habitats (Figure 4.8-2) (Grette Associates 2014i). The active channel margin includes the shoreline and nearshore edge habitat extending from the ordinary high water mark (OHWM), or 11.1 feet Columbia River Datum (CRD), into the river to a depth of 0 feet CRD. In general, the upper shoreline adjacent to the active channel margin and above the OHWM is highly modified by levees and extensive riprap armoring with scattered large woody debris.

The SWZ extends from 0 feet CRD to a depth of -20 feet CRD and is relatively narrow and more steeply sloped than the active channel margin, making it unlikely to support aquatic vegetation (Grette Associates 2014j). The benthic (i.e., river bottom) habitats in the DWZ (-20 feet CRD to -45 feet CRD) of the Columbia River are subject to strong currents and reduced light penetration with depth and, therefore, support little to no aquatic vegetation.

Figure 4.8-2. Aquatic Habitats in the Direct Impacts Study Area Along the Length of the Project Area



Habitat in the aquatic indirect impacts study area includes the open water of the Columbia River from the project area to the river mouth that vessels use where marine mammals could be affected by vessel traffic. Marine mammals that may be found along the vessel route include sea lions and seals, as described in Section 4.8.4.3, *Wildlife Species*. The aquatic habitats along the navigation channel are deepwater habitats that are regularly dredged to depths for safe vessel passage.

4.8.4.3 Wildlife Species

Wildlife species likely to be found in the terrestrial direct impacts study area include common species of birds, rodents, amphibians, reptiles, and invertebrates. Larger and highly mobile species of mammals that are habituated to developed environments may also be present in the study area, including coyote (*Canis latrans*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*) and deer (*Odocoileus* sp.).

Wildlife species likely to be found in the aquatic study areas include common species of birds (waterfowl, raptors, shorebirds, marine birds, and passerine birds), California sea lions (*Zalophus californianus*), Steller sea lions (*Eumetopias jubatus*), harbor seals (*Phoca vitulina*), rodents, frogs, salamanders, snakes, lizards, and invertebrates.

Representative wildlife in the terrestrial indirect impacts study area in Cowlitz County may include black-tailed deer, red fox, coyote, raccoon, striped skunk, beaver, Oregon and grey-tailed vole, red-tailed hawk, Cooper's hawk, Canada geese, mallard and northern pintail ducks, great blue heron, white-breasted nuthatch, chipping sparrow, and a variety of amphibians and reptiles (Commission for Environmental Cooperation 2011). A review of PHS data (Washington Department of Fish and Wildlife 2015c) for terrestrial habitats indicates small areas of oak woodlands in a few places along the rail line; species associated with this habitat include various woodpeckers, migrant birds, reptiles, invertebrates, and the western gray squirrel (Washington Department of Fish and Wildlife 1998). In addition, two osprey point locations are mapped within 300 feet of the rail line (Washington Department of Fish and Wildlife 2015c). No designated critical habitat for federally protected species under USFWS jurisdiction is mapped in the terrestrial environment near the rail line corridor(s) potentially used to transport coal in Cowlitz County. Beyond Cowlitz County, several ecoregions are found between the county and the Washington border, each with various representative wildlife species, which may include mule deer, pronghorn antelope, coyote, black-tailed jackrabbit, ground squirrels, American kestrel, red-tailed hawk, western meadowlark, savanna sparrow, western diamondback rattlesnake, greater sage-grouse, sage sparrows, sage thrashers, pygmy rabbits, black-tailed deer, black bear, beaver, river otter, pileated woodpecker, northern goshawk, cougar, wolverine, yellow bellied marmot, bald and golden eagles, Cooper's hawk, and osprey, in addition to many other birds, mammals, reptiles, and insects (Commission for Environmental Cooperation 2011). The largest ecoregion has dry desert and steppe climates, marked by hot, dry summers and cold winters, and consists of shrub-steppe vegetation communities. Shrub-steppe communities can also support federally protected species, including the pygmy rabbit and Spalding's catchfly. WDFW also considers shrub-steppe a priority habitat under the PHS program. PHS data (Washington Department of Fish and Wildlife 2015c) also indicate various priority habitats and species along the rail line study area beyond Cowlitz County, including talus slope and cliffs/bluffs habitats, bald eagle concentrations and breeding areas, and western pond turtle regular occurrence areas.

Site Visit Observations

During the December site visit, two Columbian black-tailed deer (*Odocoileus hemionus columbianus*) were observed in the forested wetland area (Wetland A) in the northwest portion of project area, and two nutrias (*Myocastor coypus*) were observed on the sloped bank of the CDID #1 Ditch 10, on the north side of Industrial Way. Other signs of mammal presence were observed during both site visits, including several unidentified small mammal scats, a coyote scat along the dike road, a beaver (*Castor canadensis*)-chewed tree in the riparian habitat along the Columbia River, and an unidentified species of sea lion heard barking from the Columbia River navigation channel.

Several common bird species were recorded in the terrestrial direct impacts study area during the site visits, including red-winged blackbird (*Agelaius phoeniceus*), sparrows (*sp.*), robins (*Turdus migratoius*) and other songbirds, American coot (*Fulica Americana*), bufflehead (*Bucephala albeola*), mallards (*Anas platyrhnchos*) and other unidentified ducks, Canada geese (*Branta Canadensis*), cormorants (*sp.*), scaup (*sp.*), gulls (*sp.*), and great blue heron (*Ardea herodias*). A turkey vulture (*Cathartes aura*), red-tailed hawk, kestrel (*Falco sparverius*), and bald eagle (*Haliaeetus leucocephalus*) were observed flying overhead. During the December 2014 site visit, a small flock of Canada geese were observed grazing on wetland grasses in the project area, and several unoccupied raptor nests were observed in the forested habitat adjacent to the stormwater ditches on the southwest side of the project area and in an electrical tower near the west side of the dike road.

Grette Associates biologists conducted surveys for the federally threatened and state endangered streaked horned lark during the breeding season in 2013 and 2014 in the project area. No streaked horned larks were detected; however, 33 other bird species were recorded. A table listing these species is included in the *SEPA Wildlife Technical Report*. A few of these bird species are also special-status species, which are addressed in *Special-Status Wildlife Species*.

Three species of pinnipeds may be present in the aquatic study areas: harbor seal (*Phoca vitulina*), California sea lion (*Zalophus californianus*), and Steller sea lion (*Eumetopias jubatus*) (Jeffries et al. 2000). Because these marine mammals are all protected under the Marine Mammal Protection Act, they are described in more detail in *Special-Status Wildlife Species*. Various bird species, including waterfowl, raptors, and shorebirds are supported by habitats in the aquatic study areas. Freshwater insects and other invertebrate species (i.e., mollusks, crayfish) inhabit the upper layers of the benthos and provide forage for many species of fish and birds. Fish and their habitats, are discussed in Section 4.7, *Fish*.

Special-Status Wildlife Species

Special-status wildlife species are those listed as threatened, endangered, proposed, or candidate species under the ESA or are listed as priority species by WDFW. Table 4.8-4 lists the special-status wildlife species likely to occur in the terrestrial direct impacts study area and aquatic study areas. Further descriptions of each species are provided in the *SEPA Wildlife Technical Report*. Some of the PHS listings are not for individuals of a species (PHS Criteria 1) but for vulnerable aggregations (PHS Criteria 2) of individuals, such as western Washington nonbreeding concentrations.

Table 4.8-4. Special-Status Wildlife Species that Could Occur in the Terrestrial Direct Impacts Study Area and Aquatic Study Areas

Wildlife Species	Potential for Occurrence[a]	Potential Habitat	State Priority Species Criteria[b]	Federal Status[c]	State Status[d]
Mammals					
Columbian black-tailed deer (*Odocoileus hemionus columbianus*)	Yes	Species documented on project area. Limited habitat on project area. May use forested portions of terrestrial study area.	3	N/A	N/A
Columbian white-tailed deer (*Odocoilieus virginianus leucurus*)	Yes	Species documented on project area.[e] Limited forage and cover on project area. Suitable habitat available on Lord Island.	1	T	E
Harbor seal (*Phoca vitulina*)	Yes	Present in Columbia River	2	N/A	N/A
California sea lion (*Zalophus californianus*)	Yes	Present in Columbia River	2	N/A	N/A
Stellar Sea lion (*Eumetopias jubatus*)	Yes	Present in Columbia River	1, 2	SC	T
Birds					
Streaked horned lark (*Eremophila alpestris strigata*)	Possibly	Not documented during surveys on project area. Potential suitable habitat on Lord Island.	1	T	E
Bald eagle (*Haliaeetus leucocephalus*)	Yes	Forested wetlands could provide roosting habitat. Suitable habitat on Lord Island.	1	SC	S
Peregrine falcon (*Falca peregrinus*)	Possibly	Potential foraging habitat	1	SC	S
Barrows goldeneye (*Bucephala islandica*)	Possibly (nonbreeding concentrations unlikely)	Open water	2, 3	N/A	N/A
Common goldeneye (*Bucephala clangula*)	Possibly (nonbreeding concentrations unlikely[f])	Open water	2, 3	N/A	N/A

Wildlife Species	Potential for Occurrence[a]	Potential Habitat	State Priority Species Criteria[b]	Federal Status[c]	State Status[d]
Bufflehead (*Bucephala albeola*)	Yes (nonbreeding concentrations unlikely[f])	Open water	2, 3	N/A	N/A
Waterfowl concentrations	Yes	Suitable habitat documented in terrestrial and aquatic study areas	2, 3	N/A	N/A
Vaux's swift (*Chaetura vauxi*)	Possibly	No large snags for nesting or roosting identified on project area but possible in terrestrial study area.	1	N/A	C
Pileated woodpecker (*Dryocopus pileatus*)	Possibly	Possible in forested habitat.	1	N/A	C
Purple martin (*Progne subis*)	Yes	Species documented in terrestrial study area, possible foraging.	1	N/A	C

Notes:

[a] Potential for individuals to occur based on multiple sources, including PHS data, scientific literature, and agency documents; Potential for vulnerable aggregations based on PHS data only.

[b] State PHS Species Criteria
1 – State-listed or candidate species
2 – Vulnerable aggregation
3 – commercial, recreational, or tribal importance

[c] Federal Status under the U.S. Endangered Species Act
E = Endangered
T = Threatened
SC = Species of Concern

[d] State Status
E = Endangered
T = Threatened
C = Candidate
S = Sensitive

[e] Grette Associates 2014j

[f] Western Washington Nonbreeding Concentrations

[g] Willapa Hills Audubon Society 2014

The likelihood of each species or vulnerable aggregations occurring in the terrestrial direct impacts study area and aquatic study areas is listed as follows (Washington Department of Fish and Wildlife 2013).

- *Yes* (known to occur)
- *Possibly* (likely to occur due to presence of suitable habitat, but not documented)
- *Unlikely* (individuals may occur in the terrestrial or aquatic study areas but vulnerable aggregations are not documented in the PHS database)

A listing of *No* does not mean individuals of that species could not occur in the terrestrial direct impacts study area or aquatic study areas, it signifies that there are no documented vulnerable aggregations (the potential for individuals to occur in the terrestrial or aquatic study areas is provided in parenthesis).

Columbian White-tailed Deer (*Odocoilieus virginianus leucurus*)

The Columbia River population of the Columbian white-tailed deer is a federally threatened and state endangered species. The Columbia River population is one of only two extant populations in the United States. The Columbia River population inhabits the lower Columbia River floodplain and islands within the river channel. The current range of the Columbian white-tailed deer overlaps with the terrestrial direct impacts study area, including Barlow Point and Fisher, Walker, and Lord Islands (Washington Department of Fish and Wildlife 2013).

WDFW has identified specific locations along the Columbia River for recovery of this population (Washington Department of Fish and Wildlife 2013). The nearest recovery location to the study area is downstream of Longview, which includes Fisher, Hump, Lord, and Walker Islands (Washington Department of Fish and Wildlife 2013). The presence of Columbian white-tailed deer in the terrestrial direct impacts study area has been documented.

Columbian Black-tailed Deer (*Odocoileus hemionus columbianus*)

Columbian black-tailed deer use upland slopes and closed-canopy coniferous forests as they require a mix of forest and openings for cover and forage (Washington Department of Fish and Wildlife 2014). Columbian black-tailed deer have been observed on the project area.

Streaked Horned Lark (*Eremophila alpestris strigata*)

The streaked horned lark is a federally threatened and state endangered species. Streaked horned larks prefer open spaces characterized by flat, treeless landscapes of 300 acres or more, sparse grass/forb vegetation, and few or no shrubs. In the lower Columbia River, they were historically known to nest on sandy beaches and spits. Now, they can be found nesting on dredge spoil depositions. In the project area and the broader terrestrial direct impacts study area, a few small areas contain potentially suitable habitat (low vegetative cover and no woody vegetation) that are located adjacent to the Columbia River: the closed Reynolds landfill and edges of roadbeds. No streaked horned larks were observed during the surveys in the project area during the 2013 and 2014 breeding seasons (Grette Associates 2014j, 2014k).

All critical habitat areas within the lower Columbia River are located downstream from the project area, with the exception of one area located upriver. The closest designated critical habitat is on

Crims Island, approximately 5 miles downstream of the study area. The only critical habitat upstream of the study area is on Sandy Island, Columbia County, Oregon at river mile 76, approximately 13 miles upriver (U.S. Fish and Wildlife Service 2012).

Bald Eagle (*Haliaeetus leucocephalus*)

Bald eagles nest and forage for fish along the lower Columbia River. There are no documented bald eagle nests in the terrestrial direct impacts study area and no suitable nesting habitat exists on the project area. The nearest documented nest sites are located approximately 2 miles downstream and 4 miles upstream of the project area (Washington Department of Fish and Wildlife 2014). The terrestrial direct impacts study area provides foraging habitat for this species. Lord Island also provides suitable habitat that may be used by bald eagles (Pacific Coast Joint Venture 1994). Bald eagles were observed soaring over the terrestrial direct impacts study area during the April 8, 2014 site visit. Bald eagles were also observed in the terrestrial direct impacts study area during the July 12, 2013 streaked horned lark surveys (Grette Associates 2014j).

Peregrine Falcon (*Falco peregrinus*)

Peregrine falcons nest on cliff ledges but also use tall manmade structures such as bridges, overpasses, buildings, and power plants (Oregon Department of Transportation undated). The nearest documented nest location is approximately 3 miles south of the project area (Washington Department of Fish and Wildlife 2014). Peregrine falcons nesting within a few miles of the project area could use the study area for foraging.

Waterfowl

Nonbreeding concentrations of Barrows goldeneye (*Bucephala islandica*), common goldeneye (*B. clangula*), and bufflehead (*B. albeola*) are considered priority species (vulnerable aggregation) by WDFW. A few individual bufflehead were observed resting on open water (both in wetlands and on the Columbia River) in the terrestrial direct impacts study area during the April 8, 2013 site visit. However, within the terrestrial direct impacts study area there are no vulnerable concentrations of waterfowl documented by WDFW in the PHS database (Washington Department of Fish and Wildlife 2014). The nearest documented vulnerable concentration is located approximately 0.25 mile north of the terrestrial direct impacts study area. Lord Island and adjoining Walker Island support waterfowl and suitable habitat is located just outside of the terrestrial direct impacts study area in the tidal marsh area between the islands south of the sand spit (Pacific Coast Joint Venture 1994).

Purple Martin (*Progne subis*)

The purple martin is a state-listed species of concern. Purple martins were observed on the project area during the streaked horned lark surveys in July 2013 (Grette Associates 2014j). Several nest sites are documented in the Coal Creek Slough, approximately 3 to 4 miles downstream of the terrestrial direct impacts study area (Washington Department of Fish and Wildlife 2014).

Vaux's Swift (*Chaetura vauxi*)

The Vaux's swift is a state candidate species. They are summer (June to mid-August) residents in Washington, migrating north to Washington during the spring (April to late May) and south during the fall (mid-August to late September). There is no suitable nesting or roosting habitat on the project area; however, other forested areas in the terrestrial direct impacts study area may contain

suitable habitat. Vaux's swifts may fly through the study area during migrations or while foraging. They are commonly observed at the Mint Farm (Willapa Hills Audubon Society 2014) east of the study area.

Pileated Woodpecker (*Dryocopus pileatus*)

Pileated woodpeckers inhabit mature deciduous or mixed deciduous-coniferous forests. There is no suitable nesting habitat in the project area. Limited foraging habit may be available in the forested areas onsite. Forested portions of the terrestrial direct impacts study area may contain suitable habitat for nesting and foraging.

Pinnipeds

Three species of pinniped are found in the lower Columbia River in the aquatic study areas: California sea lions (*Zalophus californianus*), Steller sea lions (*Eumetopias jubatus*), and harbor seals (*Phoca vitulina*). Sea lions use the lower Columbia River for foraging on fish and resting at haulout sites. Breeding areas (both mating rookeries and pupping sites) for California sea lions are located in California and Mexico. Steller sea lions are primarily present during the nonbreeding season.

Surveys conducted in the 1990s identified four haulout sites used by sea lions between the mouth of the Columbia River and its confluence with the Cowlitz River (Jeffries et al. 2000), which is approximately 4.5 miles upstream of the project area. There are no documented sea lion haulout sites in the aquatic direct impacts study area, but individuals likely swim through the aquatic direct impacts study area as they migrate up and down the Columbia River. Harbor seals are the most numerous of the pinnipeds found in Washington waters. Like sea lions, they forage and rest along the lower Columbia River, with dozens of haulout sites identified between the mouth of the river and the aquatic direct impacts study area. There are no documented seal or sea lion haulout sites in the aquatic direct impacts study area, but individuals swim through the aquatic direct impacts study area as they migrate up and down the Columbia River.

4.8.5 Impacts

This section describes the potential direct and indirect impacts related to wildlife and wildlife habitat that could result from the construction and operation of the Proposed Action and the No-Action Alternative.[1] The Applicant identified the following design features and best management practices to be implemented as part of the Proposed Action, and these were considered when evaluating potential impacts of the Proposed Action.

- The Applicant would design the trestle to be long and narrow, and at a height above OHWM to minimize shading in shallow water areas. From shore, the trestle would measure 24 feet in width for 700 feet, and 51 feet in width for the final 150 feet. The top of the deck would be +22 feet CRD and the bottom of the deck +19.5 feet CRD. Therefore, the bottom of the deck would be more than 8 feet above OHWM. This design would minimize overall impacts in shallow water, including impacts on habitat connectivity along the shoreline.
- The Applicant would locate Docks 2 and 3 entirely in deepwater habitat to distance the structure and terminal activities from shallow water areas.

[1] Acreages presented in the impacts analysis were calculated using geographic information system (GIS), thus, specific acreage of impacts are an estimate of area based on the best available information.

- The Applicant would locate the berthing area at depths of at least -20 feet CRD to avoid habitat conversion from shallow to deepwater during dredging.
- The Applicant would locate the berthing area in deepwater closer to the navigation channel to minimize the scope of future maintenance dredging.
- The Applicant would direct lighting for the Proposed Action downward or at structures, and would incorporate shielding to avoid spillage of light into aquatic areas.
- The Applicant would include a pinpoint light source at the end of the shiploading boom, aimed straight down into the ship hold area to avoid a broader beam that could cause light spillage.
- The Applicant would remove the piles associated with the pile dikes slowly to minimize sediment disturbance and turbidity in the water column.
- Prior to pile extraction, the Applicant would break the friction between the pile and substrate to minimize sediment disturbance.

4.8.5.1 Proposed Action

This section describes the potential impacts that could occur in the terrestrial and aquatic study areas as a result of the construction and operation of the Proposed Action.

Construction activities that could affect wildlife include the following.

- Permanent removal of habitat and wildlife mortality in terrestrial and aquatic habitats associated with clearing and construction of the proposed terminal.
- Wildlife displacement and mortality associated with clearing and construction of the coal export terminal.
- Noise and visual impacts on terrestrial and aquatic wildlife associated with operation of construction equipment, general construction related noise and pile driving.
- Spills and leaks associated with construction equipment and materials.

Operation activities that could affect wildlife include the following.

- Noise impacts on wildlife associated with operations such as train movements, transfer of coal, and general industrial operations.
- Spills and leaks from trains, vehicles, or equipment.
- Vessel strikes of marine mammals.
- Underwater vessel noise impacts on pinnipeds and diving birds.
- Removal of habitat during maintenance dredging affecting wildlife and habitat.
- Coal dust deposition affecting terrestrial, wetland, and aquatic habitats and wildlife.

Construction—Direct Impacts

Construction-related activities associated with the Proposed Action could result in direct impacts as described below. As explained in Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, construction-related activities include demolishing existing structures and preparing the site,

constructing the rail loop and dock, and constructing supporting infrastructure (i.e., conveyors and transfer towers).

Temporarily Alter or Permanently Remove Terrestrial Habitat

Construction of the Proposed Action would result in the permanent loss of terrestrial wildlife habitat in the study area (Table 4.8-5 and Section 4.3, *Wetlands*). Construction grading and clearing would permanently remove 201.50 acres of habitat, that is mostly disturbed vegetation. As described in Section 4.8.4.1, *Terrestrial Habitat*, patches of potentially suitable upland habitat in the undeveloped areas in the western portion of the project area could support foraging and cover for some wildlife, including the Columbian white-tailed deer.

Table 4.8-5. Permanent Terrestrial Habitat Loss by Type in the Project Area

Habitat Type	Direct Impact Area (acres)
Disturbed	151.14
Upland	26.26[a]
Wetland	24.10
Total	**201.50**

Notes:
[a] Includes 0.05 acre of riparian forest. Further information on the different vegetation components of upland is found in Section 4.6, *Vegetation*.

Approximately 24.1 acres of wetland would be permanently filled resulting in permanent loss of wetland function. Based on Ecology's *Washington State Wetland Rating System for Western Washington*, three of the five wetlands in the project area were determined to have moderate habitat function and two wetlands were determined to have low habitat function. Wildlife functions in these wetlands are likely limited to temporary use by passerine birds and waterfowl for foraging, breeding, and refuge. Mitigation would be required to compensate for the loss of these wetlands and their habitat functions as part of the Clean Water Act Section 401 and Section 404 permit process. Habitat functions of wetlands in the project area are described in more detail in Section 4.3, *Wetlands*.

Temporary impacts on aquatic habitat could occur through soil disturbance, stockpiling, and erosion, causing an increase in total suspended sediments in the Columbia River and freshwater ditches on and adjacent to the project area. These types of impacts would be avoided or greatly reduced with the implementation of construction best management practices, avoidance and minimization measures, and compliance with permit requirements, such as those associated with the required 401 Water Quality Certification and hydraulic project approval. Section 4.5, *Water Quality*, describes the potential impacts of the Proposed Action on water quality.

Cause Wildlife Displacement or Mortality

Wildlife present in the project area during construction activities could be displaced, injured, or killed by construction vehicles or equipment, placement of construction materials on the ground, or ground disturbance such as preloading activities. Approximately 151 acres (75%) of the terrestrial habitat in the project area are currently developed and wildlife would likely not be present in these areas due to the lack of suitable habitat. The remaining 50 acres comprise suitable but degraded habitat and animals inhabiting these areas during construction activities

could be affected. Highly mobile wildlife species, such as larger mammals and birds, would likely leave the project area during construction activities and move to adjacent areas of suitable habitat. Some less mobile species, such as burrowing mammals, reptiles, amphibians, and insects, could be injured or killed. Because these potential mortality impacts would only occur during construction and these species would be able to reproduce rapidly and in adjacent suitable habitats, the losses due to mortality would not be expected to affect the viability or fitness of the species on the population scale.

Cause Temporary Physical or Behavioral Responses to Construction Noise and Human Activities

Construction of the Proposed Action could affect both terrestrial and aquatic wildlife because of increased human presence, elevated noise levels, and/or ground-disturbing activities. While wildlife in and around the terrestrial and aquatic study area are likely habituated to human activity and noise levels associated with industrial and developed areas, noise levels at the project area would increase above ambient levels for the duration of construction, especially during impact pile-driving activities associated with dock and trestle construction.

Wildlife species exhibit different hearing ranges and all wildlife do not respond the same way to similar sound sources or levels. Wildlife response to sounds depends on numerous factors, including noise level, frequency, distance and event duration, equipment type and conditions, frequency of noise events over time, slope, topography, weather conditions, previous exposure to similar noises, hearing sensitivity, reproductive status, time of day, behavior during the noise event, and the animal's location relative to the noise source (Delaney and Grubb 2003 in Washington State Department of Transportation 2015). Therefore, an animal's reaction to elevated noise levels could range from mild disturbance with little or no reaction to escape behavior, which would displace individuals by forcing them to abandon the area of elevated noise levels, potentially resulting in significant impairment or disruption of normal behavioral patterns. Such displacement and disruption of behavior could reduce productivity and survival of individuals as the individual would likely expend more energy relocating to new suitable habitat, and would be less familiar with new habitat areas and at an increased risk of predation, potentially limiting survival of individual adults or offspring (e.g., abandoning young). These impacts would be exacerbated where there is no adjacent or nearby suitable habitat that is easily accessible. In addition, visible construction equipment, materials, and an increase in infrastructure could cause displacement because some species would avoid areas within the line-of-sight of construction equipment operations.

Dredging and the associated noise could affect birds, including streaked horned larks, during the nesting season. No studies specifically identify noise sensitivities of the streaked horned lark. However, noise sensitivity studies of the marbled murrelet found that marbled murrelets are very sensitive to underwater noise such as pile driving and to prolonged terrestrial noise that lasts longer than 10 to 15 minutes (Mountain Loop Conservancy 2010). Shorebird sensitivities are more closely related to those of sea lions because they spend most of their time above water and generally stay in the shallow water while hunting (Science Applications International Corporation 2011). Dredging activities have been shown to generate noise of 72 decibels in commercial or industrial areas (Epsilon Associates, Inc. 2006). Noise levels in this range could disturb birds, but would not likely result in injury.

Construction-related noise impacts and the presence of construction equipment and materials would be temporary, occurring over the estimated 6-year construction period. A lower density of development northwest of the terrestrial study area could connect to potentially suitable wildlife habitat where wildlife could relocate during and after construction. Because wildlife in the terrestrial study area are likely habituated to noise levels associated with industrial areas and are generally mobile, construction-related noise could affect individuals of a species, but would not affect a species' whole population or the overall fitness of a population.

Temporarily Alter or Permanently Remove Aquatic Habitat

Construction of the Proposed Action would result in the physical alteration or permanent loss of approximately 77.37 acres of aquatic habitat in the aquatic study area. Dredging to provide vessel access to Docks 2 and 3 would alter approximately 48 acres of benthic deepwater habitat and construction would result in the permanent loss of approximately of 5.17 acres of aquatic habitat (ditches and ponds) throughout the terrestrial habitats of the project area and 0.10 acre (4,312 square feet) of Columbia River bottom for the placement of 610 piles (7.07 square feet per pile multiplied by 610 piles). Additionally, the Proposed Action would result in the permanent loss of 24.1 acres of wetland habitat (refer to Section 4.3, *Wetlands*, for further information).

These open areas of freshwater and wetlands support common species of amphibians and may be used by mammals and birds. Mammals and birds are highly mobile species and are expected to leave the vicinity during construction activities. Some mortality of amphibians could occur; however, these species typically reproduce rapidly and any losses due to mortality would not be expected to affect the viability or fitness of the species' populations.

The placement of 610 piles would permanently remove benthic habitat in the Columbia River, where the areas within each pile footprint would cease to contribute toward primary or secondary productivity. Benthic, epibenthic, or infaunal organisms within the pile footprint at the time of pile driving would likely perish.

Construction of the docks and trestle would also create 5.13 acres of new overwater surface area. While these overwater structures would be constructed on top of the 610 piles (i.e., no physical placement of overwater structures within the water column or substrate), the presence of the overwater structures would limit light penetration into the aquatic environment and affect primary productivity.

Existing creosote-treated piles associated with two pile-dikes would be removed using vibratory extraction or direct-pull methods (Grette Associates 2014n). Removing creosote-treated woodpiles from the Columbia River could improve water quality over the long term; however, removing the piles could cause temporary, short-term increases in suspended sediments, short-term water contamination, and long-term sediment contamination from creosote released during extraction or long-term exposure to the water column.

Creosote and associated chemicals, particularly those that are water-soluble and that persist in the water column are known to bioconcentrate in many aquatic invertebrates (Eisler 1987; Brooks 1997). Creosote contains a mixture 200 to 250 compounds, with primary components composed of polycyclic aromatic hydrocarbons (PAHs) (Brooks 1997; National Marine Fisheries Service 2009). PAHs are known to be toxic to aquatic organisms including invertebrates and fish and can cause sublethal and lethal effects (Eisler 1987; Brooks 1997). Most of the components of

creosote are heavier than water and sink in the water column. PAHs from creosote accumulate in sediments and are likely to persist at the site of pile removal or wherever they settle until they degrade (National Marine Fisheries Service 2009). However, PAHs from sediment are less bioavailable to aquatic species and, thus, these organisms are not likely to bioaccumulate PAHs from sediments (Brooks 1997). Over the long term, the source of creosote would be removed or capped by the sediment falling into the hole left by the extracted pile. Water quality would improve, the concentration of creosote in the sediment would be expected to decrease, and the potential pathway of exposure for wildlife through contamination of prey would be reduced.

Dredging would permanently alter a 48-acre area of deepwater habitat by removing approximately 500,000 cubic yards of benthic sediment. Within the proposed dredge prism (i.e., extent of dredged area), the amount of deepening would vary based on existing depths, from no removal up to a depth of approximately 16 feet of removal. Permits for the Proposed Action, including dredging, would require site-specific sediment sampling to characterize the proposed dredge prism and ensure compliance with a dredged materials management plan.

Most bottom-dwelling benthic organisms are stationary or slow moving and would likely perish during dredging. Benthic organisms typically recolonize disturbed areas within 30 to 45 days. Dredging activities could also affect pinnipeds through collisions with vessels and dredge-related increases in turbidity. Collisions are possible but unlikely given the slow speeds of dredging vessels. Information on turbidity is limited; however, existing research indicates that dredge-related turbidity is not likely to cause substantial impacts on pinnipeds since they often inhabit naturally turbid or dark environments and are likely to use senses in addition to their vision (Todd et al. 2014). Noise could cause masking and behavioral changes but is unlikely to cause auditory damage to pinnipeds (Todd et al. 2014). Localized, temporary increases in turbidity would not likely cause long-term or negative impacts on pinnipeds.

Cause Temporary Physical or Behavioral Responses to Underwater Construction Noise—Pinnipeds

Installation of structural steel piles to support Docks 2 and 3 would generate underwater noise during pile-driving (Grette Associates 2014b) that could exceed the harassment thresholds described in Section 4.8.3.2, *Impact Analysis, Assessing Noise Impacts*. Pile installation and the applicable work windows would be provisioned in the Hydraulic Project Approval. Pile installation would likely occur over two in-water work window construction periods due to the number of in-water piles required for the dock and trestle.

Impact Pile-Driving

PTS auditory injury could occur on phocid pinnipeds (e.g., harbor seals) and otariid pinnipeds within 15,220 feet and 1,109 feet, respectively, of active impact pile driving without any sound attenuation in place. With implementation of a bubble curtain to attenuate noise levels during impact pile driving, there would be a reduction of at least 9 decibels at the source, which would decrease the distance to phocid and otariid PTS injury to 3,822 feet and 279 feet, respectively. Because the Columbia River is approximately 3,281 feet wide at the point where pile-driving would occur, and the aquatic direct impacts study area extends 5.1 miles upstream of the project area and 2.1 miles downstream of the project area, there would be a large area of the river within the aquatic study area that pinnipeds could use and avoid exposure to the area where underwater noise reaching PTS injury levels may occur. Based on the seasonal use patterns for

California sea lion, Steller sea lion, and harbor seals in the study area, presence of individual pinniped species during impact pile driving would be unlikely.

It is estimated that behavioral disturbance could occur for both phocid and otariid pinnipeds up to 17,756 feet from impact pile driving without any sound attenuation devices. With implementation of a bubble curtain to attenuate sounds, it is estimated that there would be a reduction of at least 9 decibels at the source, which would decrease the distance to pinniped behavioral disturbance to 4,459 feet from each pile as it is driven. In the event these pinnipeds pass through the study area during impact pile driving, they would be exposed to sound in excess of the behavioral disturbance threshold. Based on the seasonal use patterns for California sea lion, Steller sea lion, and harbor seals in the study area, presence of individuals of these species during impact pile driving would be unlikely.

Vibratory Pile-Driving

PTS auditory injury could occur for phocid and otariid pinnipeds within 331 feet and 23 feet, respectively, of active vibratory pile driving. Because the Columbia River is approximately 3,281 feet wide at the point where pile driving would occur, there would be a wide area of the river that pinnipeds could use in the aquatic study area and avoid exposure to the area where underwater noise reaching PTS injury levels may occur. Based on the seasonal use patterns for California sea lion, Steller sea lion, and harbor seals in the study area and based on the proposed work window for in-water pile installation, presence of individual pinnipeds during pile driving would be unlikely. In addition, the threshold distances assume pinnipeds would be exposed to 1.2 hours of elevated noise during a day of vibratory pile-driving (four piles/day, 20 minutes/pile). Given the adherence to in-water work windows, the short impact distance, and the ability of pinnipeds to travel outside the area of elevated underwater noise, thereby reducing the duration of their exposure, pinnipeds that could be present in the study area are unlikely to experience PTS auditory injury due to vibratory pile-driving.

Behavioral disturbance due to vibratory pile driving could occur for both phocid and otariid pinnipeds up to 5.1 miles upstream from the project area and 2.1 miles downstream from the project area. These disturbance distances are defined by bends in the Columbia River that effectively intercept the underwater noise that would otherwise result in the disturbance area extending 72 miles. Sound travels in straight lines, and can only travel up to the distances of these river bends. Therefore, behavioral disturbance from vibratory pile driving could only occur within this area (Figure 5.8-1). Sound attenuation devices are not applicable to vibratory pile driving methods so no reduction in noise level is anticipated. Based on seasonal use patterns of the study area by pinnipeds and the proposed in-water work window for pile installation, pinnipeds are unlikely to be present during pile driving.

Cause Temporary Physical or Behavioral Responses to Underwater Construction Noise—Diving Birds

Potential impacts on diving birds in the Columbia River are most likely to occur due to underwater noise generated during in-water installation of piles; specifically impact pile-driving, which would generate the loudest and most intense underwater noise during construction. As described in the previous *Assessing Noise and Visual Disturbance* section, USFWS-established noise thresholds for the marbled murrelet were used to assess underwater noise impacts on all diving birds in the Columbia River. Based on these thresholds and assuming

noise attenuation devices will reduce sound source levels by 9 dB, behavioral disturbance may occur at distances less than 20,701 feet, auditory injury may occur at distances less than 387 feet, and barotrauma injury may occur at distances less than 154 feet from in-water pile-driving.

The reaction of a diving bird that is exposed to underwater noise levels above 150 dB_{RMS} (but below 202 dB_{SEL}) could range from mild disturbance to escape behavior, which would displace individuals by forcing them to abandon the area of elevated noise levels, potentially resulting in impairment or disruption of normal behavioral patterns. Such displacement and disruption of behavior could interrupt feeding and diving, and reduce productivity and survival of individuals, as the individual would likely expend more energy relocating to a new area. However, impact pile-driving noise impacts would be temporary, occurring over 2 years during the approved in-water work window, and it is not anticipated that underwater impact pile-driving noise would affect the overall fitness of diving bird populations.

Cause Temporary Spills and Leaks that Affect Species or Habitat

Construction activities would occur on land as well as in and over waters of the Columbia River. Construction activities could result in temporary water quality impacts from the release of hazardous materials such as fuels, lubricants, hydraulic fluids, or other construction- related hazardous materials. Spills could affect aquatic and terrestrial wildlife near the discharge point, potentially affecting the respiration, growth, or reproduction of these species, or contaminating their habitat. The risk of a spill or release of hazardous materials is low because of the requirements associated with the handling, transfer, use, and storage of most construction-related hazardous materials. The potential risks, impacts, and mitigation measures related to impacts on water quality are addressed in Section 4.5, *Water Quality*. The potential for these types of impacts would be avoided or greatly reduced given protective measures to guard against these risks, including construction best management practices, avoidance and minimization measures, in-water work restrictions, and compliance with regulatory and permit requirements, such as those associated with 401 Water Quality Certification. However, a spill may have potential impacts on wildlife based on the location, weather conditions, and type and amount of material.

Construction—Indirect Impacts

Construction of the Proposed Action would not result in indirect impacts on wildlife or wildlife habitat because construction of the coal export terminal would be limited to the project area.

Operations—Direct Impacts

Operation of the Proposed Action would result in the following direct impacts. Operations-related activities are described in Chapter 2, *Project Objectives, Proposed Action, and Alternatives.*

Cause Periodic Spills or Leaks that Contaminate Terrestrial or Aquatic Habitat

Routine operations at the project area could result in spills or leaks of hazardous materials from vehicles, trains, or equipment. Contaminants could affect terrestrial habitat as well as water quality, thus degrading aquatic habitat in the Columbia River and drainage ditches in the aquatic study area. Training, oil discharge prevention briefings, and regulatory compliance would reduce these risks and the potential for impacts. Additional measures are outlined Section 4.5, *Water Quality*, and Chapter 3, Section 3.6, *Hazardous Materials.*

Cause Periodic Physical or Behavioral Reponses to Noise

Operations could result in increased terrestrial noise, which could affect wildlife by causing disturbance or avoidance behavior. Species present in the terrestrial study area are likely habituated to the elevated noise levels associated with industrial, commercial, and residential uses. These species are generally mobile and avoid disturbing noise levels and human activities. Noise generated by the Proposed Action would be similar to the existing, adjacent land uses and would not have a measurable impact on wildlife species in the terrestrial study area.

Generate and Disperse Coal Dust in Terrestrial and Aquatic Habitats

Coal dust and fugitive coal particles could be generated during operation of the Proposed Action through the movement of coal onto the project area, around the project area, and onto vessels. Coal dust could also become airborne from the large stockpiles that would be located within the project area.

The potential extent and deposition rate of coal dust particles less than 75 microns in diameter was modeled as part of the analysis conducted relative to air quality. Based on this modeling, the highest rate of coal dust deposition would be expected in the immediate area surrounding the coal export terminal, but smaller particles would also be expected to deposit in a zone extending around and downwind of the terminal. Deposition rates could range from 1.99 grams per square meter per year ($g/m^2/year$) adjacent to the project area, gradually declining to less than 0.1 $g/m^2/year$ within a few thousand feet from the project area and 0.01 $g/m^2/year$ approximately 2.4 miles from the project area. Based on the models, the zone of deposition would extend primarily northwest of the project area and over the Columbia River. Deposition rates of less than 0.1 $g/m^2/year$ are projected to occur over the forested habitats of Lord Island within the study area, with declining concentrations across the island and to the south and west toward Walker Island.

Windborne coal could potentially affect wildlife through physical or toxicological means. Coal particles could affect aquatic wildlife in a manner comparable to any form of suspended particulates, such as tissue abrasion, smothering, obstruction, or damage to feeding or respiratory organs, and other effects resulting from reduced quantity or quality of light. Another potential manner in which coal could affect aquatic wildlife is through coal leachates. Unburnt coal can be a source of acidity, salinity, trace metals, hydrocarbons, chemical oxygen demand, and potentially macronutrients if they leach from the coal matrix into aquatic habitats. Toxic constituents of coal include PAHs and trace metals, which are present in coal in variable amounts and combinations dependent on the type of coal. Some PAHs are known to be toxic to aquatic animals and humans. Metals and PAHs could also potentially leach from coal to the pore water of sediments and be ingested by benthic-feeding organisms, providing a mechanism for subsequent ingestion by other organisms throughout the food chain. However, the low aqueous extractability and bioavailability of the contaminants minimizes the potentially toxic effects.

Spill Coal during Operations of the Proposed Action

Direct impacts on the natural environment from a coal spill during operations of the Proposed Action could occur. Direct impacts resulting from a spill during coal handling at the coal export terminal would likely be minor because the amount of coal that could be spilled would be relatively small. Also, impacts would be minor because of the absence of terrestrial and aquatic

environments in the project area and the contained nature and design features of the terminal (e.g., enclosed belt conveyors over water, transfer towers, and shiploaders). Potential physical and chemical effects of a coal release on the aquatic and terrestrial environments that occur adjacent to the terminal are described below.

A coal spill could have physical effects on aquatic environments, including abrasion, smothering, diminished photosynthesis, alteration of sediment texture and stability, reduced availability of light, temporary loss of habitat, and diminished respiration and feeding for aquatic organisms. The magnitude of these potential impacts would depend on the amount and size of coal particles suspended in the water, duration of coal exposure, and existing water clarity (Ahrens and Morrisey 2005). Therefore, the circumstances of a coal spill, the existing conditions of a particular aquatic environment (e.g., pond, stream, wetland), and the physical effects on aquatic organisms and habitat from a coal spill would vary. Similarly, cleanup of coal released into the aquatic environment could result in temporary impacts on habitat, such as smothering, altering sediment composition, temporary loss of habitat, and diminished respiration and feeding for aquatic organisms. The recovery time required for aquatic resources would depend on the amount of coal spilled and the extent and duration of cleanup efforts, as well as the environment in which the incident occurred. It is unlikely that coal handling in the upland portions of the coal export terminal would result in a spill of coal that would affect the Columbia River. This is unlikely because the rail loop and stockpile areas would be contained, and other areas adjacent to the coal export terminal are separated from the Columbia River by an existing levee, which would prevent coal from being conveyed from upland areas adjacent to the rail loop to the Columbia River. Coal could be spilled during shiploading operations because of human error or equipment malfunction. However, such a spill would likely result in a limited release of coal into the environment due to safeguards to prevent such operational errors, such as start-up alarms, dock containment measures to contain spillage/rainfall/runoff, and enclosed shiploaders.

The chemical effects on aquatic organisms and habitats would depend on the circumstances of a coal spill and the existing conditions of a particular aquatic environment (e.g., stream, lake, wetland). Some research suggests that physical effects are likely to be more harmful than the chemical effects (Ahrens and Morrisey 2005).

A coal train derailment and coal spill in Burnaby, British Columbia, in 2014, and subsequent cleanup and monitoring efforts provide some insight into the potential impacts of coal spilled in the aquatic environment. Findings from spill response and cleanup found there were potentially minor impacts in the coal spill study area, and that these impacts were restricted to a localized area (Borealis Environmental Consulting 2015).

Operations—Indirect Impacts

Operation of the Proposed Action would result in the following indirect impacts. Operations-related activities are described in Chapter 2, *Project Objectives, Proposed Action, and Alternatives*. Under the Proposed Action, 1,680 vessel transits a year and 16 trains a day would operate at full build-out.

Cause Periodic Injury or Mortality from Vessel Strike—Pinnipeds

Operations of the Proposed Action would increase vessel traffic in the Columbia River (Chapter 5, Section 5.4, *Vessel Transportation*) by 840 ships a year. Increased vessel traffic related to operations at the project area could increase the risk of vessel collisions with

pinnipeds in the indirect impacts study area. Most available research and literature on marine mammal vessel strikes is associated with vessel-whale collisions at sea. Compared to pinnipeds, whales are typically much larger, slower-moving, and therefore, are assumed more vulnerable to vessel strikes. Vessel strikes on marine mammals are usually described as massive blunt-force trauma (Geraci and Lounsbury 1993 in Horning and Mellish 2009), but are considered extremely rare for pinnipeds (Andersen et al. 2007 in Horning and Mellish 2009). A blunt-force trauma that results from a marine mammal collision with a vessel can result in death or injury.

The potential for a pinniped strike with a vessel in the indirect impacts study area would depend on many factors, including time of year, vessel type, vessel size, pinniped species, vessel location, vessel speed, and location of animal relative to vessel. The behavior of a pinniped in the path of an approaching vessel in the study area is uncertain, but it is likely that an individual would have the ability to avoid and swim away from the vessel. In addition, pinniped vessel strikes are rare; thousands of vessels transit the Columbia River every year. A small number of documented pinniped deaths are attributed to vessel strikes. For example, the *U.S. Pacific Marine Mammal Stock Assessments: 2015* (National Oceanic Atmospheric Administration 2016b) for the Pacific Coast documented two harbor seals (Oregon/Washington Coast Stock) killed by boats between 2007 and 2011 and 13 California sea lions killed by boats between 2008 and 2012. Pinnipeds in the Columbia River would also likely be habituated to existing Columbia River vessel traffic, and vessel speed in the indirect impacts study area would be less than 14 knots. Therefore, the potential risk for a vessel collision with a pinniped in the indirect study area would be generally be considered low.

Cause Periodic Physical or Behavioral Responses to Vessel Noise and Maintenance Dredging—Pinnipeds

Proposed Action-related vessels would increase vessel traffic and underwater noise in the Columbia River (Chapter 5, Section 5.4, *Vessel Transportation*). Studies in the Salish Sea have shown that the greater the ship size, the greater the underwater source level due to cavitation, with the exception of tug vessels that show greater source noise levels underwater while performing activities such as berthing or accelerating a ship (Hemmera Envirochem et al. 2014). While this information is from studies in the Salish Sea, it is expected that noise levels from vessels would be similar in the Columbia River.

The peak hearing sensitivity frequencies of Steller sea lion, California sea lion, and harbor seal are generally outside of the noise frequencies generated by vessels (generally ranging between 10 Hertz and 1 kilohertz (Wright 2008) and these species are habituated to existing Columbia River vessel noise levels. Any response to project-related vessel noise would likely be minimal.

Periodically Remove or Alter Habitat during Maintenance Dredging

Maintenance dredging is anticipated to occur on a multiyear basis; however, it may occur as frequently as annually or following extreme flow conditions to maintain required depths at Docks 2 and 3 and to allow for navigation between the docks and the navigation channel (WorleyParsons 2012). Impacts on the benthic invertebrate community would be similar to those described for initial construction related dredging associated with construction activities (Section 4.8.5.1, *Proposed Action, Construction—Direct Impacts*). Compared to the initial construction dredging, maintenance dredging would remove a relatively small amount of material, including bottom dwelling organisms. Maintenance dredging would result in mortality

of invertebrate organisms in the maintenance dredge prism and temporary disruption of benthic productivity. Benthic productivity is expected to be low in this deepwater habitat (McCabe et al. 1997). Maintenance-related dredging could affect pinnipeds and benthic organisms in a manner similar to the initial construction dredging (Section 4.8.5.1, *Proposed Action, Construction—Direct Impacts*). As mentioned above, benthic organisms typically recolonize in 30 to 45 days following disturbance. Thus, should dredging occur on an annual basis, it would not prevent recolonization of the benthic habitat.

Generate and Disperse Coal Dust in Terrestrial and Aquatic Habitats

Coal dust and fugitive coal particles could be generated during operation of the Proposed Action through the movement of coal by rail along the rail corridor. Coal transported by vessel would be enclosed in cargo holds and is not likely to result in deposition along the vessel route. The potential impacts from coal dust for the indirect impacts study area would be similar to the impacts described previously for the direct impacts study area.

Spill Coal during Rail Transport

The magnitude of the potential indirect impact from a coal spill on the aquatic and terrestrial environments would be similar to those described previously and would depend on the location of the spill, the volume of the spill, and success of efforts to contain and clean up the spill, none of which can be predicted.

The potential impact of a coal spill from a Proposed Action-related train is directly related to the probability of a Proposed Action-related train incident occurring. Chapter 5, Section 5.2, *Rail Safety*, estimates the number of Proposed Action-related train incidents that could potentially occur during coal transport within Cowlitz County and Washington State. In Cowlitz County, the predicted number of loaded coal train incidents is approximately one every 2 years. The predicted number of loaded coal train incidents within Washington State is approximately five per year.

Not every incident of a loaded coal train would necessarily result in a rail car derailment or a coal spill. A train incident could involve one or multiple rail cars, and could include derailment in certain circumstances. The size and speed of the train and the terrain at the location of an incident would influence whether the incident resulted in a coal spill that could have impacts on wildlife. A broad range of spill sizes from a partial rail car to multiple rail cars could occur as a result of a Proposed Action-related train incident.

Additionally, containment and cleanup efforts for coal spills from a rail incident factor into the potential impact on the environment. It is expected that coal spills in the terrestrial and built environments would be easier to contain and clean up than spills occurring in an aquatic environment. Spills occurring on land may have a quicker response time and cleanup in some locations due to their visibility and access for cleanup equipment, as compared to spills into aquatic environments.

Potential physical and chemical effects of a coal release into aquatic and terrestrial environments would be the same or similar to those described above under direct impacts.

Cause Wildlife Strikes along the Rail Corridor in Washington State

Increased rail traffic associated with the Proposed Action could result in an increase in train strikes of wildlife species that occur along the rail corridor.

Dorsey (2011) found that some wildlife may use railroads for movement, which could be considered a positive impact. Wildlife move on or along railroads while foraging, accessing critical resources (e.g., water), migrating, and dispersing. Wildlife tend to move along railroads for at least three reasons, including: railroads are often co-aligned with high quality habitats and natural movement corridors (e.g., valley bottoms and mountain passes); wildlife may move along railroads because foods (i.e., edge vegetation, carrion from strikes, and spilled agricultural grains) are available along rights-of-way or on the railbed, and; the flat railbed provides an easily traversable route particularly apparent in regions receiving significant amounts of snowfall where railroad beds may offer a relatively snow-free travel path.

However, Dorsey (2011) indicated that various factors are likely to contribute to the frequency of wildlife and rail interactions and the potential for train strikes and wildlife mortality. For example, train speed, rail alignment, and train volume—as well as wildlife abundance, behavior and habitat quality and use (i.e., migration or foraging) along rail corridors—could individually, or in combination, affect the likelihood and frequency of train strikes of wildlife. The relative abundance of wildlife along a railroad may be the primary factor affecting strike rates (Dorsey 2011), although Kusta et al. (2014) did not find abundance of roe deer in the Czech Republic and train strikes to be correlated. Dorsey (2011) cited several studies that have documented more herbivore than carnivore mortalities from train strikes, which reflects their relatively greater abundance in most landscapes. Although Dorsey (2011) points out that foods found on and along railroads may also be a factor affecting strikes by increasing the time wildlife spend directly on or adjacent to railroads. Foods found along railroads may consist of natural vegetation, carrion and agricultural products spilled from train cars.

Overall, the Proposed Action would increase the number of trains traveling through Washington State by approximately 16 trains per day at full build-out (8 loaded trains arriving and 8 empty trains leaving each day). This increase in train traffic from the Proposed Action through Washington State would increase the risk of wildlife strikes by trains.

4.8.5.2 No-Action Alternative

Under the No Action Alternative, the Applicant would not construct the Proposed Action. Current operations would continue, and the existing bulk product terminal site would be expanded. However, any expansion would be limited to activities that would not require a permit from the U.S. Army Corps of Engineers (Corps) or a shoreline permit. Therefore, no construction impacts on aquatic habitats would be expected to occur as a result of an expansion of the existing bulk product terminal under the No-Action Alternative.

Growth in the region would continue, which would allow continued operation of the coal export terminal and the adjacent bulk terminal site within the 20-year analysis period (2018 to 2038). New construction, demolition, or related activities to expand the bulk product terminal could occur on previously developed upland portions of the project area. This could affect upland areas and terrestrial habitats that provide suitable wildlife habitat. The specific extent cannot be determined at this time.

Cleanup activities, relative to past industrial uses, would continue to occur. These could affect developed areas and associated disturbed upland habitats. Vessel traffic would continue and any aquatic wildlife disturbance or injury associated with vessel movements would continue at levels similar to current conditions.

4.8.6 Required Permits

The Proposed Action would require the following permits for wildlife.

- **Endangered Species Act Consultation—U.S. Fish and Wildlife Service and National Marine Fisheries Service.** The Proposed Action could affect wildlife species or designated critical habitats protected under the ESA. In accordance with Section 7(a)(2) of the ESA, as amended, any action that requires federal authorization or funding, or is carried out by a federal agency, must undergo consultation with the USFWS and/or NMFS to ensure the action is not likely to jeopardize the continued existence of any listed threatened or endangered animal species or result in the destruction or adverse modification of designated critical habitat.
- **Clean Water Act Authorization, Section 404—U.S. Army Corps of Engineers.** Construction and operation of the Proposed Action would affect waters of the United States, including wetlands. Because impacts would exceed 0.5 acre, Individual Authorization from the Corps under Section 404 of the Clean Water Act and appropriate compensatory mitigation for the acres and functions of the impacted wetlands would be required.
- **Clean Water Act, Section 401 Water Quality Certification—Washington State Department of Ecology.** The Proposed Action would result in the construction and operation of a facility that would discharge into the navigable waters and would require a Clean Water Act, Section 401 water quality certification. This certification is administered by Ecology. The dredged materials management plan requires site-specific sediment sampling to characterize sediments and determination of suitability of dredged material for disposal.
- **Local Critical Areas and Construction Permits—Cowlitz County.** The Proposed Action would require local permits related to clearing and grading of the project area and relative to impacts on regulated critical areas. Cowlitz County would issue a fill and grade permit, and would review the Proposed Action for consistency with the County's critical areas ordinance.
- **Hydraulic Project Approval—Washington Department of Fish and Wildlife.** The Proposed Action would require a hydraulic project approval from WDFW because project elements would affect and cross the shoreline of the Columbia River.

The following were identified by the Applicant as measures that would be implemented during construction and/or operations. These measures are assumed conditions or requirements of permits identified above that would be issued for the project, and thus are described here.

The following measures were considered when evaluating the potential impacts of the project.

- While the Applicant would plan to limit construction for an 8- to 10-hour day, 5 days per week, on occasion, dredging may occur 7 days per week to complete work within specific fish windows.
- The Applicant would limit the impact of turbidity to a defined mixing zone and would otherwise comply with WAC 173-201A.
- The Applicant would not stockpile dredged material on the river bottom surface.

- The Applicant would contain all dredged material in a barge prior to flow lane disposal; dredged material would not be stockpiled on the riverbed.
- During hydraulic dredging, the Applicant would not operate the hydraulic pumps unless the dredge intake is within 3 feet of the bottom.
- The Applicant would remove any floating oil, sheen, or debris within the work area as necessary to prevent loss of materials from the site. The contractor would be responsible for retrieval of any floating oil, sheen, or debris from the work area and any damages resulting from the loss.
- For material being transported to flow lane disposal sites, the Applicant would remove all debris (larger than 2 feet in any dimension) from the dredged sediment prior to disposal. Similar-sized debris floating in the dredging or disposal area would also be removed.
- The Applicant would dispose materials to the flow lane using a bottom-dump barge or hopper dredge. These systems release material below the surface, minimizing surface turbidity.
- The Applicant would limit all construction activities to daylight hours to ensure that construction noise levels would be controlled and within local and state noise limits.
- The Applicant would install and maintain a noise-monitoring station at an appropriate location on or near the site boundary to create 24-hours-per-day noise record during construction. The measurements would be recorded and monitored on a real-time basis, and the contractor would take actions to halt or alter construction activities that exceed noise levels.
- To reduce the sound along the rail line, the Applicant would work with the Longview Switching Company to convert both the Oregon Way and Industrial Way crossings to quiet crossings and would fund such improvements to the rail line as necessary to achieve this mitigation.
- The Applicant would plan construction for an 8- to 10-hour day, 5 days per week. On occasion, it may be necessary to work 6 or 7 days per week depending on the nature of the task. For example, dredging may occur 7 days per week to complete work within specific fish windows.
- The Applicant would use activity-specific work windows designed to minimize specific impact mechanisms that may affect individual species (or populations within those species) of concern. These proposed work windows would protect species of concern while providing feasible construction periods for the in-water portion of construction over a 2-year schedule.
- The Applicant would conduct impact pile-driving using a confined bubble curtain or similar sound attenuation system capable of achieving approximately 9 decibels of sound attenuation.
- Where possible, the Applicant would keep extraction equipment out of the water to avoid "pinching" pile below the water line in order to minimize creosote release during extraction.
- During pile removal and pile driving, the Applicant would place a containment boom around the perimeter of the work area to capture wood debris and other materials released into the waters as a result of construction activities. The Applicant would collect all accumulated debris and dispose of it upland at an approved disposal site. The contractor would deploy absorbent pads should any sheen be observed.
- The Applicant would provide a containment basin on the work surface on the barge deck or pier for piles and any sediment removed during pulling.
- Upon removal from substrate, the Applicant would move the pile expeditiously from the water into the containment basin. The contractor would not shake, hose, strip, or scrape the pile, nor

leave it hanging to drip or any other action intended to clean or remove adhering material from the pile.

4.8.7 Proposed Mitigation Measures

This section describes the proposed mitigation measures that would reduce impacts related to wildlife from construction and operation of the Proposed Action. These mitigation measures would be implemented in addition to project design measures, best management practices, and compliance with environmental permits, plans, and authorizations that are assumed as part of the Proposed Action.

4.8.7.1 Applicant Mitigation

The Applicant would implement the following mitigation measures to mitigate impacts on wildlife.

MM FISH-2. Implement a "Soft-Start" Method during Pile-Driving.

To minimize underwater noise impacts on fish during pile driving, the Applicant will commence impact pile-driving using a "soft-start," or other similar method. The "soft-start" method is a method of slowly building energy of the pile driver over the course of several pile strikes until full energy is reached. This "soft-start" method cues fish and wildlife to pile-driving commencing and allows them to move away from the pile-driving activity.

MM FISH-3. Monitor Pile-Driving and Dredging Activities for Distress to Fish and Wildlife.

To minimize the potential harm to marine mammals, diving birds, or fish, a professional biologist will observe the waters near pile-driving and dredging activities for signs of distress from fish and wildlife during these activities. If any of fish or wildlife species were to show signs of distress during pile driving, the biologist will issue a stop work order until the species are recovered, moved, or relocated from the area. The Applicant will immediately report any distressed fish or wildlife observed to the appropriate agencies (i.e., Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service, and National Marine Fisheries Service) and determine the appropriate course of action.

MM CDUST-1. Monitor and Reduce Coal Dust Emissions in the Project Area.

To address coal dust emissions, the Applicant will monitor coal dust during operation of the Proposed Action at locations approved by the Southwest Clean Air Agency (SWCAA). A method for measuring coal dust concentration and deposition will be defined by SWCAA. If coal dust levels exceed nuisance levels, as determined by SWCAA, the Applicant will take further action to reduce coal dust emissions. Potential locations to monitor coal dust concentration and deposition will be along the facility fence line in close proximity to the coal piles, where the rail line enters the facility and operation of the rotary dumper occurs, and at a location near the closest residences to the project area, if agreed to by the property owner(s). The Applicant will conduct monthly reviews of the concentration and deposition data and maintain a record of data for at least 5 years after full operations, unless otherwise determined by SWCAA. If measured concentrations exceed particulate matter (PM) air quality standards, the Applicant will report this information to SWCAA, Cowlitz County and Ecology. The Applicant will gather 1 year of fence line data on PM2.5 and PM10 prior to beginning operations and maintain the data as reference. This data will be reported to the SWCAA, Cowlitz County, and Ecology.

MM CDUST-3. Reduce Coal Dust Emissions from Rail Cars.

To address coal dust emissions, the Applicant will not receive coal trains unless surfactant has been applied at the BNSF Railway Company (BNSF) surfactant facility in Pasco, Washington for BNSF trains traveling through Pasco. While other measures to control emissions are allowed by BNSF, those measures were not analyzed in this EIS and would require additional environmental review. For trains that will not have surfactant applied at the BNSF surfactant facility in Pasco, before beginning operations, the Applicant will work with rail companies to implement advanced technology for application of surfactants along the rail routes for Proposed Action-related trains.

MM-WQ-2. Develop and Implement a Coal Spill Containment and Cleanup Plan

To limit the exposure of spilled coal to the terrestrial, aquatic, and built environments during coal handling, the Applicant will develop a containment and cleanup plan. The plan will be reviewed by Cowlitz County and Ecology and implemented prior to beginning export terminal operations. In the event of a coal spill in the aquatic environment by the Applicant during export terminal operations, action will be taken based on the specific coal spill, and the Applicant will develop a cleanup and monitoring plan consistent with the approved containment and cleanup plan. This plan will include water quality and sediment monitoring to determine the potential impact of the coal spill on the aquatic habitat and aquatic species. The Applicant will develop the cleanup and monitoring plan in coordination with Cowlitz County, Ecology, and the Corps. The cleanup and monitoring will be similar in scope to the monitoring completed for the Aquatic Impact Assessment (Borealis 2015) associated with a coal spill in British Columbia, Canada in 2014.

4.8.7.2 Other Measures to Be Considered

The co-lead agencies recommend BNSF identify and monitor wildlife-train collision and migration barrier hotspots along the rail corridors to determine whether current and projected levels of rail traffic would result in levels of mortality or migration barrier effects that could measurably affect the status of local wildlife populations. If levels of collision mortality and delays to wildlife movement are determined to have a measurable effect on the status of local wildlife populations, suitable wildlife crossing structures and other measures, such as fencing, should be considered as appropriate. BNSF should consult with WDFW and USFWS in designing approaches to identify and monitor hotspots and in identifying suitable crossing structures and other measures.

4.8.8 Unavoidable and Significant Adverse Environmental Impacts

Compliance with laws and implementation of the voluntary measures and mitigation measures described above would reduce impacts on wildlife. There would be no unavoidable and significant adverse environmental impacts.

4.9 Energy and Natural Resources

The availability and conservation of energy and natural resources are important factors to consider for large projects, such as the Proposed Action. Construction, operations, and transportation to and from the project area would require energy and natural resources.

This section describes energy and natural resources in the study area. It then describes impacts on energy and natural resources that could result from construction and operation of the Proposed Action and under the No-Action Alternative. This section also presents the measures identified to mitigate impacts resulting from the Proposed Action.

4.9.1 Regulatory Setting

Laws and regulations relevant to energy and natural resources are summarized in Table 4.9-1.

Table 4.9-1. Regulations, Statutes, and Guidelines for Energy and Natural Resources

Regulation, Statute, Guideline	Description
State	
Washington State Energy Code, Commercial Provisions (WAC 51-11C)	Regulates the design and construction of buildings for the use and conservation of energy over the life of each building.
Local	
Cowlitz County Building Code (CCC 16.05)	Establishes standards for construction and the use of buildings and structures within unincorporated Cowlitz County. Requires conformance with the Washington State Energy Code, CCC 1605.130.

Notes:
WAC = Washington Administrative Code; CCC = Cowlitz County Code

4.9.2 Study Area

The study area for direct impacts on energy and natural resources is the project area. The study area for indirect impacts on energy and natural resources is the area within 0.25 mile of the project area. When assessing the availability of energy and natural resources, the analysis considers those resources that are available regionally, beyond the 0.25-mile study area.

4.9.3 Methods

This section describes the sources of information and methods used to evaluate the potential impacts on energy and natural resources associated with the construction and operation of the Proposed Action and No-Action Alternative.

4.9.3.1 Information Sources

The following sources of information were used to identify the potential impacts of the Proposed Action and No-Action Alternative on these resources in the study area.

- Applicant-provided data
- Cowlitz Public Utility District
- Cowlitz Conservation District
- Cascade Natural Gas
- U.S. Energy Information Administration

4.9.3.2 Impact Analysis

The following methods were used to evaluate the potential impacts of the Proposed Action and No-Action Alternative on energy and natural resources.

Energy Consumption

Energy consumption was evaluated quantitatively. Potential impacts on energy were evaluated based on the estimated energy consumed during construction and operation of the Proposed Action and the estimated change in fuel consumption in the study area. Estimated hours of operation and types of fuel consumed were used to quantify energy consumption. Baseline energy usage and energy usage with the Proposed Action were estimated using data provided by the Applicant.

Natural Resource Consumption

Natural resource consumption was evaluated qualitatively. Potential impacts on natural resources were estimated based on the proposed consumption of resources during construction. The following assumptions were made for the analysis.

- Heavy construction materials, such as gravel, sand, concrete, and timber would be sourced locally to the extent possible.
- Adequate quantities of natural resources needed to support the Proposed Action would be readily available.
- Long-distance transport of these materials would be undesirable because of associated transportation costs.
- Steel used in construction would be available from both local and regional sources.

4.9.4 Existing Conditions

This section describes the existing environmental conditions in the study area related to energy and natural resources that could be affected by the construction and operation of the Proposed Action and the No-Action Alternative.

4.9.4.1 Energy

This section describes the energy sources and usage local to the area and project area.

Local Energy Sources

The project area is served by multiple local energy sources and providers, including electricity, natural gas, and diesel fuel facilities. The following provides an overview of these local energy sources.

Electricity

Electricity is provided to the project area by Cowlitz Public Utility District (PUD), which supplies electricity throughout Cowlitz County. Cowlitz PUD buys over 90% of its wholesale power from Bonneville Power Administrative (BPA). The majority of the BPA power comes from the Columbia River system hydroelectric projects.

Cowlitz PUD provides service throughout Cowlitz County and is among the largest public utility districts in Washington State. Cowlitz PUD estimates that customers will use 609 average megawatts and 821 peak megawatts of electricity in 2015 (Cowlitz Public Utility District 2015). Approximately 14% of Cowlitz PUD's power is sold to residential users, and approximately 8% to small industrial users (22 companies or industries). Major industrial users consume approximately 71% of the power. Small general service and street/area lighting account for the other electrical usage (Cowlitz Public Utility District 2015).

Natural Gas

Natural gas is provided to the project area by Cascade Natural Gas, which supplies residential, commercial, and industrial users throughout Cowlitz County and beyond. The Cascade Natural Gas service area is concentrated in western and central Washington, and central and eastern Oregon. Interstate pipelines transmit the company's natural gas from production areas in the Rocky Mountains and western Canada (Cascade Natural Gas Company 2014).

Diesel Fuel

Local suppliers provide diesel fuel in the Longview-Kelso area. In Washington State, approximately 88.36 million gallons of diesel fuel were sold annually to railroad-related uses in 2012 (U.S. Energy Information Administration 2014). This represents approximately 9% of total diesel sales for all uses in the state. The largest consumers were on-highway users, or motor vehicles, accounting for 62% of diesel sales, or approximately 618 million gallons, in Washington State in 2012.

Tank vessels primarily use diesel or residual fuel oil. Diesel fuel sales for vessel uses in Washington State (excluding the military) totaled 80.5 million gallons in 2012, which accounted for 8.2% of the total diesel sales in the state (U.S. Energy Information Administration 2014). In 2013, the total prime supplier sales volume of fuel oil was 469.86 million gallons for Washington State (U.S. Energy Information Administration 2014).

Project Area Energy Usage

Cowlitz PUD provides electricity to the project area via overhead 230-kilovolt and 115-kilovolt power lines along Industrial Way. Other power lines run perpendicular to the north end of the project area, where they converge with a BPA substation. The existing power configuration is sufficient for the current operations at the project area (URS Corporation 2014). The existing annual electricity use for the existing bulk product terminal (outside the project area but within the Applicant's leased area) averages 20 megawatts based on the average electrical usages for 2014.

Within the project area, electricity is provided by Cowlitz PUD. Other energy consumed comes from diesel- or gasoline-powered generators provided by local fuel suppliers.

4.9.4.2 Natural Resources

This section describes the natural resources local to the area and the natural resources available specifically in the project area.

Local Natural Resources

The Cowlitz County economy was historically centered on forestry and timber products. Weyerhaeuser manufactures wood and paper products at a facility near the project area along the Columbia River. Many other timber-industry companies are located in nearby Longview. Groundwater resources in the vicinity are an upper alluvium aquifer (i.e., shallow groundwater), and the deeper confined aquifer from which industries, small farms, and domestic well users withdraw groundwater. The Mint Farm Regional Water Treatment Plant, operated by the Beacon Hill Water and Sewer District and located less than 1 mile north of the project area, began withdrawing groundwater from the deep confined aquifer in January 2013 (URS Corporation 2014). Numerous quarries and mines in Cowlitz County provide crushed stone, sand, and gravel.

Project Area Natural Resources

No forest products are located in the project area. The project area landowner, Northwest Alloys, holds several historical water rights to extract groundwater from a deep aquifer. The Applicant has a ground lease with Northwest Alloys that includes use of water rights. Refer to Section 4.4, *Groundwater*, for additional information on existing water rights in the project area.

4.9.5 Impacts

This section describes the potential direct and indirect impacts related to energy and natural resources that would result from construction and operation of the Proposed Action and the No-Action Alternative.

4.9.5.1 Proposed Action

This section describes the potential impacts that could occur in the study area as a result of construction and operation of the Proposed Action.

Construction—Direct Impacts

Construction-related activities associated with the Proposed Action could result in direct impacts as described below. As explained in Chapter 2, *Project Objectives, Proposed Action, and Alternatives*, construction-related activities include demolishing existing structures and preparing the site, constructing the rail loop and dock, and constructing supporting infrastructure (i.e., conveyors and transfer towers).

Heavy machinery would be operated to prepare foundations and footings for construction of the coal export terminal, associated services, and utilities. Diesel fuel and gasoline would be used in most construction equipment such as cranes, wheel loaders, dozers, dump trucks, excavators, graders, rollers, compactors, drill rigs, pile-driving equipment, portable ready-mix batch plant,

ready-mix trucks, concrete pumps, elevated work platforms, forklifts, rail-track-laying equipment, water pumps, and other similar machinery (URS Corporation 2014). A fuel truck would visit the site as required. The frequency during construction would vary based on usage and activities and could range from once or twice per day to once or twice per week. Fuel trucks that would be used during construction would have a 3,000-gallon to 4,000-gallon capacity. A temporary increase in fuel use would result from the need to transport employees and materials to the project area and to operate construction equipment.

Increase Energy Use

Construction-related energy uses would include the use of electricity, diesel fuel, gasoline, oil, and natural gas. Construction would require on average each month approximately 500 gallons of gasoline, 50 gallons of oil, and 20,000 gallons of diesel fuel.

Electricity from Cowlitz PUD would be consumed to provide construction lighting and power tools and equipment. Natural gas would be used for minor purposes, including to heat water for showers and other sanitary uses, but not for industrial uses. Heavy machinery would operate during construction, which would increase fuel use. The demand for gasoline, oil, diesel fuel, and natural gas during construction would be minor compared to the current regional demand for these fuels and could be met by the existing local and regional supply.

Increase the Use of Natural Resources

Natural resources that would be consumed during construction would include water, gravel, fill dirt, steel, and wood.

Groundwater available in the project area would be used during upland construction as necessary for dust suppression, which would be approximately 40,000 gallons per day (URS Corporation 2014). Approximately 2.1 million cubic yards of fill material would be imported to the project area to be used as preload material, and approximately 2.5 million cubic yards of material would be moved around the project area during preloading activities (URS Corporation 2014). Dredging would occur as part of the construction of the two docks (Docks 2 and 3), which would include removing approximately 500,000 cubic yards of fill material. All regularly used roads in the project area would require gravel. Any new impervious surface area would generate stormwater, but all stormwater would be collected and treated to meet state and federal water quality requirements prior to discharge to the Columbia River. Rail loop construction would require importing and placing approximately 130,000 cubic yards of ballast rock for the rail foundations; placing railroad ties; laying steel rail lines; and installing signaling, switching equipment, and track lighting (URS Corporation 2014).

The demand for these natural resources during construction would be minor compared to the current regional demand for these resources and could be met by existing local and regional supply.

Construction—Indirect Impacts

Construction of the Proposed Action would result in the following indirect impacts.

Increase Energy Use

A temporary increase in fuel consumption would result from the transport of employees and materials to the project area during construction. This fuel consumption would be a minor amount compared to the current demand for these fuels in the study area, and could be met by the existing local and regional supply.

Operations—Direct Impacts

Operation of the Proposed Action would result in the following direct impacts. Operations-related activities are described in Chapter 2, *Project Objectives, Proposed Action, and Alternatives.*

Increase Energy Use

Electricity, gasoline, oil, propane, and diesel fuel would be the primary energy types consumed during operations of the Proposed Action. Electricity would be used to heat buildings and light indoor and outdoor areas, to power the automated system used to unload coal from trains, store coal, reclaim the coal from storage, and load the vessels. Specific types of equipment used for these processes include rail car unloading facilities, stacking conveyers, bucket wheel reclaimers, the belt conveyer system, and shiploaders.

The Applicant estimates electricity usage during full operations of the terminal would be approximately 6,624,000 kilowatt hours per year, and electricity requirements would be 20 to 25 megawatts per year. The Proposed Action's energy use would represent an average of approximately 4% of the total electricity supplied to users in the Cowlitz PUD service area. This electricity demand is anticipated to be met by existing regional supply because Cowlitz PUD currently has the capacity to meet the electricity demand.

Gasoline, propane, and diesel would be used to power vehicles and equipment used for standard operations and routine maintenance. Operation of the Proposed Action is anticipated to require each month on average approximately 100 gallons of gasoline, 75 gallons of oil, and 865 gallons of diesel.

The demand for energy during operations would be minor compared to the current regional demand for these fuels and could be met by the existing local and regional supply.

Increase the Use of Natural Resources

Natural resources that would be used would include water, gravel, fill dirt, and wood. Impacts on these resources are discussed below. Impacts on groundwater and water quality are discussed in Sections 4.4, *Groundwater*, and 4.5, *Water Quality*, respectively.

A water treatment facility would be designed to treat all surface runoff and process water with capacity to store the water for reuse. The use of stormwater in combination with a storage reservoir and groundwater would be used for processing water and fire protection. All of the stormwater would be processed through the water treatment facility prior to reuse. Water uses would include dust control, stockpile sprays, wash down, and clean up (URS Corporation 2014). Water would also be used to control dust from operating conveyors, transfer points, rail car unloaders, stockpiling, and ship loading. Approximately 120 million gallons per year would be reused from runoff during operations. Combined with the groundwater demand from existing activities in the project area (approximately 1,994 acre-feet per year), the total demand on

groundwater supplies during operation of the Proposed Action would be approximately 3,019 acre-feet per year. Water would be sourced from existing production wells with water rights, and there would be no need for new wells.

Specific quantities of gravel, fill dirt, and wood during operation of the Proposed Action are not known at tbis time. However, the quantities are anticipated to be met by existing local and regional supply considering the availability of these resources.

Operations—Indirect Impacts

Operation of the Proposed Action would result in the following indirect impacts. Operations-related activities are described in Chapter 2, *Project Objectives, Proposed Action, and Alternatives.*

Increase Fuel Consumption

The Proposed Action would increase fuel consumption by the following.

- Approximately 240 unit trains arriving and 240 unit trains departing each month, which would increase rail locomotive fuel consumption in the study area.
- Approximately 140 vessel transits each month, which would increase vessel fuel consumption in the study area.
- Approximately 135 employees to operate the facility, which would generate approximately 270 trips per day assuming two employee trips per day. These vehicle traffic operations would increase vehicle fuel consumption in the study area.
- A fuel truck with a 3,000- to 4,000-gallon capacity would come to the project area as needed to supply vehicles and equipment with fuel for operations and maintenance. The frequency would vary based on usage and activities. This activity would increase fuel consumption in the study area.

Trains and vessels would not be fueled in the project area. Fuel consumption from employee and fuel truck trips would be a minor amount compared to the current demand for fuel within the study area, and could be met by the existing local and regional supply.

4.9.5.2 No-Action Alternative

Under the No-Action Alternative, the Applicant would not construct the coal export terminal, and the existing use of energy and natural resources would continue. However, the Applicant could expand the existing bulk product terminal onto the project area. Any new construction would be limited to uses allowed under existing Cowlitz County development regulations and federal and state permits. Potential impacts of the No-Action Alternative are described below.

Expanding the existing bulk terminal would increase the demand for energy (natural gas, electricity, diesel fuel, and gasoline). Cowlitz PUD and Cascade Natural Gas have the capacity to meet the anticipated demand and local suppliers would be able to accommodate diesel and gasoline demand.

Expanding the existing bulk terminal would also increase the demand for natural resources. Use of natural resources would not cause a noticeable impact on supplies in the area, and demand for natural resources would not adversely affect the supply from local and regional service providers.

4.9.6 Required Permits

The Proposed Action would require building and site development permits from the Cowlitz County Department of Building and Planning in relation to the use of energy and natural resources (such as electrical and mechanical permits).

4.9.7 Proposed Mitigation Measures

This section describes the voluntary mitigation measures that would reduce impacts related to energy and natural resources from construction and operation of the Proposed Action. These mitigation measures would be implemented in addition to project design measures, best management practices, and compliance with environmental permits, plans, and authorizations that are assumed as part of the Proposed Action.

4.9.7.1 Voluntary Mitigation

The Applicant has committed to implementing the following measures prior to or during construction to mitigate impacts on energy and natural resources.

- Prior to construction, prepare a Waste Management Plan in coordination with Cowlitz County's Solid Waste Management Plan. The plan will include measures to avoid and minimize the generation of wastes and promote waste reuse and recycling.
- Where feasible, turn off construction vehicles rather than idling engines.

The Applicant has committed to implementing the following measures during operations to mitigate impacts on energy and natural resources.

- Where appropriate, implement energy conservation measures, such as energy-efficient electrical system specifications, lighting, mechanical equipment, and building insulation.
- Switch on lighting in unoccupied areas only when needed and turn off lighting automatically.
- Maximize energy efficiency in facility and equipment specifications and selection, such as electric motors that have high power factors, conveyor drives with "quiet drives" that require less power to operate, and life-cycle costs advantage of energy efficient components.
- Use power factor correction equipment in substations.
- Use conveyor idlers to specify rim drag to reduce conveyor start up power.
- Revert office equipment to standby mode or switch off when not in use.
- Match vehicle size to the need of the task.
- Choose vehicles based on fuel efficiency.
- Use controlled temperature settings on switch room and office air conditioning.
- Use automatic shutdown controls for idle plant and equipment.
- Manage energy load by using submetering of offices, workshops, conveyors stackers, reclaimers, and shiploaders.
- Use soft-start electric motors to minimize peak power demand.

4.9.8 Unavoidable and Significant Adverse Environmental Impacts

Implementation of the voluntary mitigation measures and design features described above would reduce impacts on energy and natural resources. There would be no unavoidable and significant adverse environmental impacts on energy and natural resources.

Senator BARRASSO. Senator Cardin.

Senator CARDIN. Mr. Chairman, thank you very much.

I thank all the witnesses for being here today.

I would ask consent, if I might, to put into the record, a letter from the Attorney General of Maryland, Brian Frosh, raising concern with regard to S. 3303; a letter from the Association of Clean Water Administrators also expressing concern with regard to this legislation; and related documents.

Senator BARRASSO. Without objection.

[The referenced information was not submitted at time of print:]

Senator CARDIN. Thank you, Mr. Chairman.

Mr. Willardson, I want to ask a practical question. I have significant concerns about the changes being suggested with regard to the 401 waiver from the States. I want to ask about the practical problem of shortening the period to 90 days.

There is an issue whether there is adequate time for a State to make that assessment within a 90-day period. There are documents that have to be received and so forth. One of the unintended consequences could be that because there is insufficient time and information, a States rejects the waiver, therefore counterproductive to the intent of the bill, to expedite the process.

I would like to get your assessment as to whether this is a real concern or not. I have heard from people in Maryland about this particular issue. I would like to get your assessment as to how realistic it is for States to have adequate information and make an adequate review within a 90-day period?

Mr. WILLARDSON. As I noted, most of the decisions are currently made within 90 days. Obviously, with a very complex project, such as the Millennium Pipeline, it can take more time. The FERC licensing process for hydropower and relicensing generally takes about 5 years. FERC has an alternative licensing process which applicants can now opt in to begin early consultation with the States.

Generally, the 401 question is brought in about 2 years before the license would be issued again. Currently, States have 1 year to make those determinations. Ninety days would be very difficult on complex projects. Obviously, many of these are complex projects.

As I said, we have not dealt with the pipelines to that degree but I would point out in the State of Washington, their determination is already under review by the Water Quality Commission which will make a determination as to whether or not the director's decision was appropriate.

We are very cognizant of the energy needs of this Country, the infrastructure needs, and permitting those in a timely manner. I would point to the Western Governors Association's energy policy which is in all of the above.

I would also point out from a council perspective that we have worked very hard with our tribal members and with the Crow as well on Indian water rights settlements. Under the Clean Water Act, tribes are treated as States. They have 401 water quality permitting authority where they have been granted treatment as tribes.

These are very complex projects. Most of them could be completed within the 90 days. Some, I think, it would be very difficult to get the information to make a sound decision.

Senator CARDIN. You may not be familiar with the Conowingo Dam which is a very important energy source for the East Coast of the United States, the second largest electrical energy generating dam on the East Coast of the United States. It is a very, very important source of energy.

Exelon is the operator of that particular facility. It is in the relicensing stage and review is currently underway. The expectation is that ultimately the waiver will be granted but it will be based upon certain conditions. That will take well beyond any 90-day period for that process.

It is a pretty complicated process on the Susquehanna and is extremely controversial in regard to water quality in the Bay. Particularly with recent storms, the amount of surge of materials that are released is a major concern. A project like that, it is not realistic to look at a 90-day period.

Mr. WILLARDSON. It would be very difficult to make that determination in 90 days, with the exception of the timing of the request for the certification. If that request comes following the completion of the environmental impact statement so those questions are coordinated, then the State could act, given that information, promptly.

Obviously, it would be counterproductive if the time is not sufficient for the State to act because they would simply, as they do now, deny the permit generally without prejudice so it could be resubmitted when there was sufficient information or a complete application.

Senator CARDIN. That is how I expect you would see some of these actions by the State in order to get more time if there was a hard time period they could not meet. My own assessment in a project like the Conowingo Dam is there are so many stakeholders. It is such a complicated process. I think it is already 40 years that this process goes forward.

The opportunity only presents itself once in a generation. It is the speed bump for a lot of consideration of different issues and a lot of stakeholders. It is a complicated process.

Mr. WILLARDSON. Those permits are generally for 40 or 50 years for the operation of the dams. I was a resident of Philadelphia for a couple of years so I am familiar with the Susquehanna.

Senator CARDIN. A lot of good things have happened during the certification process. Again, I do not think anyone is questioning the continuation of the dam; it is critically important for energy. It is also important for water quality that we get it right.

Thank you, Mr. Chairman.

Senator BARRASSO. Thank you, Senator Cardin.

This bill does have the strong support of the American workers across the Country. I would like to enter into the record letters of support of the bill from representatives of the International Brotherhood of Electrical Workers in Massachusetts, Connecticut, Rhode Island, New Hampshire, Vermont and Maine, as well as the Rhode Island Building and Construction Trades Council.

[The referenced information follows:]

6. Do you anticipate an increase in the number of 401 certification requests in the future, and what might be the impact on State administrative resources?

Most states do not anticipate a significant increase in 401 certification requests. Some do. Some states have actually seen significant declines in requests. Again, most requests appear to be related to 404 permitting, which in turn increase with general economic conditions and related construction starts, oil and gas development, etc.

[Expansion of CWA jurisdiction as may be proposed by new rules could have an undetermined impact on the number of requests related to any increase in Section 404 permitting requirements.]

California expects an increase in requests due to FERC relicensing, license amendments, and new projects. Further, as described post-licensing monitoring of conditions, as well as non-hydropower certification requests will significantly impact the State's administrative resources. FERC currently lists 115 non-federal hydropower projects in California, not including transmission line projects, with varying expiration dates. Since 2000, 22 FERC project licenses have expired, and another 26 will expire through 2029, necessitating either relicensing or surrender of the license. Decommissioning can also have water quality impacts. SWRCB is already involved in a number of relicensing pre-application activities. The Division of Water Rights Water Quality Certification Program also certifies non-hydropower projects that involve water rights.

Colorado does not anticipate a significant increase in the number of requests, but does anticipate 4-5 very large and complex project certification requests from water diversion and storage projects over the next 3-4 years.

Idaho does expect an increase in requests, as well as additional review requirements related to antidegradation reviews and analyses associate with federal permits, placing greater demands on static staff.

New Mexico noted drought limits the viability of hydropower projects.

Oregon has certified several projects through the federal relicensing process over the past several years. Currently there are only a few projects under relicensing review. Oregon anticipates ongoing interest in retrofitting both irrigation and drinking water systems with hydro turbines, but many will be exempt from licensing and no 401 certification will be required. Many preliminary permit applications have not proceeded to licensing, making certification requirements difficult to estimate.

August 13, 2018

Senator John Barrasso, Chairman
Committee on Environment and Public Works
410 Dirksen Senate Office Building
Washington, D.C. 20510

Senator Thomas Carper, Ranking Member
Committee on Environment and Public Works
456 Dirksen Senate Office Building
Washington, D.C. 20510

RE: Water Quality Certification Improvement Act of 2018 (S. 3303)

Dear Chairman Barrasso and Ranking Member Carper,

The undersigned trade organizations represent businesses and workers who build infrastructure and provide equipment, materials, supplies and services to energy projects and operations, including upstream production and midstream transmission infrastructure. The projects they build and the operations they support ensure safe, reliable and efficient production, transmission and delivery of America's energy to consumers, businesses and industry.

In anticipation of your hearing scheduled for August 16, we are writing in support of the recently-introduced Water Quality Certification Improvement Act of 2018 (S. 3303) clarifying provisions of Section 401 of the Clean Water Act relating to requests by developers of federally-permitted projects for state water quality certifications needed for final federal project approval.

We especially applaud the proposed Act's amendments requiring that states grant or deny those requests in a timely manner and that states inform applicants within 90 days as to whether any additional information is needed to complete the review of a water quality certification. We also appreciate the clarification that state water quality certification decisions under Section 401 be based exclusively upon matters associated with water quality criteria.

Some states have chosen to exercise their authority under Section 401 in ways that exceed the bounds of the statute. When this happens, it damages the cooperative federalism envisioned when the Clean Water Act was enacted decades ago, and creates conflict between not only a state and the federal government, but also between the offending state and multiple other states affected by its action. Action to clarify the appropriate role for a state under Section 401, as proposed in S. 3303, would restore the intended cooperative federalism.

We endorse S. 3303 and believe that its proposed clarifications of Section 401 of the Clean Water Act will ensure that the law is interpreted and implemented as originally intended. We look forward to your consideration of these points during your Committee hearing and urge the Committee and the Senate to act affirmatively on this important reform.

Sincerely,

American Council of Engineering Companies
Linda Bauer Darr, President & CEO

American Petroleum Institute
Mike Sommers, President & CEO

American Road and Transportation Builders Association
Pete Ruane, President & CEO

Associated Equipment Distributors
Brian P. McGuire, President & CEO

Associated General Contractors of America
Stephen Sandherr, Chief Executive Officer

Association of Equipment Manufacturers
Dennis Slater, President & CEO

Distribution Contractors Association
Robert Darden, President & CEO

Edison Electric Institute
Tom Kuhn, President & CEO

Energy Equipment and Infrastructure Alliance
Toby Mack, President & CEO

Global Energy Institute
Karen Harbert, President & CEO

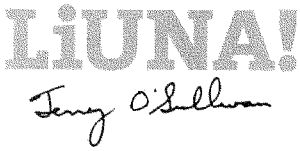
GPA Midstream Association
Mark Sutton, President & CEO

Independent Petroleum Association of America
Barry Russell, President & CEO

Industrial Minerals Association - North America
Mark Ellis, President

The INGAA Foundation, Inc.
Donald F. Santa, President

International Association of Drilling Contractors
Jason McFarland, President



Laborers International Union of North America
Terry O'Sullivan, General President

Senator BARRASSO. I want to thank all the witnesses for being here. Thank you for your testimony and for your timely response.

The record will stay open for an additional 2 weeks. Members may submit written questions.

Kind of in response to Mr. Stewart's last answer where he talked about an organization or group, I think you mentioned the Sierra Club should not be able to stop projects because it is their agenda. There is a publication in the New Jersey Spotlight today, August 16, where it is very clear that Section 401 is viewed by environmental groups and some States as a tool to block energy projects, not a tool to keep water clean.

You talked specifically, Mr. Stewart, about the legislation and laws about clean water ought to apply to keeping water clean. The director of the New Jersey Sierra Club stated in this article in today's New Jersey Spotlight, which I am submitting to the record, "Section 401 review is probably the most effective tool we have to fight pipeline projects," not to keep water clean but to fight projects.

[The referenced information follows:]

LABORERS INTERNATIONAL UNION OF N.A. LOCAL #243

Mark Laureyns, *President*
David Desroches, *Vice President*
Jason Porter, *Secretary-Treasurer*

Kevin J. Duffy, *Business Manager*
John Mason, *Sergeant-At-Arms*
Alan Gagne, *Recording Secretary*

882 SOUTHBRIDGE STREET
AUBURN, MA 01501
Office: 508 832-4649

Cell: 978-771-6237

August 15, 2018

The Hon. John Barrasso
Chairman
U.S. Senate Committee on Environment and Public Works
410 Dirksen Office Building
Washington, D.C. 20510-6175

The Hon. Tom Carpenter
Ranking Member
U.S. Senate Committee on Environment and Public Works
410 Dirksen Office Building
Washington, D.C. 20510-6175

Dear Chairman Barrasso and Ranking Member Carpenter:

On behalf of the nearly 400 members of Local 243, I am writing to express our support for commonsense reforms that would remove regulatory barriers to providing New England with the clean, reliable natural gas supplies it desperately needs. To provide a reliable solution to New England energy cost crisis, expanding the current natural gas infrastructure represents a guaranteed chance to keep the lights on and heat our homes during the unpredictable weather in the region.

The livelihood of our members and the economic competitiveness of New England are at stake. Our members are at the forefront of the construction industry and rely on family-supporting jobs to earn a living. One of the most critical elements of our work is energy. And the cost of energy needed to power equipment and keep the lights on in our homes and businesses is at an all-time high.

Fortunately, the regional solution to this ongoing energy cost-crisis exists in the form of nearby, abundant supplies of natural gas. Unfortunately, the current framework of our regulatory and permitting processes stand in the way of such a solution. For example, the state of New York should not be able to dictate the energy access of its neighbors. We simply cannot afford to disrupt energy infrastructure improvements with unnecessary regulatory hurdles.

Continued avoidance of these energy infrastructure improvements is not the solution. Clarifying existing law to account for the appropriate scope of review for energy projects is a step in the right direction. Please support measures which will remove unnecessary loopholes and help our region secure a more reliable and cost-effective energy future.

Sincerely,

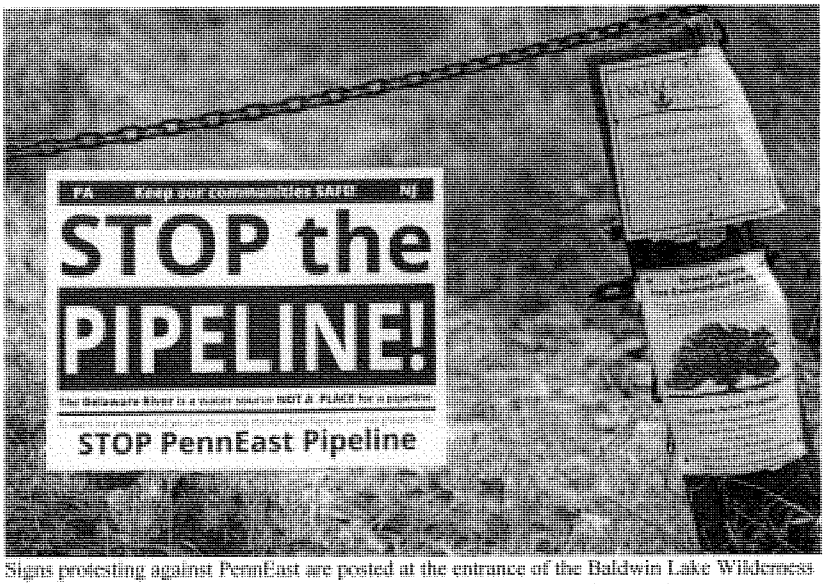
Kevin J. Duffy
Business Manager

lehighvalleylive.com

LEHIGH VALLEY OPINION

Don't let feds weaken the rules for pipelines | Letter

Updated Aug 27; Posted Aug 27



Signs protesting against PennEast are posted at the entrance of the Baldwin Lake Wilderness Management Area at a protest event in 2014. (*Mary Iuvone | For The Times*)

By Express-Times Letters to the Editor

One of the most important tools in battles to stop unnecessary pipelines is the 401 Water Quality Certificate. The Clean Water Act gives power to states to certify that pipeline projects don't pollute waterways. It's something the Federal Energy Regulator Commission can't get around.

Now Congress wants to block states from using this certificate to fight pipelines. This is shameful behavior by Washington's fossil fools to help the gas industry. We need our House members and senators to block attempts to pass this disastrous legislation.

Senator BARRASSO. With that, I thank the witnesses. We appreciate you all being here.

This hearing is adjourned.

[Whereupon, at 11:28 a.m., the committee was adjourned.]

[Additional material submitted for the record follows:]

ENVIRONMENTAL HEARINGS
Pollution Control Hearings Board
Shorelines Hearings Board

Telephone: (360) 664-9160
FAX: (360) 586-2253
Email: eluho@eluho.wa.gov
Website: www.eluho.wa.gov

STATE OF WASHINGTON
ENVIRONMENTAL AND LAND USE HEARINGS OFFICE
Mailing Address: PO Box 40903, Olympia, WA 98504-0903 •
Physical Address: 1111 Israel Rd SW, Suite 301, Tumwater, WA 98501 •

August 15, 2018

Sent by Email and US Mail

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Chmelik Sitkin & Davis P.S.
1500 Railroad Avenue
Bellingham, WA 98225

Re: **PCHB NO. 17-090**
MILLENNIUM BULK TERMINALS-LONGVIEW, LLC v. STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY
WASHINGTON ENVIRONMENTAL COUNCIL, CLIMATE SOLUTIONS, FRIENDS OF THE COLUMBIA GORGE, SIERRA CLUB, and COLUMBIA RIVERKEEPER, Intervenors

Dear Parties:

Enclosed is the Pollution Control Hearings Board's Order on Summary Judgment in this matter.

This is a FINAL ORDER for purposes of appeal to Superior Court within 30 days. *See* Administrative Procedures Act (RCW 34.05.542) and RCW 43.21B.180.

You are being given the following notice as required by RCW 34.05.461(3): Any party may file a petition for reconsideration with the Board. A petition for reconsideration must be filed with the Board and served on all parties within ten days of mailing of the final decision. WAC 371-08-550.

If you have any questions, please feel free to contact the staff at the Environmental and Land Use Hearings Office at 360-664-9160.

Sincerely,

Joan M. Marchioro, Presiding

JMM/le/P17-090
Encl.

CERTIFICATION

On this day, I forwarded a true and accurate copy of the documents to which this certificate is affixed via United States Postal Service postage prepaid or via delivery through State Consolidated Mail Services to the attorneys of record herein.

I certify under penalty of perjury under the laws of the state of Washington that the foregoing is true and correct.

DATED 8/15/17, at Tumwater, WA.

POLLUTION CONTROL HEARINGS BOARD
STATE OF WASHINGTON

MILLENNIUM BULK TERMINALS-LONGVIEW, LLC, Appellant, v. STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, Respondent, WASHINGTON ENVIRONMENTAL COUNCIL, CLIMATE SOLUTIONS, FRIENDS OF THE COLUMBIA GORGE, SIERRA CLUB, and COLUMBIA RIVERKEEPER, Intervenor-Respondents.	PCHB No. 17-090 ORDER ON SUMMARY JUDGMENT

INTRODUCTION

Millennium Bulk Terminals-Longview, LLC (Millennium) filed a Notice of Appeal seeking review of the Department of Ecology's (Ecology) denial of a Clean Water Act (CWA) Section 401 Certification (401 Certification) for Millennium's proposed coal export terminal. Washington Environmental Council, Climate Solutions, Friends of the Columbia Gorge, Sierra Club and Columbia Riverkeeper (WEC) were granted intervention as respondents. Millennium, Ecology, and WEC filed separate motions for summary judgment. BNSF Railway Company was granted leave to file an *amicus curiae* brief in support of Millennium.

The Board considering this matter was comprised of Board Chair Joan M. Marchioro, Presiding, and Members Kay M. Brown and Neil L. Wise. Attorneys Beth S. Ginsberg and Jason T. Morgan represented Millennium. Senior Counsel Thomas J. Young and Assistant Attorney General Sonia A. Wolfman represented Ecology. Kristen L. Boyles, Marisa C. Ordonia and Jan E. Hasselman represented Intervenor-Respondents WEC.

In rendering its decision, the Board considered the following submittals:

1. Millennium's Motion for Summary Judgment on Issues 3-10 and 12;
2. Declaration of Beth Ginsberg In Support of Millennium's Motion for Summary Judgment, with Exhibits A-C;
3. Respondent Department of Ecology's Response to Millennium's Motion for Summary Judgment on Issues 3-10 and 12;
4. State of Washington, Department of Ecology's Motion for Partial Summary Judgment on Legal Issue 2;
5. Declaration of Thomas J. Young In Support of Ecology's Response to Millennium's Motion for Summary Judgment on Issues 3-10 and 12 and In Support of Ecology's Motion for Summary Judgment on Issue 2, with Exhibits A-G;
6. Declaration of Loree' Randall In Support of Ecology's Response to Millennium's Motion for Summary Judgment on Issues 3-10 and 12 and In Support of Ecology's Motion for Summary Judgment on Issue 2, with Exhibits A-E;
7. Washington Environmental Council *et al.* Opposition to Millennium Motion for Summary Judgment on Issues 3-10 and 12 and Cross-Motion for Summary Judgment on All Remaining Issues;
8. Declaration of Marisa Ordonia In Support of Washington Environmental Council *et al.* Opposition to Millennium Motion for Summary Judgment on Issues 3-10 and 12 and Cross-Motion for Summary Judgment on All Remaining Issues, with Exhibits A-G;

9. Millennium's Reply In Support of Its Motion for Summary Judgment on Issues 3-10 and 12;

10. Second Declaration of Beth Ginsberg In Support of Millennium's Motion for Summary Judgment on Issues 3-10 and 12, with Exhibits A-B;

11. Millennium Bulk Terminals-Longview's Opposition to Ecology's Motion for Summary Judgment on Issues No. 2;

12. Declaration of Kristin Gaines, with Exhibits A-D;

13. Declaration of Nicole LaFranchise;

14. Declaration of Glenn Grette;

15. Declaration of Jason T. Morgan in Opposition to Department of Ecology's Motion for Summary Judgment on Issue No. 2, with Exhibits A-F;

16. BNSF Railway Company's *Amicus Curiae* Brief In Support of Millennium Bulk Terminals Longview, LLC's Motion for Summary Judgment and In Opposition to Department of Ecology's Motion for Partial Summary Judgment;

17. Respondent Department of Ecology's Response to BNSF Railway Company's Amicus Curiae Brief;

18. State of Washington, Department of Ecology's Reply In Support of Motion for Partial Summary Judgment on Legal Issue 2;

19. Declaration of Sally Toteff In Support of Department of Ecology's Reply to Millennium's Response to Ecology's Motion for Summary Judgment on Issue 2;

20. Second Declaration of Loree' Randall In Support of Ecology's Motion for partial Summary Judgment on Legal Issue 2, with Exhibit A;

21. Declaration of Rebecca Rothwell, with Exhibit A;

22. Declaration of James DeMay;

23. WEC *et al.* Reply In Support of Cross-Motion for Summary Judgment;

24. Millennium Bulk Terminals-Longview, LLC's Sur-Reply In Opposition to Ecology's Motion for Summary Judgment on Issue 2; and

25. The Board's file in this matter.

The parties' motions address the following legal issues from the Prehearing Order previously entered by the Board:[1]

2. Whether there is reasonable assurance that the construction and operation of Millennium's proposed project will meet applicable water quality standards pursuant to 40 C.F.R. §121.2(a)?

3. Whether Ecology's Denial is *ultra vires* because it is based on concerns that are not related to water quality?

4. Whether Ecology's Denial is arbitrary, capricious, contrary to law and unsupported by substantial evidence?

5. Whether Ecology's application of RCW 43.21C.060 to support the Denial is overbroad?

6. Whether Ecology's application of RCW 43.21C.060 to support the denial is preempted by 33 U.S.C. §1341?

7. Whether Ecology's was precluded from denying the certification based on RCW 43.21C.060 when water quality certifications are exempt from SEPA pursuant to WAC 197-11-800(9)?

8. Whether Ecology waived its certification rights under 33 U.S.C. §1341?

9. Did Ecology have substantive authority under the State Environmental Policy Act (SEPA), RCW 43.21C.060, to deny the section 401 certification with prejudice, regardless of whether such authority existed under section 401?

---

[1] The Board previously granted summary judgment on Issue 1, concluding that it had jurisdiction to hear the appeal of the denial of a Clean Water Act Section 401 water quality certification under RCW 43.21B.110. *Millennium Bulk Terminals-Longview, LLC v. Ecology*, PCHB No. 17-090 (Order Granting Motion for Partial Summary Judgment on Legal Issue 1, Feb. 27, 2018).

10. Was Ecology authorized by the terms of section 401 to use its substantive SEPA authority to deny the section 401 certification?

10.1 Is Ecology's supplemental authority under SEPA (RCW 43.21C.060) an "other appropriate requirement of state law," under the Clean Water Act, section 401(d)?

10.2 Was Ecology's use of substantive SEPA authority to deny the certification authorized by section 401 of the Clean Water Act, when the exercise of that authority was based, in part, on impacts related to water quality?

11. Is Millennium barred from challenging the Final Environmental Impact Statement's findings and conclusions regarding the nine areas of significant, adverse, unmitigated impacts cited in Ecology's section 401 denial?

12. Did Ecology have authority to deny the section 401 water quality certification "with prejudice" upon concluding that Millennium failed to demonstrate reasonable assurance, or was Ecology required to deny the section 401 certification "without prejudice"?

On May 31, 2018, the parties presented oral argument on the motions. Based on its review of the record and foregoing pleadings, and the arguments of the parties, the Board enters the following decision:

BACKGROUND

Millennium proposes to construct and operate a coal export terminal (the Project) on an existing industrial site in and adjacent to the Columbia River in Cowlitz County. The Project would be developed on 190 acres primarily within a 540-acre site leased by Millennium. Coal would be transported to the Project site by rail and stockpiled for eventual loading onto ocean-going vessels for transport to Asia via the Columbia River and Pacific Ocean. The completed Project would consist of "one operating rail track, eight rail tracks for storing rail cars, rail car unloading facilities, a stockyard for coal storage, and conveyor and reclaiming facilities. The

terminal would include two new docks (Docks 2 and 3) in the Columbia River, and shiploading facilities on the two docks. Dredging would be required to provide access to and from the Columbia River navigation channel (navigation channel) and for berthing at Docks 2 and 3." Young Decl., Ex. A at S-1.

Millennium intends to construct the Project in two stages. During Stage 1, Millennium would construct the two docks, two stockpile pads, railcar unloading facilities, the operating rail track and rail storage tracks, Project site area ground improvements, associated facilities and infrastructure. The Project's throughput capacity at the completion of Stage 1 would be 25 million metric tons of coal per year (MMTPY). Stage 2 facilities, construction of which would begin at the completion of Stage 1, consist of one additional ship loader on Dock 3, two additional stockpile pads, conveyors, and equipment necessary to increase throughput to 44 MMTPY. Young Decl., Ex. A at S-20-22.

The Project will impact more than 32 acres of wetlands and approximately six acres of ditches. Millennium proposes to mitigate for these impacts through the construction of a wetland mitigation site of approximately 100 acres. The Project will create new overwater coverage totaling 4.83 acres, the impacts of which will be addressed through the construction of an off-channel mitigation site. Ginsberg Decl., Ex. A at 3-4.

The Project is intended to operate 24 hours per day, seven days per week, and is designed for a minimum 30-year period of operation. Young Decl., Ex. A at S-8. The Project also requires the dredging of approximately 500,000 cubic yards of sediment from the Columbia River in order to provide site access from the river's navigation channel and berthing at Docks 2

1 and 3. *Id.*, Ex. A at 2-17. At full terminal operations, the Project would "bring approximately 8
2 loaded unit trains each day carrying coal to the project area, send out approximately 8 empty unit
3 trains each day from the project area, and load an average of 70 vessels per month or 840 vessels
4 per year, which would equal 1,680 vessel transits in the Columbia River annually." *Id.*, Ex. A at
5 S-8.

6 Cowlitz County and Ecology served as co-lead agencies for environmental review of the
7 Project under the Washington State Environmental Policy Act (SEPA), ch. 43.21C RCW. On
8 September 9, 2013, Cowlitz County issued a revised Determination of Significance stating that
9 the Project was likely to result in significant adverse environmental impacts and that an
10 environmental impact statement (EIS) was required. Cowlitz County and Ecology elected to
11 prepare a joint SEPA EIS. Young Decl., Ex. A at S-2.

12 On April 28, 2017, Cowlitz County and Ecology issued the final EIS (FEIS) for the
13 Project. The FEIS identified unavoidable and significant adverse environmental impacts
14 associated with construction and operation of the Project, as well as proposed mitigation
15 measures. With respect to the significant adverse environmental impacts and mitigation, the
16 FEIS stated:

17 > If the proposed mitigation measures were implemented, they would reduce but
18 > not completely eliminate significant adverse environmental impacts resulting
> from construction and operation of the [Project]. Unavoidable and significant
19 > adverse environmental impacts could remain for nine environmental resource
> areas: social and community resources; cultural resources; tribal resources; rail
> transportation; rail safety; vehicle transportation; vessel transportation; noise
20 > and vibration; and air quality.

21 Young Decl., Ex. A at S-41; *see also* S-41-44, S-46-60. The FEIS was not appealed.

1 In order to construct the project, Millennium must obtain a CWA Section 401 water
2 quality certification from Ecology. 33 U.S.C. §§ 1341. Millennium submitted a Joint Aquatic
3 Resources Permit Application requesting a Section 401 water quality certification from Ecology.
4 On September 26, 2017, Ecology issued Order # 15417 denying Millennium's request for a
5 Section 401 water quality certification with prejudice. Ecology denied the 401 Certification on
6 two bases: (1) the Project's significant, unavoidable adverse impacts identified in the FEIS
7 conflicted with Ecology's SEPA policies in WAC 173-802-110; and (2) Ecology did not have
8 reasonable assurance that the Project as proposed would meet applicable water quality standards
9 and other appropriate requirements of state law. Ginsberg Decl., Ex. A. Millennium timely
10 appealed Ecology's decision.

11 **ANALYSIS**

12 **A. Summary Judgment Standard**

13 Summary judgment is a procedure available to avoid unnecessary trials where there is no
14 genuine issue of material fact. *Am. Express Centurion Bank v. Stratman*, 172 Wn. App. 667,
15 675-76, 292 P.3d 128 (2012). The summary judgment procedure is designed to eliminate trial if
16 only questions of law remain for resolution, and neither party contests the facts relevant to a
17 legal determination. *Rainier Nat'l Bank v. Security State Bank*, 59 Wn. App. 161, 164, 796 P.2d
18 443 (1990), *review denied*, 117 Wn.2d 1004 (1991).

19 The party moving for summary judgment must show there are no genuine issues of
20 material fact and the moving party is entitled to judgment as a matter of law. *Magula v. Benton*
21 *Franklin Title Co., Inc.*, 131 Wn.2d 171, 182, 930 P.2d 307 (1997). A material fact in a

1 summary judgment proceeding is one affecting the outcome under the governing law. *Eriks v.*
2 *Denver*, 118 Wn.2d 451, 456, 824 P.2d 1207 (1992). If the moving party satisfies its burden,
3 then the nonmoving party must present evidence demonstrating that material facts are in dispute.
4 *Atherton Condo Ass'n v. Blume Dev. Co.*, 115 Wn.2d 506, 516, 799 P.2d 250 (1990). Bare
5 assertions concerning alleged genuine material issues do not constitute facts sufficient to defeat a
6 summary judgment motion. *SentinelC3, Inc. v. Hunt*, 181 Wn.2d 127, 140, 331 P.3d 40 (2014).
7 When determining whether an issue of material fact exists, all facts and inferences are construed
8 in favor of the nonmoving party. *Jones v. Allstate Ins. Co.*, 146 Wn.2d 291, 300, 45 P.3d 1068
9 (2002). The Board will enter summary judgment for a non-moving party under appropriate
10 circumstances. *Impecoven v. Department of Revenue*, 120 Wn.2d 357, 365, 842 P.2d 470
11 (1992).

12 The parties contend that there are no material issues in dispute and this matter is
13 appropriate for summary judgment. The Board concurs.

14 **B. Ecology can use substantive SEPA to deny 401 certification (Issues 3, 4, 5, 6, 7, 9 and**
15 **10)**

16 Millennium challenges Ecology's use of substantive SEPA authority to deny the 401
17 Certification. Millennium asserts that, pursuant to WAC 197-11-800(9), its 401 Certification
18 request for the Project is categorically exempt from the requirements of SEPA. Millennium also
19 contends that Ecology's use of substantive SEPA authority to deny the 401 Certification
20 exceeded the scope of the agency's authority under Section 401 of the CWA.
21

1 Ecology and WEC disagree. Citing WAC 197-11-305(1)(b), they argue that because
2 segments of the Project are not SEPA exempt, the 401 Certification is likewise not exempt.
3 Ecology and WEC assert that because SEPA is supplementary to all other existing
4 authorizations, an agency can use its substantive SEPA authority to deny a permit even though
5 all criteria for the permit have otherwise been met. Finally, Ecology and WEC argue that no
6 provision of the CWA precludes Ecology's use of substantive SEPA authority when acting on a
7 401 certification request.
8 As discussed below, the Board agrees with Ecology and WEC. Under the facts of this
9 case, the 401 Certification is not categorically exempt from SEPA. Nor does Section 401 of the
10 CWA preclude Ecology's use of substantive SEPA in this instance. The Board concludes that
11 Ecology's use of substantive SEPA authority to deny Millennium's 401 Certification request was
12 not clearly erroneous. Therefore, the Board grants summary judgment to Ecology and WEC on
13 Issues 3, 4, 5, 6, 7, 9, and 10.
14 **1. SEPA**
15 With the enactment of SEPA in 1971, the legislature sought to bring an environmental
16 consciousness into government decision making. *Columbia Riverkeeper v. Port of Vancouver*
17 *USA*, 188 Wn.2d 80, 91, 392 P.3d 1025 (2017). The stated purposes of SEPA are
18 (1) To declare a state policy which will encourage productive and enjoyable
19 harmony between humankind and the environment; (2) to promote efforts which
will prevent or eliminate damage to the environment and biosphere; (3) and [to]
stimulate the health and welfare of human beings; and (4) to enrich the
20 understanding of the ecological systems and natural resources important to the
state and nation.
21

1 RCW 43.21C.010 (alteration in original). SEPA recognizes the broad policy "that each person
2 has a fundamental and inalienable right to a healthful environment." RCW 43.21C.020(3). The
3 primary focus of SEPA is on the decision making process. SEPA seeks to ensure that
4 environmental values are given appropriate consideration. *Stempel v. Dep't of Water Res.*, 82
5 Wn.2d 109, 118, 508 P.2d 166 (1973); *Moss v. City of Bellingham*, 109 Wn. App. 6, 14, 31 P.3d
6 703 (2001). SEPA imposes a duty on the government agency to assemble and review full
7 environmental information before rendering a decision. *Davidson Series & Assocs. v. City of*
8 *Kirkland*, 159 Wn. App. 616, 634-35, 246 P.3d 822 (2011).
9 SEPA requires an EIS only for "major actions having a probable significant, adverse
10 environmental impact." *Boehm v. City of Vancouver*, 111 Wn. App. 711, 718, 47 P.3d 137
11 (2002); RCW 43.21C.031(1). "The primary function of an EIS is to identify adverse impacts to
12 enable the decisionmaker to ascertain whether they require either mitigation or denial of the
13 proposal." *Victoria Tower P'ship v. City of Seattle*, 59 Wn. App. 592, 601, 800 P.2d 380 (1990);
14 WAC 197-11-400(2) ("An EIS shall provide impartial discussion of significant environmental
15 impacts and shall inform decision makers and the public of reasonable alternatives, including
16 mitigation, that would avoid or minimize adverse impacts or enhance environmental quality.")
17 The purpose of an EIS is to provide decision makers with "sufficient information to make a
18 reasoned decision." *Citizens Alliance To Protect Wetlands v. City of Auburn*, 126 Wn.2d 356,
19 362, 894 P.2d 1300 (1995).
20
21

1 Issuance of an EIS does not approve or deny a project. Rather, the EIS accompanies a
2 proposal through the agency review process so that agency officials can use the document when
3 making permitting decisions. RCW 43.21C.030(2)(d). "Any governmental action may be
4 conditioned or denied" based on the adverse environmental impacts disclosed in an EIS. RCW
5 43.21C.060; WAC 197-11-660; *Polygon Corp. v. City of Seattle*, 90 Wn.2d 59, 64, 578 P.2d
6 1309, 1312 (1978)("SEPA confers substantive authority to the deciding agency to act on the
7 basis of the impacts disclosed"). The granting or denial of a Section 401 water quality
8 certification is a governmental action within the meaning of RCW 43.21C.060. *See* WAC 197-
9 11-704(2) ("actions" defined to include the licensing of a project). Ecology is the state agency
10 authorized to issue or deny certifications under Section 401 of the CWA. RCW 90.48.260.
11 The policies and goals of SEPA are supplementary to "existing authorizations of all
12 branches of government." RCW 43.21C.060. SEPA serves as an "overlay" on existing
13 authority, making formerly ministerial decisions discretionary. *Polygon*, 90 Wn.2d at 65. Using
14 SEPA substantive authority, a decision maker may deny a permit even if it meets all of the
15 requirements for approval under permit criteria. *Polygon*, 90 Wn.2d at 63-65; *West Main Assoc.*
16 *v. City of Bellevue*, 106 Wn.2d 47, 53, 720 P.2d 782 (1986) ("under [SEPA], a municipality has
17 the discretion to deny an application for a building permit because of adverse environmental
18 impacts even if the application meets all other requirements and conditions for issuance").
19 The denial of a proposal must be predicated "upon policies identified by the appropriate
20 governmental authority and incorporated into regulations, plans, or codes which are formally
21

designated by the agency" or appropriate legislative body. RCW 43.21C.060; WAC 197-11-660(1)(a). In order to deny a proposal under SEPA, a decision maker must find that

> (1) The proposal would be likely to result in significant adverse environmental 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.

RCW 43.21C.060; WAC 197-11-660(1)(f). "The decision maker shall cite the agency SEPA policy that is the basis of any condition or denial under this chapter[.]" WAC 197-11-660(1)(b). Failure to sufficiently document compliance with these requirements can result in reversal of a SEPA-based denial.[2] *Cougar Mountain Assoc. v. King County*, 111 Wn.2d 742, 752-53, 765 P.2d 264 (1998).

2. Millennium's 401 Certification request not categorically exempt from SEPA

Certain actions are statutorily or administratively exempt from SEPA's threshold determination and EIS requirements. Statutory exemptions are set forth in chapter 43.21C RCW. As for administrative or categorical exemptions, the legislature directed Ecology to adopt rules identifying categories of governmental actions "not to be considered as potential major actions significantly affecting the quality of the environment." RCW 43.21B.110(1)(a). Additionally, "the rules shall provide for certain circumstances where actions which potentially are categorically exempt require environmental review. An action that is categorically exempt under the rules adopted by the department may not be conditioned or denied under this chapter." *Id.*

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[2] Millennium does not claim that Ecology's 401 Certification decision failed to comply with the requirements of RCW 43.21C.060 or WAC 197-11-660(1).

1 Reviewing this provision, the court of appeals stated that its plain language directed Ecology "(1)
2 to develop its own list of government-action categories that are not major actions affecting the
3 quality of the environment ('administratively-created' categorical exemptions), and (2) to create
4 a rule-based exception that governs when a proposal potentially falling under an otherwise
5 exempt government-action category may nonetheless require environmental review." *Alpine*
6 *Lakes Prot. Soc'y v. Dep't of Ecology*, 135 Wn. App. 376, 391, 144 P.3d 385 (2006).
7 Carrying out the legislative directive, Ecology adopted a number of categorical
8 exemptions. *See* WAC 197-11-305, -800 to -890. The SEPA regulations define "categorical
9 exemption" as "the type of action, specified in these rules, which does not significantly affect the
10 environment [.]" WAC 197-11-720. One such categorical exemption is the granting or denial of
11 a Section 401 water quality certification. WAC 197-11-800(9). Addressing the directive to
12 create an exception to exemption, the SEPA rules provide in relevant part that a proposal is not
13 categorically exempt if "(b) [T]he proposal is a segment of a proposal that includes: (i) [a] series
14 of actions, physically or functionally related to each other, some of which are categorically
15 exempt and some of which are not[.]"[3] WAC 197-11-305(1)(b)(i). Under the SEPA regulations,
16 "proposal" means "a proposed action. A proposal includes both actions and regulatory decisions
17 of agencies as well as any actions proposed by applicants." WAC 197-11-784.
18
19
20 [3] Citing to WAC 197-11-305, the definition of "categorical exemption" states that the SEPA rules "provide for those circumstances in which a specific action that would fit within a categorical exemption shall not be considered
21 categorically exempt [.]" WAC 197-11-720.

1 Millennium contends that its 401 Certification request is categorically exempt from
2 SEPA. As such, pursuant to RCW 43.21C.110(1)(a) Ecology could not use substantive SEPA
3 authority to deny the request. Millennium argues that by identifying a Section 401 water quality
4 certification as an action categorically exempt from SEPA, Ecology determined that such action
5 remains categorically exempt even if Millennium's proposal as a whole is subject to SEPA.
6 According to Millennium, Ecology is incorrect in claiming that WAC 197-11-305(1)(b)(i)
7 negates the categorical exemption status of its 401 Certification request. Millennium asserts that
8 its reading of WAC 197-11-305(1)(b)(i) is supported by the court of appeals decision in *Clallam*
9 *County Citizens for Safe Drinking Water v. City of Port Angeles*, 137 Wn. App. 214, 151 P.3d
10 1079 (2007).
11 Ecology and WEC argue that, under WAC 197-11-305(1)(b)(i), Millennium's 401
12 Certification request is not categorically exempt as it is part of a larger proposal where some
13 actions are categorically exempt and others are not. They assert that this conclusion is consistent
14 with Ecology's longstanding interpretation of its own regulation and, as such, it is entitled to
15 deference. *See* Randall Decl., Ex. A at ¶ 4. Ecology and WEC contend that, because
16 Millennium's 401 Certification request was not SEPA exempt, Ecology rightfully employed its
17 SEPA substantive authority to deny 401 Certification for the Project. Finally, Ecology asserts
18 that Millennium's reliance on *Clallam County Citizens* is misplaced as the court's reasoning in
19 that case was unique and did not establish any binding precedent on this issue.
20 The Board concludes that Millennium's request for a 401 Certification is not
21 categorically exempt from SEPA. The categorical exemption for Section 401 water quality

1 certifications does not apply to Millennium's 401 Certification request as it is undisputedly a
2 segment of a proposal that includes "[a] series of actions, physically or functionally related to
3 each other, some of which are categorically exempt and some of which are not[.]" WAC 197-
4 11-305(1)(b)(i); *Foster v. King County*, 83 Wn. App. 339, 348, 921 P.2d 552 (1996) (SEPA
5 "categorical exemptions do not apply to actions that are a mixture of exempt and non-exempt
6 activities").
7 This conclusion is consistent with Ecology's longstanding interpretation of its SEPA
8 regulations. *See* Randall Decl., Ex. A at ¶ 4 (if project requires at least one SEPA non-exempt
9 permit, Ecology requires compliance with SEPA for 401 certification). Ecology's interpretation
10 of its own regulation is entitled to great weight, unless such interpretation conflicts with the
11 statute's plain language. *Port of Seattle v. Pollution Control Hearings Board*, 151 Wn.2d 568,
12 593-94, 90 P.3d 659 (2004). The Board concludes that Ecology's interpretation does not conflict
13 with RCW 43.21C.110, which specifically directs Ecology to develop a rule addressing those
14 instances when an otherwise categorically exempt action would be subject to SEPA.
15 The Board disagrees with Millennium's assertion that *Clallam County Citizens* supports
16 its position that WAC 197-11-305(1)(b)(i) does not apply. It is unclear precisely what proposal,
17 if any, the Court of Appeals considered in its analysis when it summarily concluded that WAC
18 197-11-305(1)(b)(i) did not apply because the underlying action was categorically exempt from
19 SEPA. *Id.* at 222. As a result, the decision in *Clallam County Citizens* lacks necessary clarity on
20 the status of a SEPA categorical exemption in the context of a larger proposal. The Board does
21

1 not consider *Clallam County Citizens* to be helpful to its resolution of the categorical exemption
2 issue raised in this case.

3 **3. CWA Section 401 does not preclude use of substantive SEPA**

4 Millennium asserts that the plain language of CWA Section 401(a)(1), 33 U.S.C. §
5 1341(a)(1), precludes Ecology's use of substantive SEPA authority when reviewing a request for
6 a Section 401 water quality certification. According to Millennium, under Section 401(a)(1)
7 Ecology can only consider whether a discharge meets the applicable provisions of the CWA set
8 forth in that section, all of which relate to water quality. 33 U.S.C. § 1341(a)(1) (citing sections
9 1311, 1312, 1313, 1316, and 1317). In support of this assertion, Millennium relies on *Arnold*
10 *Irrigation District v. Department of Environmental Quality*, 79 Or. App. 136, 717 P.2d 1274
11 (1986), where the Oregon court reversed the state's finding of non-compliance with land use
12 regulations as the basis for denying a Section 401 water quality certification.

13 Millennium further asserts that Section 401(a) preempts Ecology's use of SEPA
14 substantive authority to deny the 401 Certification. Millennium states that its use of the word
15 "preempt" is intended to mean "to prevent from happening or taking place" and it is arguing that
16 Ecology's denial was *ultra vires*, not that there is field or conflict preemption. Millennium
17 Reply at 8. Millennium contends that Ecology acts under federal law when deciding whether to
18 issue a Section 401 water quality certification and the agency "cannot use state law authority to
19 expand the scope of federal certification requirements under 33 U.S.C. § 1341(a)." Millennium
20 Mot. for S.J. at 13 (emphasis omitted). Millennium asserts that, by using substantive SEPA
21 authority, Ecology is improperly attempting to graft an additional criterion into Section

401(a)(1). Millennium argues that the 401 Certification denial must be set aside as Ecology did not limit its denial to water quality effects of the discharge under the CWA sections identified in Section 401(a)(1).

Rejecting Millennium's reading of Section 401, Ecology argues that the text of the statute does not prescribe what the agency may consider when denying a Section 401 water quality certification. Ecology and WEC note that SEPA is supplementary to all other authorizations and assert that, in order for it not to apply to Section 401, it must be preempted. Millennium did not engage in a preemption analysis, choosing instead to simply cite the text of Section 401. Ecology and WEC contend that the CWA does not preempt SEPA and Ecology can use substantive SEPA to deny Millennium's 401 Certification request even if the Project meets all of the standards in Section 401.

Ecology and WEC assert that Millennium's reliance on *Arnold* is misplaced as Oregon does not have a statutory equivalent to SEPA. Ecology contends that, contrary to Millennium's assertion, the state Supreme Court's citation of *Arnold* in *Dep't of Ecology v. PUD No. 1 of Jefferson Cy.*, 121 Wn.2d 179, 849 P.2d 646 (1993) lends no support to its argument that Section 401 "supersedes" state law. Rather, the state Supreme Court cited *Arnold* only for the proposition that Section 401(d) provides a state with broad authority to condition a project. Ecology and WEC further contend that *Arnold* and other out-of-state cases cited by Millennium are inapplicable as they dealt with hydroelectric projects subject to the jurisdiction of the Federal Energy Regulatory Commission (FERC) and governed by the Federal Power Act. Unlike the CWA, the Federal Power Act preempts state and local law. According to Ecology and WEC,

1 absent preemption of SEPA by the CWA, Ecology was not precluded from using its SEPA
2 substantive authority in denying Millennium's 401 Certification request.
3 The Board concludes that the text of CWA Section 401 does not preclude Ecology's use
4 of substantive SEPA authority when acting on a Section 401 water quality certification request.
5 As detailed above, SEPA's policies and goals are supplementary to "existing authorizations of all
6 branches of government." RCW 43.21C.060. SEPA serves as an "overlay" on existing
7 authority, making formerly ministerial decisions discretionary. *Polygon*, 90 Wn.2d at 65. A
8 decision maker can use SEPA substantive authority to deny a permit even if it meets all of the
9 requirements for approval under permit criteria. *Polygon*, 90 Wn.2d at 63-65; *West Main Assoc.*
10 *v. City of Bellevue*, 106 Wn.2d 47, 53, 720 P.2d 782 (1986). Pursuant to RCW 43.21C.060,
11 "[a]ny governmental action may be conditioned or denied" under SEPA. *See* WAC 197-11-660;
12 *Polygon*, 90 Wn.2d at 64. There is no dispute that the granting or denial of a Section 401 water
13 quality certification constitutes a governmental action within the meaning of RCW 43.21C.060.
14 *See* WAC 197-11-704(2). The Board concludes that Ecology lawfully employed its SEPA
15 substantive authority to deny Millennium's 401 Certification request based on the significant
16 adverse environmental impacts identified in the FEIS.
17 The Board further concludes that court's reasoning in *Arnold* does not apply to this case.
18 Unlike Washington, Oregon does not have a statute comparable to SEPA. In addition, *Arnold*
19 involved a FERC permit governed by the Federal Power Act, which preempts state and local
20 laws. *First Iowa Hydro-Elec. Coop. v. FPC*, 328 U.S. 152, 181-82 (1946) (Federal Power Act
21 establishes comprehensive federal scheme for regulating hydroelectric power projects on

1 navigable waters and thus preempts state law by occupying the field). Contrary to Millennium's
2 claim, the text of Section 401 does not support the conclusion that Ecology is precluded from
3 employing SEPA in the review of a Section 401 water quality certification request.

4 **4. Ecology's denial of 401 Certification not clearly erroneous**

5 Unless otherwise required by law, the Board's scope and standard of review shall be de
6 novo. WAC 371-08-485(1). SEPA does not prescribe the scope or standard of review on
7 appeal. Deferring to case law, the Board reviews the exercise of SEPA substantive authority to
8 condition or deny a proposal under the "clearly erroneous" standard of review. *Polygon Corp. v.*
9 *Seattle*, 90 Wn.2d 59, 69, 578 P.2d 1309 (1978); *see also McQuarrie v. Seattle*, SHB No. 08-033
10 (Findings of Fact, Conclusions of Law, and Order, Aug. 5, 2009) ("review of an agency's
11 exercise of substantive SEPA authority (i.e. the content of agency action, such as mitigation or
12 conditions) is also under the clearly erroneous standard"). Under this standard, the Board "does
13 not substitute its judgment for that of the administrative body and may find the decision clearly
14 erroneous only when it is left with the definite and firm conviction that a mistake has been
15 committed." *Polygon*, 90 Wn.2d at 69 (*quoting Ancheta v. Daly*, 77 Wn.2d 255, 259-60, 461
16 P.2d 531 (1969)) (internal quotations omitted).

17 There are no material issues of fact in dispute that preclude the granting of summary
18 judgment. In this case, Ecology relied on the unchallenged FEIS in exercising its SEPA
19 substantive authority to deny the 401 Certification. Millennium does not dispute the factual
20 findings in the FEIS. The Board will not substitute its judgment for that of Ecology when
21 reviewing under a clearly erroneous standard of review. Based on the Board's review of the

FEIS, and the FEIS's conclusion that the Project will have unavoidable and significant adverse impacts, the Board is not left with the definite and firm conviction that Ecology made a mistake when it denied Millennium's request for a 401 Certification under the agency's substantive SEPA authority. The Board grants summary judgment to Ecology and WEC on Issues 3, 4, 5, 6, 7, 9 and 10 and dismisses Millennium's appeal.

C. Remaining Issues (Issues 2, 8, 11, and 12)

The remaining issues ask whether there was reasonable assurance that the Project would meet water quality standards, whether Ecology waived its certification rights under Section 401,[4] whether Ecology had authority to deny the 401 Certification with prejudice, and whether Millennium was barred from challenging the FEIS. Because the Board concludes that the 401 Certification is not exempt from SEPA and Section 401 of the CWA does not preclude Ecology's use of substantive SEPA to deny a certification request, it need not reach Issues 2, 8, 11, and 12.

[4] Section 401(a)(1) of the CWA provides that if a state certifying agency "fails or refuses to act on a request for certification, within a reasonable period of time (which shall not exceed one year) after receipt of such request," the state agency waives its right to issue a certification. 33 U.S.C. § 1341(a)(1). Millennium asserted that, although Ecology acted on the certification request within the one year time period, Ecology's actions in denying certification were "tantamount to a refusal or failure to act in the manner contemplated by section 401, and the Board should declare and adjudge that Ecology has waived its opportunity to certify the project." Millennium Mot. for S.J. at 22. While the Board need not reach the issue, it does note that Section 401 by its unambiguous terms limits the finding of waiver to a determination of whether the certifying agency acted within the prescribed time period. There is no dispute that Ecology acted within one year of receiving Millennium's 401 Certification request. No legal basis exists for the Board to take the action advanced by Millennium.

1 **ORDER**

2 The Board GRANTS summary judgment to Washington Environmental Council, Climate
3 Solutions, Friends of the Columbia Gorge, Sierra Club and Columbia Riverkeeper, and the State
4 of Washington, Department of Ecology on Issues 3, 4, 5, 6, 7, 9 and 10 and AFFIRMS the
5 Department of Ecology's denial of the Clean Water Act Section 401 Certification requested by
6 Millennium Bulk Terminals-Longview, LLC.

7 SO ORDERED this 15th day of August, 2018.

8

9 **POLLUTION CONTROL HEARINGS BOARD**

10

11 JOAN M. MARCHIORO, Presiding

12

13 KAY M. BROWN, Member

14

15 NEIL L. WISE, Member

16

17

18

19

20

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International Brotherhood of Electrical Workers
Local Union No. 96
242 MILL STREET • WORCESTER, MASSACHUSETTS 01602
TELEPHONE: (508) 753-8635

August 13, 2017

The Honorable John Barrasso
Chairman
U.S. Senate Committee on Environment and Public Works
410 Dirksen Senate Office Building
Washington, D.C. 20510-6175

The Honorable Tom Carper
Ranking Member
U.S. Senate Committee on Environment and Public Works
410 Dirksen Senate Office Building
Washington, D.C. 20510-6175

Dear Chairman Barrasso and Ranking Member Carper:

For over 100 years, IBEW Local 96 has provided electrical services across Worcester County. Our 350 members ensure the lights are on in the businesses and residences in our region.

Natural gas plays a critical role in meeting our region's energy needs. It is clear that New England currently lacks the adequate pipeline capacity to meet growing demand and keep costs low for energy consumers.

The expansion of our region's pipeline infrastructure has come to a standstill despite such persistent energy challenges. Recently, the state of New York has blocked pipeline development. Our region already pays some of the highest electricity and home heating prices in the nation. Without commonsense reform and willing regional partners, this situation will threaten the wallets of consumers in our region and the livelihood of our members.

We simply cannot afford unnecessary regulatory barriers which prevent the modernization of our natural gas infrastructure. Clarifying existing law regarding the appropriate scope and review of regional pipeline projects and removing regulatory abuses under the clean water certification process is a critical step forward.

Addressing pipeline obstruction in the northeast is long overdue. Not only is it commonsense governance, it has the potential to unleash economic savings and improve the fuel security of our region as well.

Sincerely,

Thomas J. Maloney
Business Manager

www.ibewlocal96.org

RHODE ISLAND

BUILDING TRADES

August 15, 2018

The Honorable John Barrasso
Chairman
U.S. Senate Committee on Environment and
Public Works
c/o John_Barrasso@barrasso.senate.gov
410 Dirksen Senate Office Building
Washington, D.C. 20510-6175

The Honorable Tom Carper
Ranking Member
U.S. Senate Committee on Environment and
Public Works
Tom_Caper@caper.senate.gov
410 Dirksen Senate Office Building
Washington, D.C. 20510-6175

Dear Chairman Barrasso and Ranking Member Carper:

The Rhode Island Building and Construction Trades Council represents seventeen (17) unions and approximately 9,500 members in and around the Rhode Island area. On behalf of our organization I am writing to you regarding to support proposed reforms to the Clean Water Act.

Currently, states are using existing provisions of the CWA to deny pipeline permits for projects that already have approval by FERC. This abuse has and is resulting in the loss of hundreds of construction jobs for existing projects. This situation is adversely affecting our economy, the construction industry, and our members in particular. Moreover, it is driving up energy costs that is resulting in citizens not being able to afford to pay their energy bills as well as stifling new economic development.

The proposed reforms do not diminish existing environmental standards in anyway; rather it clarifies the intent and scope of existing law and insulates the process from being politicized.

Accordingly, on behalf of our council I am writing to you to support these efforts. Thank you for your time and attention to this correspondence. If you have any questions, please do not hesitate to contact the undersigned.

Sincerely,

/s/Michael F. Sabitoni
Michael F. Sabitoni
President

Hon. Sheldon Whitehouse- Sheldon_whitehouse@whitehouse.senate.gov
EPW GOP Staff Director Richard Russell – richard_russell@epw.senate.gov
EPW Democratic Staff Director Mary Frances Repko -- mary_frances_repko@epw.senate.gov
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Elizabeth L. Horner, Elizabeth_Horner@epw.senate.gov

Date	Description	Citation / Appendix Page Numbers
June 21, 2012	NYSDEC submitted a letter to Constitution that identifies "initial areas of DEC concern to be included in the draft [Environmental Impact Statement]."	Appendix 000022 – 000026.
July 17, 2013	NYSDEC submitted a letter to FERC stating that it "intends to rely upon the federal environmental review prepared pursuant to [NEPA] to determine if the Project will comply with the applicable New York standards." NYSDEC submitted an identical statement to FERC in a November 7, 2012 letter to the Commission.	Appendix 000080 – 000122; 000027 – 000032.
July 18-19, 2013	NYSDEC conducted a two-day field visit of streams with the Corps and Constitution. NYSDEC "selected as many priority streams as access, visibility and time will allow."	Appendix 000123 – 000125.
July 22-23, 2013	NYSDEC conducted another two-day field visit of streams with the Corps and Constitution. Again, NYSDEC "selected as many priority streams as access, visibility and time will allow."	Appendix 000126.
July 31 – August 1, 2013	NYSDEC conducted another two-day field visit of streams with the Corps and Constitution.	Appendix 000127 – 000130.
August 7-8, 2013	NYSDEC conducted another two-day field visit of streams with the Corps and Constitution. "The remainder of NYDEC protected streams will be visited."	Appendix 000131 – 000133.
August 22, 2013	Constitution submitted a single joint application to NYSDEC for a Section 401 water quality certification and to the Corps for a Section 404 permit.	Appendix 000134 – 000136 (letter); 000137 – 000139 (joint application form).
September 5, 2013	Constitution submitted to NYSDEC a spreadsheet that compiled information regarding the streams visited during field views in July and August 2013. "Each visit consisted of an engineering and biological assessment of the type and method of crossing [and] helped clarify the feasibility of construction methods."	Appendix 000140 – 000149.
September 12, 2013	NYSDEC issued to Constitution a Notice of Incomplete Application identifying additional steps and information required for the application to be deemed complete.	Appendix 000150 – 000153 (letter); 000154 (notice).

Date	Description	Citation / Appendix Page Numbers
September 13, 2013	Constitution sent an email to NYSDEC following up on the spreadsheet that Constitution submitted on September 5, 2013 that compiled information regarding the streams visited during field views in July and August 2013. "[W]e would like to get confirmation from DEC on our field notes relative [to] Protection of Water jurisdiction and timing restrictions …."	Appendix 000155 – 000164.
September 23, 2013	Constitution sent an email to NYSDEC to invite NYSDEC and the Corps on a field visit to a stream property for which Constitution was granted access. NYSDEC and the Corps agreed that day to conduct the field visit on September 26, 2013.	Appendix 000165 – 000174.
September 26, 2013	NYSDEC conducted another field visit with the Corps and Constitution to visit a stream property for which Constitution was granted access.	Appendix 000177.
November 14, 2013	NYSDEC conducted an additional field visit with Constitution to visit NYSDEC-regulated wetlands. "We'll cover as many wetlands as we can … based on time and land permissions."	Appendix 000178 – 000183.
November 27, 2013	Constitution submitted to NYSDEC a supplement to its application that included, among other things, updated information for components of the Project that had been modified or new information that had been obtained since the August 2013 application submission. This supplemental information addressed the items in NYSDEC's September 12, 2013 Notice of Incomplete Application.	Appendix 000184 – 000376.
January 14, 2014	Constitution submitted to NYSDEC applications to conduct geotechnical investigations for Pine Hill Road and Old Route 96.	Appendix 000377 – 000380.
January 29, 2014	Constitution submitted to NYSDEC a Scope of Work regarding the evaluation of Alternative M in order to further evaluate routing sections of Alternative M within the Interstate 88 controlled access area.	Appendix 000381 (email); 000382 – 000384 (scope of work).

Date	Description	Citation / Appendix Page Numbers
March 3, 2014	NYSDEC wrote in an email to Constitution that it "will allow blasting if needed in dewatered trenches" as long as NYSDEC is able "to witness the first blasting to confirm that minimal impacts to biota is occurring." NYSDEC's email went on to state that "[i]f we find anything that needs changing, we would hope to be able to work together to make any needed operational changes."	Appendix 000385 – 000386.
March 4, 2014	The Corps issued its public notice regarding Constitution's joint application, reflecting its determination that Constitution's application was complete.	Appendix 000387 – 000398.
March 17, 2014	NYSDEC issued to Constitution a request that Constitution further evaluate Alternative M as a route alternative.	Appendix 000399 (letter); 000400 – 000403 (scope of work).
April 23, 2014	Constitution submitted to NYSDEC applications to conduct geotechnical investigations for Middle Brook in the vicinity of Sexsmith Lake Road, Steward Road, and Highway 23.	Appendix 000427 – 000530.
April 23-25, 2014	NYSDEC conducted additional stream and wetland field reviews with the Corps and Constitution. "We have selected as many priority streams as property access, visibility and time will allow."	Appendix 000531 – 000534.
April 29, 2014	Constitution submitted to NYSDEC a Stormwater Pollution Prevention Plan outlining the Best Management Practices ("BMPs") that Constitution will implement before, during, and after construction to minimize erosion of disturbed soils and transportation of sediment outside of the construction right-of-way and into environmentally sensitive areas such as wetlands and streams.	Appendix 000535 – 000536.
May 9, 2014	At NYSDEC's request, Constitution withdrew and resubmitted its application.	Appendix 000540 – 000541.

Date	Description	Citation / Appendix Page Numbers
June 16, 2014	Constitution submitted to NYSDEC a 582-page analysis of Alternative M, addressing NYSDEC's request that Constitution analyze Alternative M's constructability and environmental impact. ***NYSDEC never commented on this submission to either Constitution or FERC, and NYSDEC did not seek rehearing of FERC's Certificate.***	Appendix 000545 – 001119.
June 19, 2014	NYSDEC conducted another field visit with Constitution to view NYSDEC-regulated wetlands.	Appendix 001120.
July 3, 2014	NYSDEC issued a 4-page memorandum to Constitution with recommendations for revised materials in support of Constitution's application. Constitution revised its application format as requested. *See, e.g.*, August 13, 2014 and September 30, 2014 entries, *infra*.	Appendix 001121 – 001124.
July 9, 2014	Constitution met with NYSDEC and Corps staff to discuss the recommendations set forth in NYSDEC's July 3, 2014 memorandum.	Appendix 001125 (email); 001126 (agenda).

Date	Description	Citation / Appendix Page Numbers
August 13, 2014	Constitution submitted to NYSDEC a supplement to its application that included, among other things: • the recommendations made in NYSDEC's July 3, 2014 memorandum (detailed in italicized font), followed by Constitution's responses as to the location within the support documentation submitted to date where the requested information can be found, • an updated hydraulic and hydrologic analysis for waterbodies crossed by the project, • new wetland and waterbody features that were field delineated since the application was filed, • an expansion of details in the Waterbody and Wetland Impact Master Table in response to specific items that NYSDEC recommended in its July 3, 2014 memorandum, and • a table that details all of the NYSDEC requested re-routes and Constitution proposed re-routes associated with the project since August 2013.	Appendix 001127 – 001133 (letter).
September 5, 2014	Pennsylvania issued its Section 401 Certification for the Project.	Appendix 001134 – 001139.
September 12, 2014	Constitution emailed NYSDEC with a list of components that will be included in wetland and waterbody feature-specific documentation packages, the re-packaging that NYSDEC had requested.	Appendix 001140 – 001141.
September 30, 2014	Constitution submitted to NYSDEC reformatted application materials as requested in NYSDEC's July 3, 2014 memorandum. The application was reformatted to, among other things, include all relevant information for each wetland or waterbody crossing in one package.	Appendix 001142 – 001188 (excerpt).

Date	Description	Citation / Appendix Page Numbers
October 24, 2014	FERC issued a 450-page Final Environmental Impact Statement for the project, concluding that any adverse environmental impacts from the Project would be reduced to less than significant levels with the implementation of Constitution's proposed mitigation and the additional measures recommended by staff in the Final Environmental Impact Statement. The Final Environmental Impact Statement also included an appendix that explicitly concurred with Constitution's assessment that it is not practicable to use trenchless crossing methods for waterbodies less than 30 feet in width.	Appendix 001189 – 001653 (FEIS); 001654 – 001672 (excerpt of FERC FEIS appendix).
October 31, 2014	NYSDEC conducted another field visit with Constitution to visit perennial stream crossing locations that NYSDEC identified.	Appendix 001674 – 001681.
November 10, 2014	NYSDEC conducted another field visit with Constitution to visit additional perennial stream crossing locations that NYSDEC identified.	Appendix 001684 – 001685.
November 13, 2014	Constitution and NYSDEC met to discuss remaining items to be provided in order to support a "Notice of Complete Application."	Declaration of Keith Silliman, ¶ 7.
November 17, 2014	Constitution submitted additional information in response to NYSDEC's November 13, 2014 request in order to support a Notice of Complete Application.	Appendix 001682 – 001683.
November 18, 2014	NYSDEC called Constitution and stated that NYSDEC was targeting November 26, 2014 for issuance of the Notice of Complete Application.	Declaration of Keith Silliman, ¶ 8.
November 24, 2014	Constitution submitted to NYSDEC responses to NYSDEC comments on Constitution's proposed wetland mitigation plan.	Appendix 001686 – 001696.
December 1, 2014	Constitution submitted to NYSDEC a letter responding to NYSDEC's request for additional clarification (made during a November 25, 2014 phone call) regarding proposed wetland impacts.	Appendix 001697 – 001699.

Date	Description	Citation / Appendix Page Numbers
December 2, 2014	FERC issued a Certificate of Public Convenience and Necessity authorizing the Project and determining that it would serve the national public interest by transporting necessary supplies of natural gas to markets in New York and New England.	Appendix 001700 – 001757.

* * *

Constitution had no less than forty meetings, conference calls, and field visits with NYSDEC between December 2, 2014 and July 8, 2015, including three meetings in December 2014, three meetings in January 2015, three meetings in February 2015, four meetings in March 2015, six meetings in April 2015, eleven meetings and three field visits in May 2015, five meetings in June 2015, and two meetings in July 2015.

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Date	Description	Citation / Appendix Page Numbers
December 3, 2014	NYSDEC stated in a conference call with Constitution that it was waiting on the Governor's office for authorization to issue the Notice of Complete Application.	Declaration of Keith Silliman, ¶ 9; Appendix 001758.
December 24, 2014	NYSDEC issued its Notice of Complete Application for Constitution's Section 401 Certification application.	Appendix 001759 – 001766.
December 31, 2014	NYSDEC sent an email to Constitution that included an Excel spreadsheet attachment labeled "Boring Feasibility." The email did not include any information request, but rather stated that "Josh has left for the day but I believe the attached is what he was looking at this morning when we spoke." This is the correspondence that NYSDEC claims in its April 22, 2016 denial letter is NYSDEC's "informational request table" for stream crossing techniques.	Appendix 001767 (email); 001768 (spreadsheet).

Date	Description	Citation / Appendix Page Numbers
January 22, 2015	Constitution submitted to NYSDEC a report detailing changes to previously proposed trenchless crossing locations based on the subsurface geotechnical investigations that Constitution conducted at the majority of the proposed HDD and Direct Pipe trenchless locations.	Appendix 001769 – 001771 (letter); 001772 – 002191 (report).
January 23, 2015	Constitution met with NYSDEC to present on its crossing methods for protected streams.	Appendix 002192 – 002193 (email); 002194 – 002196 (attendance sheet).
January 27, 2015	NYSDEC sent an email to Constitution requesting geotechnical reports for two particular crossings. That same day, Constitution responded via email that the geotechnical data for these crossings was included with a hardcopy version submitted to NYSDEC.	Appendix 002197 – 002199.
February 2, 2015	Constitution submitted to NYSDEC an updated wetland mitigation plan.	Appendix 002200 (letter).
February 4, 2015	NYSDEC made a recommendation to re-route the project around a wetland complex located on and adjacent to the Kernan parcel. Constitution subsequently agreed to this re-route. *See, e.g.*, February 19, 2015 and July 8, 2015 entries, *infra*.	Appendix 002201 – 002205.
February 6, 2015	Constitution submitted to NYSDEC additional information in support of its trenchless crossing feasibility studies, including justification for using dry crossing methods for streams less than 30 feet in width. This information was in response to NYSDEC's December 31, 2014 request. FERC had already concurred with Constitution's assessment that it is not practicable to use trenchless crossing methods for waterbodies less than 30 feet in width.	Appendix 002206 – 002212; 001654 – 001672 (excerpt of FERC FEIS appendix).
February 19, 2015	NYSDEC proposed a re-route around a wetland complex on the Kernan property.	Appendix 002213.

Date	Description	Citation / Appendix Page Numbers
March 2, 2015	NYSDEC requested, via email, that Constitution provide a map that depicts all NYSDEC wetlands along the project route. Constitution provided to NYSDEC a set of maps of NYSDEC wetlands on March 24, 2015.	Appendix 002214.
March 17, 2015	NYSDEC provided to Constitution a list of twenty streams that NYSDEC wanted Constitution to cross via trenchless crossing methods.	Declaration of Keith Silliman, ¶ 11; Appendix 002215 (email); 002216 – 002217 (list).
March 24, 2015	Constitution provided to NYSDEC a set of maps that depict all NYSDEC wetlands along the project route, as requested by NYSDEC on March 2, 2015.	Appendix 002218 – 002248.
March 27, 2015	Constitution submitted supplemental information to NYSDEC, which updated information in its application obtained through additional survey access, including, among other things: • revised full size alignment sheets depicting the project route, • full size drawings of access roads, • a revised blasting plan with further detail regarding in-water blasting, • revised site-specific drawings for all wetlands and waterbodies crossed by the Project, • specific items requested by NYSDEC in its July 3, 2014 memorandum, including details regarding waterbody and wetland impacts, • an updated trenchless feasibility report including the results of geotechnical investigations and trenchless feasibility assessments for certain wetlands and waterbodies proposed to be crossed utilizing HDD or Direct Pipe trenchless construction methods.	Appendix 002249 – 002253 (letter).

Date	Description	Citation / Appendix Page Numbers
April 1, 2015	Constitution continued to have weekly calls with NYSDEC. An agenda for the call on April 1, 2015 included the wetland mitigation plan, the re-route around the wetlands on the Kernan property, and an update on trenchless crossings, among other things.	Appendix 002254.
April 20, 2015	NYSDEC sent an email to Constitution increasing the number of streams that it wanted Constitution to cross via trenchless crossing methods to 26.	Appendix 002255 (email); 002256 (list).
April 21, 2015	Constitution met with NYSDEC to review a draft permit that NYSDEC had prepared. While NYSDEC had assured Constitution that it was close to issuing the Section 401 Certification, it then advised Constitution that due to NYSDEC's concern about the "one-year" deadline for it to act on the Section 401 Certification under the Clean Water Act, NYSDEC would deny the application unless Constitution withdrew and resubmitted the pending permit application. NYSDEC assured Constitution that this withdrawal and refiling approach was in Constitution's best interests and would not delay the agency's processing of the Section 401 Certification.	Declaration of Keith Silliman, ¶ 13.
April 24, 2015	Constitution submitted to NYSDEC a report responding to NYSDEC's list of streams for trenchless construction consideration, including conceptual drawings depicting the layout for the trenchless construction method at each stream and potential draft permit conditions.	Appendix 002257 – 002258 (letter); 002259 (trenchless crossings); 002260 – 002261 (draft permit conditions); 002262 – 002298 (drawings).

Date	Description	Citation / Appendix Page Numbers
April 27, 2015	At NYSDEC's urging, Constitution again withdrew and resubmitted its application for a Section 401 Certification. That same day, NYSDEC published its ***second*** Notice of Complete Application, wherein NYSDEC informed the public that the "re-submitted application incorporates all application materials previously provided" and that public comments that were previously submitted to NYSDEC did not need to be re-submitted. Also that day, NYSDEC sent Constitution an email to "follow-up to our meeting here last week to discuss draft permit conditions ...." NYSDEC also conducted additional field visits with the Corps and Constitution to visit several streams to be crossed by the project. "***At each location we will discuss the proposed trenchless crossing method developed by Constitution's engineering staff***."	Declaration of Keith Silliman, ¶ 13; Appendix 002299 – 002300 (letter); 002301 – 002302 (notice); 002303 (email); 002304 – 002305 (field visit itinerary).
April 29, 2015	NYSDEC issued a press release stating that: ***[d]ue to the extended winter preventing necessary field work by staff, DEC requested additional time*** to complete its review of any potential impacts on wetlands and water quality ... [a]s requested and to continue the substantial progress reviewing the application and supporting documents that has been made to date, the applicant withdrew and subsequently resubmitted its application ***with no changes or modifications*** ... the applicant's withdrawal and resubmission ***is not expected to unduly delay the agency's final determination***. (Emphasis added.)	Appendix 002306 – 002307.
May 5-6, 2015	Constitution met with NYSDEC to further discuss stream crossing methods and draft permit conditions.	Declaration of Keith Silliman, ¶ 14; Appendix 002308.
May 11-12, 2015	Following the April 27, 2015 Notice of Complete Application, NYSDEC conducted additional field visits with the Corps and Constitution over two days "to look at streams previously inaccessible." ***These were the last field visits that NYSDEC conducted.***	Appendix 002309 – 002315.

Date	Description	Citation / Appendix Page Numbers
May 13, 2015	Constitution submitted to NYSDEC revisions to the proposed re-route around wetlands on the Kernan property. "Constitution would like concurrence from the DEC that the items discussed in the field have been addressed and you concur with the proposed [re-route] ...." Constitution subsequently submitted to NYSDEC supplemental information for the 2.9 mile re-route around the wetland complex on the Kernan property that NYSDEC had requested. Constitution purchased the land rights associated with this re-route at a cost of $3,540,000. *See* July 8, 2015 entry, *infra*.	Appendix 002316 (email); 002317 (map).
May 20, 2015	Constitution submitted to NYSDEC drawings showing the conceptual layout of the preferred trenchless crossing method for each waterbody, a spreadsheet detailing Constitution's feasibility evaluation of trenchless construction methods at protected waterbodies as identified by NYSDEC, photos of each waterbody crossing location, and geological maps used to identify the location of each waterbody relied on to formulate certain assumptions in the Trenchless Feasibility Assessment.	Appendix 002318 – 002320 (letter); 002321 (spreadsheet).
May 22, 2015	NYSDEC sent an email to Constitution eliminating certain streams for consideration of trenchless crossing methods, which narrowed the number of streams for analysis of trenchless crossing methods to 21.	Appendix 002322.
May 26, 2015	Constitution met with NYSDEC to discuss Constitution's wetland mitigation plan and NYSDEC's request that Constitution purchase a 70-acre shoreline pareel along Canadarago Lake in Otsego County that was under threat of development in order to preserve, in perpetuity, the high quality wetlands that existed at the site.	Declaration of Keith Silliman, ¶ 15; Appendix 002323.
May 27, 2015	NYSDEC provided comments on Constitution's stream crossing feasibility analysis. Constitution submitted an updated stream crossing feasibility analysis in response to NYSDEC's comments on June 30, 2015. *See* June 30, 2015 entry, *infra*.	Appendix 002324 – 002329.

Date	Description	Citation / Appendix Page Numbers
June 2, 2015	Constitution submitted a 158-page "Responsiveness Summary" to NYSDEC, which addressed all of the thousands of public comments related to water quality, stream crossings, wetlands, pipeline burial depth, alternatives, cumulative impacts, and blasting, among other issues that were raised during NYSDEC's public comment periods. Among other things, the Responsiveness Summary discusses a conditioned Section 401 Certification that would require the submission of additional geotechnical information ***after*** the issuance of the Section 401 Certification.	Appendix 002330 – 002487; Declaration of Keith Silliman, ¶ 17.
June 5, 2015	Constitution submitted an updated Stormwater Pollution Prevention Plan to NYSDEC.	Appendix 002488 – 002489 (letter); 002490 – 002631 (plan excerpt).
June 11, 2015	Constitution met with NYSDEC to further discuss stream crossing methods, wetland mitigation, and draft permit conditions.	Declaration of Keith Silliman, ¶ 18; Appendix 002632 – 002633.
June 16, 2015	Constitution sent an email to NYSDEC with a document labeled Final Trenchless Conditions. The document included a proposed two-page permit condition for trenchless waterbody crossings subject to a site-specific constructability and risk assessment, including a geotechnical investigation. That same day, Constitution submitted a memo to NYSDEC summarizing the June 11, 2015 meeting with respect to the inclusion of the Canadarago Lake property in Constitution's wetland mitigation package and to outline Constitution's understanding of NYSDEC's expectations regarding the timing for acquisition of the property and the level of detail to be included in the mitigation plan. Constitution subsequently purchased a 70-acre shoreline parcel along Canadarago Lake in Otsego County, New York that was under threat of development in order to preserve, in perpetuity, the high quality wetlands that exist at the site. Constitution purchased the Canadarago Lake property for $475,000.	Appendix 002634 (email); 002635 – 002636 (final trenchless conditions); 002637 – 002640 (memo); Declaration of Lynda Schubring, ¶¶ 7-11.

Date	Description	Citation / Appendix Page Numbers
June 22, 2015	Constitution met with NYSDEC to discuss Constitution's proposed trenchless crossings.	Declaration of Keith Silliman, ¶ 18; Appendix 002641.
June 30, 2015	Constitution submitted to NYSDEC an updated Stream Crossing Feasibility Analysis matrix evaluating the technical feasibility of using trenchless methods on the 21 streams identified by NYSDEC for trenchless crossings, and incorporating responses to NYSDEC's comments on the feasibility analysis, as requested by NYSDEC on May 27, 2015 ("Here is the updated version of the trenchless crossing matrix, updated based on our discussion over the last two weeks").	Appendix 002642 (email); 002643 (spreadsheet).
July 8, 2015	NYSDEC indicated in a phone call that Constitution's Stream Crossing Feasibility Analysis matrix was sufficient for review. NYSDEC also indicated that it had no comments on the Responsiveness Summary. ***Further, NYSDEC told Constitution that it expected to issue the water quality certification by the end of July 2015.*** That same day, Constitution submitted to NYSDEC supplemental information for the 2.9 mile re-route around the wetland complex on the Kernan property that NYSDEC had requested. Constitution purchased the land rights associated with this re-route at a cost of $3,540,000.	Declaration of Keith Silliman, ¶ 20; Appendix 002644 (agenda); 002645 – 002672 (supplemental information on re-route); Declaration of Lynda Schubring, ¶ 11.
July 14, 2015	Constitution submitted to NYSDEC additional information in support of the Canadarago Lake wetland mitigation site, following up on the June 11, 2015 meeting between NYSDEC and Constitution.	Appendix 002673 – 002680.
July 20, 2015	Consistent with the expectation that NYSDEC expected to issue the Section 401 Certification by the end of July 2015, NYSDEC provided a draft Section 401 Certification to the Corps. The terms of the draft certification confirmed that NYSDEC and Constitution had a mutual understanding regarding permit conditions regarding trenchless crossings that would require additional geotechnical analysis ***after the issuance*** of the Section 401 Certification to confirm feasibility.	Appendix 002681 – 002703 (trenchless crossing conditions on 002699 – 002701).

Date	Description	Citation / Appendix Page Numbers
July 27, 2015	The Corps emailed NYSDEC regarding comments on the draft Section 401 Certification and asked if there is "a chance we can get them to you next week?" NYSDEC responded: "Things are moving fast here. The sooner the better."	Appendix 002704 – 002706.
July 28, 2015	NYSDEC advised Constitution in a phone call that it had no unresolved substantive issues and hoped to issue the water quality certification to Constitution by August 7, 2015.	Declaration of Pamela Goodwin, ¶ 6.
July 29-30, 2015	In a series of emails between NYSDEC and Constitution, NYSDEC proposed permit conditions regarding temporary stream crossing bridges and the depth of abutments in stream beds. Constitution concurred with the proposed conditions via email. On July 29, 2015, NYSDEC advised Constitution in a phone call that the then-acting NYSDEC Commissioner had signed off on Constitution's permits and had directed them for issuance.	Appendix 002707 – 002708; Declaration of Keith Silliman, ¶ 21.
August 3, 2015	NYSDEC again informed Constitution in a phone call that it had no remaining issues with respect to Constitution's application.	Declaration of Keith Silliman, ¶ 22.
August 7, 2015	NYSDEC advised Constitution in a phone call that although NYSDEC was ready to issue the permits, the Governor's office was not.	Declaration of Keith Silliman, ¶ 23.
August 18, 2015	NYSDEC advised Constitution that the permit had been signed and was merely awaiting approval from the Governor's office to be dated and issued.	Declaration of Keith Silliman, ¶ 24.
August 28, 2015	NYSDEC advised Constitution in a phone call that a public notice for permit issuance had been drafted.	Declaration of Keith Silliman, ¶ 25.

* * *

NYSDEC cannot point to a single document after August 2015 where it requested additional information regarding the four bases for its denial: stream-crossing methods, depth of pipeline burial under waterbodies, blasting in or near waterbodies, and wetland-crossing methods.

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Date	Description	Citation / Appendix Page Numbers
September 4, 2015	Constitution asked NYSDEC in an email whether draft watermarks could be removed from the Responsiveness Summary. NYSDEC responded in an email that it "cannot answer your questions at this time."	Appendix 002709 – 002710.
September 10, 2015	Constitution requested a status update from NYSDEC on permitting. NYSDEC did not request any additional information with respect to Constitution's Section 401 Certification application.	Declaration of Keith Silliman, ¶ 26; Appendix 002711.
September 14, 2015	Constitution submitted an application to NYSDEC for approval to conduct geotechnical investigation test boring operations in Schoharie County, New York. NYSDEC approved the permit for this work on November 5, 2015.	Appendix 002712 – 002713.
September 15, 2015	Constitution submitted to NYSDEC supplemental information to conform Constitution's site-specific plans to survey data obtained from parcels acquired through judicial condemnation proceedings. The updated information resulted in a decrease of 308.38 acres in impacts from the original August 2013 application. ***NYSDEC did not provide any response, feedback, or questions regarding this supplement.***	Appendix 002714 – 002720; Declaration of Lynda Schubring, ¶¶ 12-14.

* * *

Constitution periodically contacted NYSDEC regarding the status of permits up until NYSDEC's denial letter on April 22, 2016. Each time, NYSDEC indicated in phone calls that no further action had been taken concerning the Section 401 Certification, and at no time did NYSDEC indicate that it was waiting for additional information from Constitution.

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Date	**Description**	**Citation / Appendix Page Numbers**
October 15, 2015	Constitution submitted an application to NYSDEC for approval to conduct geotechnical investigation test boring operations at certain locations in Delaware County, New York. NYSDEC approved the permit for this work on October 26, 2015.	Appendix 002721 – 002793.
October 26, 2015	NYSDEC approved Constitution's September 14, 2015 application to conduct geotechnical investigation test boring operations at certain locations in Schoharie County, New York. NYSDEC also approved Constitution's October 15, 2015 application to conduct geotechnical investigation test boring operations at certain locations in Delaware County, New York.	Appendix 002794 – 002808.
November 2, 2015	Constitution submitted a revised Third-Party Monitoring Plan to NYSDEC.	Appendix 002809 – 002811 (letter); 002812 – 002871 (revised plan).
November 5, 2015	NYSDEC approved Constitution's September 14, 2015 application to conduct geotechnical investigation test boring operations at certain additional locations in Schoharie County, New York.	Appendix 002872 – 002895.
November 9, 2015	Constitution submitted an application to NYSDEC for approval to conduct geotechnical investigation test boring operations at certain additional locations in Delaware County, New York. NYSDEC approved the permit for this work on November 18, 2015.	Appendix 002896 – 002968.

Date	Description	Citation / Appendix Page Numbers
November 18, 2015	NYSDEC issued a letter to Constitution requesting that Constitution revise the communication protocol in the Third-Party Monitoring Plan. That same day, NYSDEC approved Constitution's application to conduct geotechnical investigation test boring operations at certain locations in Delaware County, New York.	Appendix 002969 – 002971 (letter); 002972 – 002978 (permit).
November 23, 2015	Constitution submitted a letter to NYSDEC responding to NYSDEC's comments on Constitution's Third-Party Monitoring Plan and providing an updated Third-Party Monitoring Plan.	Appendix 002979 – 002980 (letter); 002981 – 003041 (updated plan).
December 11, 2015	Constitution submitted to NYSDEC an updated Stormwater Pollution Prevention Plan outlining the Best Management Practices ("BMPs") that Constitution will implement before, during, and after construction to minimize erosion of disturbed soils and transportation of sediment outside of the construction right-of-way and into environmentally sensitive areas such as wetlands and streams. Constitution's Stormwater Pollution Prevention Plan includes site-specific drawings that depict the location and configuration of the project workspace and specific BMPs, which NYSDEC has approved to control discharges necessary to meet applicable water quality standards. ***NYSDEC's April 22, 2016 denial letter makes no reference to Constitution's site-specific plans and drawings associated with the Stormwater Pollution Prevention Plan***.	Appendix 003042 – 003062.
January 4, 2016	Constitution had a status call with NYSDEC. NYSDEC did not request any additional information with respect to Constitution's Section 401 Certification application.	Declaration of Keith Silliman, ¶ 26; Appendix 003063.
January 7, 2016	NYSDEC sent an email to Constitution requesting a conference call to discuss the most recent version of Constitution's Third-Party Monitoring Plan.	Appendix 003064.
January 20, 2016	Constitution met with NYSDEC to provide an informational briefing for NYSDEC conservation officers and Forest Rangers. The meeting covered the environmental inspector and third-party monitoring program, in addition to security briefings.	Appendix 003065 – 003067 (attendance sheet); 003068 – 003113 (briefing).

Date	Description	Citation / Appendix Page Numbers
February 23, 2016	NYSDEC issued a letter to Constitution stating that it would concur with Constitution's third-party monitoring plan as long as Constitution incorporated certain communication procedures. Constitution did so via submission dated March 28, 2016.	Appendix 003114 – 003115.
March 17, 2016	Constitution requested a status update from NYSDEC on permitting. NYSDEC did not request any additional information with respect to Constitution's Section 401 Certification application.	Declaration of Keith Silliman, ¶ 26; Appendix 003116.
March 28, 2016	Constitution submitted to NYSDEC a revised third-party monitoring plan, incorporating NYSDEC's February 23, 2016 comments.	Appendix 003117 – 003118 (letter); 003119 – 003178 (revised plan).
April 20, 2016	The Corps confirmed by letter that it received all the information it had requested in prior permit review correspondence and that it was waiting only for the Section 401 Certification from NYSDEC.	Appendix 003179 – 003180.
April 22, 2016	NYSDEC issued a letter notice denying Constitution's application for a water quality certification, claiming that Constitution failed to provide "sufficient information to enable the Department to determine if the Application demonstrates compliance with" New York's water quality standards.	Appendix 003181 – 003194.
May 11, 2016	The Corps denied Constitution's application for a Clean Water Act Section 404 permit without prejudice to Constitution's right to reinstate review of the application upon submission of NYSDEC's waiver of its Section 401 Certification.	Appendix 003195 – 003196.

* * *

In the
United States Court of Appeals
For the Second Circuit

AUGUST TERM 2017
No. 17-3770-ag

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
Petitioner,

SARAH E. BURNS, AMANDA KING, MELODY BRUNN, BRUNN LIVING TRUST, PRAMILLA MALICK, CHAIR OF PROTECT ORANGE COUNTY, PROTECT ORANGE COUNTY, (POC), AN ASSOCIATION,
Intervenors,

v.

FEDERAL ENERGY REGULATORY COMMISSION,
Respondent,

MILLENNIUM PIPELINE COMPANY, L.L.C. and CPV VALLEY, L.L.C.,
Intervenors.

Petition for Review from the Federal Energy Regulatory Commission.
Nos. CP16-17-000, CP16-17-003.

ARGUED: JANUARY 24, 2018
DECIDED: MARCH 12, 2018

Before: CABRANES, LIVINGSTON, and CARNEY, *Circuit Judges.*

Petitioner New York State Department of Environmental Conservation requests that we vacate two orders of the Federal Energy Regulatory Commission. Together, these orders authorized Intervenor-Respondent Millennium Pipeline Company, L.L.C. to construct a natural gas pipeline in Orange County, New York, and determined that the Department had waived its authority to provide a water quality certification for the pipeline project under Section 401 of the Clean Water Act.

We **DENY** the petition for review.

FREDERICK A. BRODIE, Assistant Solicitor General (Barbara D. Underwood, Solicitor General; Andrew D. Bing, Deputy Solicitor General Lisa M. Burianek, Deputy Bureau Chief; and Brian Lusignan, Assistant Attorney General, *on the brief*), *for* Eric T. Schneiderman, Attorney General, State of New York, Albany, NY, *for Petitioner.*

ROBERT H. SOLOMON, Solicitor (James P. Danly, General Counsel; Holly E. Cafer, Senior Attorney; and Ross Fulton, Attorney, *on the brief*), Federal Energy Regulatory Commission, Washington, DC, *for Respondent.*

CAROLYN ELEFANT (Sarah A. Burns, New York University School of Law, New York NY; and David Wallace, David Wallace Law Offices,

Montague, NJ, *on the brief*), Law Offices of Carolyn Elefant, PLLC, Washington, DC, *for Intervenors* Sarah E. Burns, Amanda King, Melody Brunn, Brunn Living Trust, Pramilla Malick, Chair of Protect Orange County, Protect Orange County, (POC) an association.

CATHERINE E. STETSON (Sean Marotta, Hogan Lovells US LLP, Washington, DC; and Paul Korman, Michael R. Pincus, and A. Gregory Junge, Van Ness Feldman LLP, *on the brief*), Hogan Lovells US LLP, Washington, DC, *for Intervenors* Millennium Pipeline Company, L.L.C.

Elizabeth W. Whittle, Nixon Peabody LLP, Washington, DC, *for Intervenors* CPV Valley, L.L.C.

JOSÉ A. CABRANES, *Circuit Judge*:

The questions presented are: (1) whether the Federal Energy Regulatory Commission ("FERC") correctly determined that petitioner New York State Department of Environmental Conservation ("the Department") waived its authority to review the request of Intervenor Millennium Pipeline Company, L.L.C. ("Millennium") for a water quality certification under Section 401 of the Clean Water Act by failing to act on that request within one year; and (2) whether FERC has jurisdiction to regulate the pipeline at issue, and, if so, whether FERC appropriately accepted and reviewed the application pursuant to its exclusive jurisdiction over interstate natural gas transportation under the Natural Gas Act.

The Department challenges two FERC orders. These orders effectively authorized Millennium to construct a natural gas pipeline to serve a power plant run by Intervenor CPV Valley, L.L.C. ("CPV") absent the water quality certification otherwise required to be procured from the Department under Section 401 of the Clean Water Act, 33 U.S.C. § 1341. In the orders under review, FERC determined that the Department waived its certification authority for the pipeline by failing to respond within one year of receiving Millennium's request for water quality certification, as required by statute. Additionally, the Protect Orange County Intervenors ("the Landover Intervenors") challenge FERC's jurisdiction over the pipeline at issue.

We conclude that the Department waived its authority to review Millennium's request for a water quality certification under the Clean Water Act by failing to act on that request within one year. We also conclude that FERC does have jurisdiction over the pipeline. Accordingly, we DENY the petition for review.

BACKGROUND

The Valley Energy Center, owned by CPV, is an electric power generation facility under construction in the Town of Wawayanda, in Orange County, New York.[1] CPV contracted with Millennium to build the pipeline as a means of connecting the plant to Millennium's existing interstate natural gas pipeline, which runs through Orange County.[2]

On November 13, 2015, Millennium filed an application with FERC, pursuant to section 7(c) of the Natural Gas Act, 15 U.S.C. § 717f(c), requesting certificate authorization to construct and operate 7.8 miles of sixteen-inch-diameter lateral pipeline and related

[1] J.A. 539.
[2] *Id.*

facilities.[3] The Natural Gas Act requires applicants to obtain "any permits, special use authorizations, certifications, opinions, or other approvals as may be required under Federal law."[4] Since the pipeline would cross several streams of water in southern New York, Millennium was also required to apply to New York's Department for a water quality certification under the Clean Water Act to confirm that the proposed pipeline project ("Project") would comply with the Act, state water quality standards, and other requirements of state law.[5]

Section 401 of the Clean Water Act provides that "[i]f the State . . . fails or refuses to act on a request for certification, within a reasonable period of time (which shall not exceed one year) after receipt of such request, the certification requirements . . . shall be waived with respect to such Federal application."[6]

On forms dated November 18, 2015, Millennium submitted an application for a water quality certification to the Department.[7] The Department received the application on November 23, 2015.[8] On December 7, 2015, the Department notified Millennium that it deemed the application incomplete, pending FERC's environmental assessment.[9] FERC issued its assessment on May 9, 2016.[10] On June 17, 2016, the Department issued a second notification that it considered Millennium's application incomplete, requesting further information regarding the Project's potential environmental impact.[11] In August

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[3] J.A. 1-28
[4] 15 U.S.C. §§ 717n(a)(1), (2).
[5] 33 U.S.C. § 1341(a)(1).
[6] *Id.*
[7] J.A. 29-127.
[8] *Id.* at 128.
[9] *Id.*
[10] *Id.* at 217.
[11] *Id.* at 401.

2016, Millennium submitted responses conveying additional information to the Department.[12]

On November 9, 2016, FERC issued a certificate under section 7(c) of the Natural Gas Act approving the Project ("Certificate Order").[13] The Certificate Order did not authorize Millennium to begin construction immediately, instead listing various conditions that the company would need to satisfy before starting work.[14] After FERC issued the Certificate Order, Millennium requested expedited review of its application for a water quality certification.[15] In response, the Department acknowledged that Millennium had fully responded to the second notice of incomplete application and stated that it would continue its review.[16] It contended that it had, "at a minimum, until August 30, 2017," to either approve or deny the application.[17]

Eager to begin construction, Millennium petitioned the United States Court of Appeals for the District of Columbia Circuit to compel the Department to act on its application for water quality certification, on the basis that the Department failed to act on Millennium's application for a water quality certification within the one-year time limit mandated by Section 401 of the Clean Water Act.[18] On June 23, 2017, that court dismissed Millennium's petition for lack of standing, holding that Millennium could seek a remedy for the delay only from FERC.[19]

Accordingly, on July 21, 2017, Millennium requested that FERC determine that the Department had waived its authority under the

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[12] *Id.* at 407, 441, 472.
[13] *Id.* at 538; *see generally Millennium Pipeline Co.*, 157 FERC ¶ 61096 (Nov. 9, 2016).
[14] J.A. at 590-95.
[15] *Id.* at 597.
[16] *Id.* at 618.
[17] *Id.*
[18] *See Millennium Pipeline Co. v. Seggos*, 860 F.3d 696 (D.C. Cir. 2017).
[19] *Id.* at 701.

Clean Water Act, and thus permit Millennium to proceed with construction.[20] While that request was pending, on August 30, 2017—nearly two years after Millennium's initial submission to the Department—the Department denied Millennium's application.[21] It determined that FERC's environmental assessment had failed to evaluate the downstream greenhouse gas emissions from the Project. The Department therefore considered the environmental assessment incomplete and rejected the water quality certification request.[22] Millennium petitioned this Court for review of the Department's decision.[23]

On September 15, 2017, following the Department's decision, FERC found that the Department's delay constituted a waiver of the Department's authority under the Clean Water Act ("Waiver Order").[24] It held that under the plain language of Section 401—which states that the window for review opens upon "receipt of such request"—the relevant date for assessing waiver is the day the agency receives an application, in this case, November 23, 2015.[25]

The Department, and, separately, the Landowner Intervenors sought rehearing of the Waiver Order.[26] FERC denied rehearing on

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[20] J.A. 646.
[21] *Id.* at 736-37.
[22] *Id.*
[23] That case has been held in abeyance pending the outcome of the instant appeal. *See Millennium Pipeline Co. v. N.Y. State Dep't of Envtl. Conserv.*, No. 17-3465 (2d Cir., filed Oct. 26, 2017).
[24] *Millennium Pipeline Co.*, 160 FERC ¶ 61,065 (Sept. 15, 2017); J.A. 753.
[25] J.A. 757-58.
[26] J.A. 763. On October 27, 2017, following entry of the Waiver Order, FERC issued a "Notice to Proceed with Construction" authorizing Millennium to begin construction without receiving a Section 401 certification from the Department. J.A. 783. To prevent Millennium from commencing construction until FERC acted on the Department's motion for rehearing, on October 30, 2017, the Department brought an emergency petition for a writ of prohibition to this Court. *See In re N.Y. State Dep't of Envtl. Conserv. v. Millennium Pipeline Co.*, No. 17-3503 (2d Cir. Oct. 30, 2017). We issued an administrative stay regarding the Notice to Proceed. We dissolved that stay after FERC issued the Waiver Rehearing Order.

November 15, 2017 ("Waiver Rehearing Order").[27] Two days after FERC's denial of rehearing, the Department filed this petition for review of the Waiver Order and the Waiver Rehearing Order.[28] On appeal, the Landowner Intervenors claim that FERC lacks jurisdiction under the Natural Gas Act to regulate the pipeline.

DISCUSSION

A. Standard of Review

Two issues are presented by this proceeding: (1) whether FERC correctly interpreted Section 401 of the Clean Water Act when it held that the Department waived its right to act on Millennium's application; and (2) whether FERC appropriately accepted and reviewed the application as subject to its exclusive jurisdiction under the Natural Gas Act.

We review FERC's interpretation of the Clean Water Act, a statute that it does not administer, *de novo*.[29] The Department contends that we should grant *Chevron* deference to a state agency's interpretation of a federal statute. It claims that since Section 401 contemplates a joint federal-state program in which the Department is responsible for determining whether a proposal complies with the Clean Water Act, we should afford deference to its interpretation.[30]

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[27] Millennium Pipeline Co., 161 FERC ¶ 61,186 (Nov. 15, 2017); J.A. 793.

[28] As part of its petition, the Department filed an emergency motion for stay of construction pending review of the Waiver Orders. On December 7, 2017, following briefing and oral argument, this Court denied the Department's emergency motion for a stay, dismissed the Department's earlier petition (No. 17-3503) as moot, and dissolved the administrative stay it had previously issued. The Landowner Intervenors subsequently requested a similar stay in this case and in the separate appeal of FERC's Certificate Orders (17-3966). We denied those requests on December 15, 2017. *N.Y. Dep't of Envtl. Conserv.*, No. 17-3770 (2d Cir. Dec. 15, 2017); *Protect Orange Cty. v. FERC*, No. 17-3966 (2d Cir. Dec. 15, 2017).

[29] *Constitution Pipeline Co. v. N.Y. State Dep't of Envtl. Conserv.*, 868 F.3d 87, 100 (2d Cir. 2017).

[30] Pet'r's Br. 26-27.

The Department argues that we have afforded *Chevron* deference to a state agency's interpretation of a federal statute in the case of Medicaid, another joint federal-state program.[31]

Our precedents, however, foreclose extending such deference. A state agency's interpretation of a federal statute does not receive deference unless the federal agency charged with administering that statute has expressly approved the state's interpretation and implementation.[32] Although the Department has a role in determining compliance with Section 401 of the Clean Water Act, the federal agency charged with administering the Clean Water Act (the Environmental Protection Agency) is not involved in reviewing or approving the Department's interpretation of the waiver period.[33]

We therefore construe Section 401 *de novo*, according no deference to the interpretations of FERC or the Department.

Regarding the Landowner Intervenors' challenge to FERC's authority over the Project, we must first determine whether the Intervenors have standing before addressing whether the Natural Gas Act provides FERC with jurisdiction.

B. Whether the Department Waived Its Authority Under the Clean Water Act

The Department contends that the review process under Section 401 begins only once it, a state agency, deems an application "complete." FERC, on the other hand, argues that the one-year

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[31] *See Perry v. Dowling*, 95 F.3d 231, 236 (2d Cir. 1996).

[32] *See id.* ("When the federal-statute interpretation is that of a state agency and 'no federal agency is involved,' deference is not appropriate." (quoting *Turner v. Perales*, 869 F.2d 140, 141 (2d Cir. 1989)); *see also Constitution Pipeline*, 868 F.3d at 100 (reviewing *de novo* interpretation of same statutory provision).

[33] *See Alabama Rivers All. v. F.E.R.C.*, 325 F.3d 290, 296–97 (D.C. Cir. 2003) (noting federal Environmental Protection Agency is charged with administering Clean Water Act).

Cc: Senator John Barrasso, Chairman, Senate Committee on Environment and Public Works
Senator Thomas R. Carper, Ranking Member, Senate Committee on Environment and Public Works

review period commences when the Department receives a request for water quality certification. We agree with FERC.

The plain language of Section 401 outlines a bright-line rule regarding the beginning of review: the timeline for a state's action regarding a request for certification "shall not exceed one year" after "receipt of such request."[34] It does not specify that this time limit applies only for "complete" applications. If the statute required "complete" applications, states could blur this bright-line rule into a subjective standard, dictating that applications are "complete" only when state agencies decide that they have all the information they need. The state agencies could thus theoretically request supplemental information indefinitely.

The Department warns that requiring state agencies to act on a request within one year will force it to render premature decisions. Among other harms, the Department notes, such a requirement may undermine public notice and comment, impede a state from working with the applicant to refile in accordance with its requirements, and prompt applicants to flood the courts with appeals.

These concerns are misplaced. If a state deems an application incomplete, it can simply deny the application without prejudice—which would constitute "acting" on the request under the language of Section 401. It could also request that the applicant withdraw and resubmit the application.[35] Such a denial does not preclude a state from assisting applicants with revising their submissions.[36] Nor does

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[34] *Id.*

[35] *Constitution Pipeline*, 868 F.3d at 94 (noting that an applicant for a Section 401 certification had withdrawn its application and resubmitted at the Department's request—thereby restarting the one-year review period).

[36] In fact, Millennium met with the Department on August 10, 2015, before submitting its application, to "avail[] itself of [the Department's] pre-application process," which included the Department providing comments on Millennium's plans. Crouse Decl. Ex. G at 2, Dkt. 7.

it harm the process of public notice and comment, which would simply begin once a state decided that it did not need to deny an application for incompleteness. And what the Department calls "premature" denials of applications are not likely to prompt a deluge of litigation. The Department itself notes that this litigation incentive already exists; applicants can argue before FERC that their applications are complete under New York regulations.[37]

Accordingly, we conclude that the Department waived its authority under Section 401 and that FERC properly issued a waiver order permitting Millennium to proceed with construction without a water quality certification.

C. FERC's Jurisdiction over the Project

The petitioner (the Department) in this instance did not raise the issue of whether FERC has jurisdiction over Millennium's application regarding the Project. Generally, "intervenors may only argue issues that have been raised by the principal parties; they simply lack standing to expand the scope of the case to matters not addressed by petitioners in their request for review."[38] Nonetheless, courts may exercise discretion to entertain a new argument raised by an intervenor.[39] We choose to do so here.

The Natural Gas Act provides that FERC has plenary authority over the transportation of natural gas in interstate commerce.[40] Natural "gas crossing a state line at any stage of its movement to the ultimate consumer is in interstate commerce

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[37] Reply Br. Pet. 23.
[38] *Petro Star Inc. v. FERC*, 835 F.3d 97, 110 (D.C. Cir. 2016) (brackets omitted) (quoting *Nat'l Ass'n of Regulatory Util. Comm'rs v. ICC*, 41 F.3d 721, 729 (D.C. Cir. 1994)).
[39] *See New York v. Atl. States Marine Fisheries Comm'n*, 609 F.3d 524, 529 n.4 (2d Cir. 2010).
[40] 15 U.S.C. § 717(b).

during the entire journey."[41] If a pipeline is an integrated part of an interstate system, FERC has jurisdiction over it even if that pipeline is a "lateral" line off a company's mainline and that lateral line is solely located in one state, and the transporting gas never leaves that state.[42]

The pipeline at issue here will transport gas that is in interstate commerce as part of an integrated system. Millennium's mainline system is linked to interstate pipelines that run both in and out of the state of New York.[43] Although the pipeline at issue here is located entirely within New York and will deliver gas only to the Valley Energy Center, it will receive out-of-state gas from the Millennium mainline.[44] FERC therefore has jurisdiction.

CONCLUSION

For the foregoing reasons, we **DENY** the petition for review.

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[41] *Mich. Consol. Gas Co. v. Panhandle E. Pipe Line Co.*, 887 F.2d 1295, 1299 (6th Cir. 1989) (quoting *Maryland v. Louisiana*, 451 U.S. 725, 755 (1981)).
[42] *See Okla. Nat. Gas Co. v. FERC*, 28 F.3d 1281, 1287 (D.C. Cir. 1994).
[43] J.A. 544, 546.
[44] *Id.* at 544.

United States Court of Appeals for the Second Circuit
Thurgood Marshall U.S. Courthouse
40 Foley Square
New York, NY 10007

ROBERT A. KATZMANN
CHIEF JUDGE

CATHERINE O'HAGAN WOLFE
CLERK OF COURT

Date: March 12, 2018
Docket #: 17-3770ag
Short Title: New York State Department of E v. Federal Energy Regulatory Comm

Agency #: CP16-17
Agency: Federal Energy Regulatory Commission

BILL OF COSTS INSTRUCTIONS

The requirements for filing a bill of costs are set forth in FRAP 39. A form for filing a bill of costs is on the Court's website.

The bill of costs must:
* be filed within 14 days after the entry of judgment;
* be verified;
* be served on all adversaries;
* not include charges for postage, delivery, service, overtime and the filers edits;
* identify the number of copies which comprise the printer's unit;
* include the printer's bills, which must state the minimum charge per printer's unit for a page, a cover, foot lines by the line, and an index and table of cases by the page;
* state only the number of necessary copies inserted in enclosed form;
* state actual costs at rates not higher than those generally charged for printing services in New York, New York; excessive charges are subject to reduction;
* be filed via CM/ECF or if counsel is exempted with the original and two copies.

United States Court of Appeals for the Second Circuit
Thurgood Marshall U.S. Courthouse
40 Foley Square
New York, NY 10007

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VERIFIED ITEMIZED BILL OF COSTS

Counsel for

_____

respectfully submits, pursuant to FRAP 39 (c) the within bill of costs and requests the Clerk to prepare an itemized statement of costs taxed against the

_____

and in favor of

_____

for insertion in the mandate.

Docketing Fee _____

Costs of printing appendix (necessary copies _____) _____

Costs of printing brief (necessary copies _____ ____) _____

Costs of printing reply brief (necessary copies _____) _____

(VERIFICATION HERE)

_____
Signature

HAL QUINN
President & CEO

July 31, 2018

The Honorable John Barrasso
Chairman
Senate Committee on Environment and Public Works
410 Dirksen Senate Office Building
Washington, DC 20510

Dear Chairman Barrasso,

The National Mining Association (NMA) supports the introduction of the Water Quality Certification Improvement Act of 2018. Clean Water Act Section 401 water quality certifications are an important component of mine permitting and of key infrastructure development upon which the mining industry relies. Today's legislation will bring much-needed clarity and transparency to the 401 process, while preserving the central role of states in protecting local waterways.

Section 401 was intended to ensure the application of rigorous water quality requirements to federally permitted activities. However, certain states have misused the process to block projects for political reasons that have nothing to do with water quality concerns. These states have thwarted Congressional intent by hijacking the 401 certification process as a means to interfere with international trade policy in violation of the Commerce Clause of the U.S. Constitution.

The U.S. holds more of the world's coal reserves than any other country, and western U.S. coal is preferred for high efficiency, low emission power plants that are in operation and being built around the world. These resources are critical to our export trade, but the ability for U.S. coal producers to serve fast-growing Asian markets is hindered by the inability to gain state approval to build state of the art coal export facilities on the West Coast. In 2017, 97 million short tons of U.S. coal were exported, and the demand for coal worldwide continues to grow with May 2018 representing the 19th straight month for year-over-year gains in exports from the U.S.

The Water Quality Certification Improvement Act of 2018 ensures that water quality certifications focus on their intended environmental purpose – the protection of local waterbodies potentially impacted by federally licensed activities – and will therefore help promote U.S. trading power while protecting the health of local communities. The

- Impacts to the Highlands neighborhood, a minority and low-income neighborhood adjacent to the Reynolds Lead in Longview, Washington from increases of noise, vehicle delays, and inhalation cancer risk from diesel particulate matter.
- Exceedances of rail line capacity at three rail segments on the main line from adding 16 trains a day to Washington rail traffic.
- An increase to the train accident rate by 22 percent along the rail routes in Cowlitz County and Washington from Millennium-related trains.
- Increases to vessel related emergencies and vessel accidents from Millennium-related vessels.
- Demolition of the Reynolds Metals Reduction Plant Historic District.
- Delayed access to 20 managed tribal fishing sites along the Columbia River from increased rail traffic, and impacts to tribal resources from the construction and operation of the proposed facility on aquatic resources.

Although Ecology cannot prevent Millennium from filing future permit applications for the proposed coal export terminal, these EIS findings likely preclude Ecology from approving such applications. Therefore, at this time, Ecology staff will not be spending time on permit preparation related to Millennium's additional applications for the coal export terminal.

If you have any questions regarding future permit applications, please direct those questions through your attorneys to Mr. Tom Young at the Washington Attorney General's Office. Additionally, Mr. Young will serve as Ecology's point of contact in regard to the legal challenge that Millennium has indicated it will file against Ecology, regarding the denial of the Section 401 Water Quality Certification.

Sincerely,

Maia D. Bellon
Director

cc: Tom Young, Attorney General's Office

THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WASHINGTON
AT TACOMA

Lighthouse Resources Inc.; Lighthouse Products, LLC; LHR Infrastructure, LLC; LHR Coal, LLC; and Millennium Bulk Terminals-Longview, LLC, Plaintiffs, v. Jay Inslee, in his official capacity as Governor of the State of Washington; Maia Bellon, in her official capacity as Director of the Washington Department of Ecology; and Hilary S. Franz, in her official capacity as Commissioner of Public Lands, Defendants.	Case No. 17-CV-_____ **COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF**

INTRODUCTION

1. From the framing of the Constitution, the federal government has enjoyed supreme authority to regulate foreign and interstate commerce.

2. In giving the federal government this authority, the Constitution necessarily prohibits individual states from discriminating against, or unreasonably burdening the free flow of, such commerce.

3. Plaintiff Lighthouse Resources Inc. and its subsidiaries are filing this action because the Defendants are actively preventing coal mined in other states from moving in foreign and interstate commerce.

4. In particular, the Defendants have unreasonably delayed and denied a number of permits and approvals for a port facility that would enable the export of coal to U.S. allies and trading partners in Asia.

5. Those Asian trading partners want the United States to help them meet their coal demands. They have specifically identified coal from the Powder River Basin in Wyoming and Montana as having ideal characteristics, including for the next generation of high efficiency, low emissions coal-fired power plants.

6. The United States, which possesses the largest coal reserves in the world, wants to supply coal to its Asian allies, and is aggressively pursuing a national policy that facilitates coal exports to Asia.

7. Lighthouse Resources Inc. (Lighthouse) and its subsidiaries are working to meet Asian coal demand. They have already contracted for delivery of coal to customers in Asia. But Lighthouse cannot address Asian demand or fulfill its contracts with Asian customers unless additional economic coal export capacity opens on the West Coast.

8. To address this capacity deficit, one of Lighthouse's subsidiaries is proposing a new coal export facility at the existing Millennium Bulk Terminal in Longview, Washington. That facility would directly generate numerous jobs, grow tax revenues for state and local governments, attract further investment, and support thousands of additional jobs throughout the country.

9. The Defendants oppose coal exports on policy grounds. So they have unreasonably delayed and denied a number of permits and approvals needed to construct

the proposed new coal export facility at the Millennium Bulk Terminal. And they have ceased processing other pending permits for the proposed facility, without basis in law.

10. The Defendants' delays and denials are not consistent with normal permitting procedures. They have, among other things, improperly expanded the scope of their environmental review, arbitrarily and capriciously declined to approve a sublease, and illegally refused to grant a Clean Water Act section 401 water quality certification based on alleged effects that are exclusively within federal jurisdiction.

11. The Defendants' actions have both the intent and effect of discriminating against and unduly burdening foreign and interstate commerce, in violation of the United States Constitution's dormant commerce clause, the federal ICC Termination Act, and the federal Ports and Waterways Safety Act.

JURISDICTION AND VENUE

12. This Court has jurisdiction under 28 U.S.C. §§ 1331 and 1343 and 42 U.S.C. § 1983 because this controversy arises under the Constitution and laws of the United States, and involves the deprivation, under state law, of rights and privileges secured by the United States Constitution and acts of Congress.

13. This Court also has jurisdiction pursuant to its inherent equitable powers to enforce federal law and to enjoin state actions that are preempted by federal law.

14. The requested relief is proper under 28 U.S.C. §§ 2201 and 2202.

15. Venue is proper under 28 U.S.C. § 1391(b)(2) because a substantial part of the events or omissions giving rise to the claim occurred in this district.

PARTIES

16. Lighthouse is a privately held company headquartered in Salt Lake City, Utah. Lighthouse's wholly owned subsidiary companies include the parent company of entities owning or leasing coal mining rights, and operating two coal mines (one in Montana and one in Wyoming); the parent company of entities that have proposed to develop port facilities in Oregon and Washington to export coal from Wyoming, Montana, Utah, and Colorado, including the company that has proposed an export terminal in Longview, Washington; and an entity that contracts with rail carriers, ports, and customers in Asian markets for delivery of coal and is currently seeking additional port capacity to export coal through terminals with economic access to foreign markets.[1]

17. LHR Coal, LLC (LHR Coal) is a wholly owned subsidiary of Lighthouse. LHR Coal, through its subsidiaries, is in the business of owning and operating upstream production and mining assets, including coal mines. LHR Coal's subsidiaries own or lease coal mining rights, coal loading and rail infrastructure, and operate existing coal mines in Montana and Wyoming.

18. LHR Infrastructure, LLC (LHR Infrastructure) is a wholly owned subsidiary of Lighthouse. LHR Infrastructure, through its subsidiaries, is in the business of identifying and developing infrastructure projects, including coal export facilities, to connect downstream demand to upstream supply. LHR Infrastructure's subsidiaries own or lease

[1] Lighthouse was previously known as Ambre Energy North America, Inc. In 2014, Ambre Energy North America, Inc. separated from its Australian parent company, Ambre Energy Limited, when it recapitalized. Ambre Energy North America, Inc. announced that it had changed its name to Lighthouse Resources, Inc. in April 2015.

assets to develop marine terminals for transloading bulk products, including coal, from rail to marine vessels.

19. Millennium Bulk Terminals-Longview, LLC (MBT Longview) is a wholly owned subsidiary of LHR Infrastructure and operates an existing bulk product marine terminal in Longview, Washington. MBT Longview has proposed a coal export terminal at that site to receive coal from Lighthouse and other third party customers for loading and shipment to customers in northeast Asia, presently including Japan and South Korea.

20. Lighthouse Products, LLC (LHP) is a wholly owned subsidiary of Lighthouse. LHP markets, sells, and delivers products to its customers. It is in the business of supplying Lighthouse products to meet downstream demand. LHP delivers coal mined by LHR Coal subsidiaries in Montana and Wyoming to Asian customers at the point of sale, which is usually free-on-board (FOB) an ocean-going vessel at a coal export terminal on the Pacific Coast.

21. Jay Inslee is the current governor of the state of Washington, an office he assumed in January 2013. He is being sued in his official capacity.

22. Maia Bellon is the current director of the Washington Department of Ecology. She has served in that role since she was appointed by Governor Inslee in February 2013. She is being sued in her official capacity.

23. Hilary S. Franz is the current Washington Commissioner of Public Lands. She was elected to that position in November 2016 and sworn in on January 11, 2017. She is being sued in her official capacity.

FACTUAL BACKGROUND

A. Asian demand for coal

24. The top five coal-importing countries in the world are located in Asia. Together these countries accounted for 63% of global coal imports in 2014.

25. Japan and South Korea, both of which are among the world's top five coal importers, bave each signed the Paris Accords.

26. Despite having the largest coal reserves in the world, tbe United States has historically supplied less than five percent of Asia's demand for imported thermal coal. The United States accordingly has pursued a policy of facilitating coal exports to Asia.

27. Japan in particular has limited domestic energy resources.[2] Following the Fukushima nuclear power plant accident, Japan imports more than 90% of its primary energy.

28. Japan is installing new, clean coal plant technologies to meet environmental targets.[3] Overall, "Japanese companies plan to develop about 45 additional coal power plants, adding more than 20 GW of capacity in the next decade."[4]

29. Japan has specifically identified Powder River Basin (PRB) coal from the United States as having the quality characteristics that are desirable for Japan's next generation of high efficiency, low emissions coal-fired power plants.[5]

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[2] Limited land mass limits Japan's options. *The Footprint of Energy: Land of U.S. Electricity Production*, STRATA (June 2017), https://www.strata.org/pdf/2017/footprints-full.pdf.
[3] *See* METI, Clean Coal Technology in Japan (Sept. 6, 2017), http://www.jcoal.or.jp/event/upload/15.%20Clean%20Coal%20Technology%20in%20Japan.pdf.
[4] *Japan: Overview*, U.S. ENERGY INFO. ADMIN. (Feb. 2, 2017), https://www.eia.gov/beta/international/analysis.cfm?iso=JPN.
[5] Yoshiyuki Wakabayashi, *Clean Coal Technologies for IGCC Power Plants*, MITSUBISHI HITACHI POWER SYSTEMS (Sept. 6, 2017),

30. South Korea—the world's ninth-largest energy consumer in 2015—lacks domestic energy reserves, making it one of the top energy importers in the world.

31. In recent years, South Korea has also scaled back its long-term reliance on nuclear power and increased its coal imports from 131 million short tons in 2010 to 149 million short tons in 2015.[6]

32. South Korea is the fourth-largest importer of coal in the world. Coal accounts for 28% of South Korea's installed electricity generating capacity, and 20 new coal-fired power plants are scheduled to enter service by 2022. South Korean energy companies also seek additional U.S. coal imports to diversify the sources of their coal supply.

33. Increasing its U.S. coal imports would also allow South Korea to diversify away from its dependence on imports from Indonesia and the Russian Federation.

34. Japan, South Korea, and other U.S. allies in Asia want stable and secure energy supplies for their economies and stability in the region, especially in light of the threat from North Korea and the growing international activism of China and the Russian Federation.

B. Lighthouse's coal supply chain

35. Since 2009, Lighthouse and its affiliated companies have responded to Asian demand by pursuing a strategy to secure port capacity and deliver U.S. coal to Asia.

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http://www.jcoal.or.jp/event/upload/16.%20Clean%20Coal%20Technologies%20for%20IGCC%20Power%20Plants%20%28Mr.%20Wakabayashi%29%20new.pdf.

[6] *Korea, South*, U.S. ENERGY INFO. ADMIN. (Jan. 19, 2017), https://www.eia.gov/beta/international/analysis.cfm?iso=KOR.

36. Lighthouse, through its subsidiaries, operates a coal energy supply chain company. That means that Lighthouse manages or arranges the mining of coal, the transfer of coal from rail to ocean-going vessels, and the sale of coal to end users.

37. Since 2011, Lighthouse subsidiary LHR Coal has owned and leased coal mining rights, maintained coal loading infrastructure, and operated coal mines in Montana and Wyoming through its own subsidiary companies. These mining properties were acquired primarily to meet current and projected demand from Asian customers.

38. Under federal regulations, LHR Coal's subsidiaries are obligated to seek the maximum economic recovery for minerals mined on federal lands. Lighthouse's efforts to export coal to Asia are part of its effort to seek maximum economic recovery.

39. One of LHR Coal's subsidiaries owns and operates the Decker Coal Mine in southern Montana. The Decker mine, which has been in operation since the early 1970s, is on the northern corridor of the BNSF railroad.

40. The Decker mine has two load out facilities, each of which can handle up to 14 million tons of coal per year. The mine has over 60,000 acres of mineral and surface rights under lease from federal, state, and private mineral owners.

41. Coal from the Decker mine is in high demand from overseas customers. Reserves at Decker are approximately 241 million tons, with additional resources estimated at over 1.2 billion tons.

42. Another one of LHR Coal's subsidiaries owns a 50% interest in, and operates, the Black Butte mine in Wyoming. The Black Butte mine, which has been in operation since the 1970s, is on the Union Pacific railroad.

43. The Black Butte mine has a rail load out facility capable of handling up to 14.5 million tons of coal per year. Reserves at Black Butte are over 50 million tons, with additional resources estimated at over 90 million tons.

44. LHR Coal's subsidiary Big Horn Coal Company also has rights to approximately 40 million tons of recoverable coal leased from the State of Wyoming.

45. LHP is party to an amended ten-year contract with a customer in South Korea that was originally executed on May 11, 2012 to deliver two million metric tons per year with the option for the customer to elect to receive an additional one million metric tons per year (Contract #1).

46. LHP is party to another amended contract with a second customer in South Korea, originally executed as a ten-year contract on June 5, 2012, to deliver one million metric tons per year with the option for the customer to purchase an additional one million tons per year (Contract #2).

47. LHP also sold a trial shipment of coal to other potential Japanese customers, but is unable to execute long-term contracts for larger volumes until it secures more coal export capacity and can be more certain about when deliveries can be made.

48. Other customers in South Korea, Japan, and Taiwan have expressed interest in purchasing coal from Lighthouse and its subsidiaries.

49. The lack of sufficient economic west coast coal export capacity has prevented delivery of the coal volumes specified in both Contract #1 and Contract #2. As a result, the contracts had to be amended in December 2015 to make both contracts subject to termination for failure to deliver.

50. At present, LHP supplies coal to its Asian customers by shipping coal out of a Canadian port. That port has not contracted sufficient capacity to LHP to fulfill the contracts to which LHP is a party and is approximately 250 miles farther from the mines than the Millennium Bulk Terminal, resulting in increased shipping costs.

51. LHP needs additional economic coal export capacity to fulfill its contracts and meet market demand.

C. Lighthouse's efforts to secure coal export capacity

52. Given that there is not sufficient economic coal export capacity for Lighthouse and its subsidiaries to fulfill existing contracts and meet increasing Asian market demand, Lighthouse and predecessor entities have been working to identify, contract with, and/or develop new coal export facilities on the West Coast since 2009.

53. In 2010, Lighthouse investigated over two dozen potential coal export locations, including 14 potential sites in Washington, 5 in Oregon, 4 in California, and 4 in British Columbia.

54. Based on this thorough investigation, Lighthouse concluded that the Millennium Bulk Terminal brownfield site in Longview, Washington (the Terminal) was the preferred site for coal exports. It entered into an asset purchase and sale agreement that ultimately resulted in its acquisition of substantially all Terminal assets.

55. In July 2010, Washington State offered potential tax abatement, rail infrastructure improvements, assistance to streamline permitting, and job training incentives to redevelop the Terminal into a bulk products facility that included coal exports.

56. While it sought to acquire and permit the Millennium Bulk Terminal facility, LHP continued searching for other coal export capacity.

57. Starting in 2011, Lighthouse—through LHR Infrastructure and its subsidiaries Coyote Island Terminal, LLC and Pacific Transloading, LLC—proposed to construct the Morrow Pacific Project, a coal export facility at the Port of Morrow near Boardman, Oregon.

58. The Port of Morrow is the second-busiest port in Oregon, and has more than 12,000 acres of land that is used and available for a variety of industries. Oregon law (ORS 777.250) gives the port very broad operational authority, including for "storing, warehousing, distributing, or selling or servicing any products of agriculture, mining or industry . . . ."

59. After taking two and one-half years to review it, the Oregon Department of State Lands denied Coyote Island Terminal's application for a removal-fill permit to construct an industrial dock. Despite the heavy commercial use and industrial purpose of the Port, the Department asserted that the Port of Morrow's busy waters were best used for fishing. That decision effectively blocked U.S. coal exports through Oregon.

D. The proposed Millennium Bulk Terminal coal export facility

60. The proposed Millennium Bulk Terminal coal export facility would provide sufficient capacity to enable Lighthouse's subsidiaries to economically fulfill existing and new contracts with Asian customers by shipping coal from Montana and Wyoming through the Terminal and onto ocean-going vessels bound for Asia.

61. The Terminal has been an active industrial site since 1941, with an active industrial dock that was used for decades before MBT Longview acquired it in 2011 with the goal of expanding it into a state-of-the-art coal export facility.

62. At present, the Terminal receives coal by rail weekly, which is then loaded onto trucks for distribution. The Terminal also maintains readiness to unload shiploads of alumina imported primarily from Australia for transportation by rail to an aluminum smelting facility in Wenatchee, Washington.

63. A 2008 Aquatic Lands Lease between the State of Washington and Northwest Alloys, Inc. (the Aquatic Lands Lease) expressly allows coal to be handled over and across the Terminal's existing dock and two new planned docks.

64. The Aquatic Lands Lease further specifies that the "State believes that this Lease is consistent with the Public Trust Doctrine" and makes clear that approval of a sublease "shall not be unreasonably conditioned or withheld."

65. MBT Longview acquired the Terminal assets and executed a ground lease with Northwest Alloys, Inc. (the "Ground Lease") in 2011. At the same time, MBT Longview agreed to certain performance obligations (including but not limited environmental remediation) for the property, including on the aquatic lands, the uplands of the proposed coal export terminal, and the uplands of the existing bulk terminal.

66. Lighthouse is a guarantor of MBT Longview's performance under the Ground Lease. MBT Longview and Northwest Alloys, Inc. further intended that MBT Longview would become a sublessee under the Aquatic Lands Lease.

67. The Terminal is connected to the existing national rail freight network, already receives common carrier service from BNSF, and is capable of receiving trains from Union Pacific.

68. The Terminal is on the Columbia River, which has been designated by the U.S. Department of Transportation Maritime Administration as a Marine Highway for the transportation of commerce. The river was deepened pursuant to an Act of Congress—at a cost exceeding $180 million—so it could handle more cargo and facilitate growth.

69. At full build-out the Terminal would be capable of exporting 44 million metric tons of coal, which would both satisfy the export requirements of Lighthouse and its subsidiaries and provide export capacity to third party shippers.

70. MBT Longview began the permitting process for the proposed Terminal coal export facility in February 2012. That process requires MBT Longview to acquire roughly two dozen separate federal and state plans, permits, and approvals.

E. Benefits of the Millennium Bulk Terminal

71. The Millennium Bulk Terminal has been underutilized for more than 15 years. Lighthouse's and MBT Longview's plans would redevelop it into a world-class port facility.

72. In part due to underutilization of facilities like the Terminal, Cowlitz County has faced economic challenges that have left it lagging behind state averages for

employment. The proposed coal export facility at the Terminal is expected to add over 1,300 construction jobs and approximately 135 family-wage jobs[7]

73. The Terminal would generate substantial direct tax receipts at the state and local levels.[8] A 2012 economic study estimated that the Terminal would generate $146 million in tax revenues over a 30-year period, with approximately 26% of this revenue going to the County, 54% to the State, and 20% to special purpose districts.[9]

74. Investment in the Terminal would also attract further investment to improve infrastructure around Cowlitz County, resulting in upgrades to rail and other methods of transportation. Improved freight transportation along the Columbia River would increase the value and attractiveness of other industrial properties,[10] including the Port of Longview's proposed port development at Barlow Point, which is adjacent to the Millennium Site.

75. In addition to the local jobs in Cowlitz County, the Terminal at full build-out would support thousands of direct and indirect jobs throughout the country,[11] and bring substantial benefits to the economies of Washington's sister states, including Montana and Wyoming.

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[7] COWLITZ CTY. & WASH. DEP'T ECOLOGY, MBT Longview SEPA Final Environmental Impact Statement at 2-2 (April 28, 2017), http://millenniumbulkeiswa.gov/sepa-eis.html.
[8] *Id.* at 2-1.
[9] MILLENNIUM BULK TERMINALS-LONGVIEW, LLC & BERK, ECONOMIC & FISCAL IMPACT OF MILLENNIUM BULK TERMINALS LONGVIEW 25 (Apr. 12, 2012), http://millenniumbulk.com/wp-content/uploads/2014/10/Economic-Study-Full-Report.pdf.
[10] *Id.* at Executive Summary.
[11] *See* ERNST & YOUNG, U.S. COAL EXPORTS: NATIONAL AND STATE ECONOMIC CONTRIBUTIONS 8-9, 68 (May 2013), http://www.uscoalexports.org/data/National-and-State-Economic-Contributions-5-22-13.pdf.

76. In 2015, Montana coal sales generated nearly $115 million in federal and state revenue, much of which funds schools, state parks, libraries, and local infrastructure.[12] Because Montana holds one-fourth of America's demonstrated coal reserves, coal export is essential to the state's economy.[13]

77. Likewise, coal production and export is a cornerstone of Wyoming's economy.[14] The majority of the coal mined in Wyoming is exported by rail out of state or out of the country.[15] In 2012, coal accounted for 14% of gross state product, 9.3% of total labor income, and 5.9% of total employment in Wyoming.[16]

78. The Terminal also has the potential to increase annual U.S. coal exports by 44 million metric tons, increasing the annual value of U.S. exports by more than $2.5 billion and shrinking U.S. trade deficits with Asian trading partners.[17]

79. At the same time, the Terminal will provide Asian markets greater access to coal mined under U.S. laws and regulations, giving Asian customers the alternative they

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[12] Dep't of Interior, *Explore Data: Montana*, NAT. RESOURCES REVENUE DATA, https://revenuedata.doi.gov/explore/MT/#revenue (last visited Nov. 13, 2017). An average train load of coal in Montana is assessed approximately $30,800 in federal, state and local taxes. *Working for the Coal Industry in Montana*, MONTANA COAL COUNCIL, http://www.montanacoalcouncil.com/ (last visited Nov. 13, 2017).

[13] Montana holds one-fourth of the nation's demonstrated coal reserves. ANNUAL COAL REPORT 2015, U.S. ENERGY INFO. ADMIN. 32 (Nov. 2016), https://www.eia.gov/coal/annual/pdf/acr.pdf.

[14] *See* State of Wyoming Mot. for Summ. Determination 5, Coyote Island Terminal LLC, OAH Case No.: 1403883 (May 6, 2016), https://drive.google.com/file/d/0B_4EQ9PebvQ1dmx6NHhBemkwYkU/view (Wyoming produced 401,457,074 tons of coal in 2012, which represented 39 percent of the entire nation's coal production).

[15] *Id.*

[16] ROBERT GODBY ET AL., CTR. FOR ENERGY ECON. & PUB. POLICY, THE IMPACT OF THE COAL ECONOMY ON WYOMING 4 (Feb. 2015), https://www.uwyo.edu/cee/_files/docs/wia_coal_full-report.pdf.

[17] 48 million short tons x $57.87 per short ton = $2.7 billion, using Platt's North East Asian Thermal Coal Index Netback Price at Vancouver BC, dated November 24, 2017.

seek to achieve their energy policy objectives, including by meeting their environmental commitments.

F. Defendants' opposition to coal and coal exports

80. The Defendants have all expressed unyielding opposition to coal and coal exports.

81. Defendant Inslee co-authored a 2007 book titled *Apollo's Fire: Igniting America's Clean Energy Economy* in which he opines that coal is "killing us."[18] More specifically, he claims that "[s]hould we fail to restrain the growth of CO_2 emissions" from coal, "all six billion of us on this little spaceship are at risk . . . ."[19]

82. In the same part of his book, Defendant Inslee claims that "[c]oal is in a race with cars to be the greatest danger to our climate."[20] He also specifically points to the growth of coal use in Asia as a looming threat to the environment.[21]

83. In November 2012, following Defendant Inslee's election as Governor of Washington, an article reported that state and national environmental groups viewed him as "their best chance to block the coal ports [in Washington]."[22] According to the article, environmental groups believed that Defendant Inslee "could push rigorous environmental reviews that could slow and complicate the permitting process or impose so many conditions that it would be difficult for developers to build the terminals."

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[18] JAY INSLEE & BRACKEN HENDRICKS, APOLLO'S FIRE: IGNITING AMERICA'S CLEAN ENERGY ECONOMY 199 (2008).
[19] *Id.* at 200.
[20] *Id.*
[21] *Id.* at 201.
[22] Maria Gallucci, *Will Washington's Super Green Governor Take Up the Fight Against Coal Exports?*, INSIDE CLIMATE NEWS (Nov. 26, 2012), https://insideclimatenews.org/news/20121119/washington-state-coal-export-terminals-northwest-governor-jay-inslee-clean-energy-economy-oregon-california-epa.

84. During his first inaugural address as the Governor of Washington, Governor Inslee proclaimed that he would not "consciously accept the dangers of climate change" and described Washington State as the "first responders" who must help "solve this global problem."[23]

85. During his first press conference as Governor, Defendant Inslee discussed his concerns about the "ramifications" of "burn[ing] the enormous amounts of Powder River Basin coal that are exported through our ports." He called permitting those exports "the largest decision we will be making as a state, certainly during my lifetime and nothing comes close to it."[24]

86. In May 2014, Defendant Inslee, speaking at a "Climate Solutions" fundraiser, touted his view that Washingtonians could be "leaders" by taking advantage of Washington's "attributes as a state"—meaning that states on "the West Coast" could fight climate change by preventing coal exports.[25]

87. Following the 2016 U.S. presidential election, Defendant Inslee claimed that President Trump "has made it clear that he wants to go backwards on our efforts to fight climate change," and promised that Washington would continue its "aggressive effort to

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[23] Jay Inslee, Governor of Wash., 2013 Inaugural Address: The World Will Not Wait (Jan. 16, 2013), http://www.governor.wa.gov/sites/default/files/speeches/20130116_Inaugural.pdf.

[24] Jessica Goad, *Governor Inslee Calls Coal Exports "The Largest Decision We Will Be Making as a State from a Carbon Pollution Standpoint,"* THINKPROGRESS (Jan. 22, 2013, 7:56 PM), https://thinkprogress.org/governor-inslee-calls-coal-exports-the-largest-decision-we-will-be-making-as-a-state-from-a-carbon-9c73e7ba1079/.

[25] *See* Climate Solutions, *Governor Jay Inslee on Washington's Role in Climate Solutions*, YouTube (May 20, 2014), https://www.youtube.com/watch?v=5njtFvVjMn0&feature=youtu.he.

fight climate change."[26] He went on: "No matter what happens in Washington D.C., Washington State is going to fight climate change, and we're going to win . . . ."[27]

88. In October 2017, while speaking at Climate Change town hall meeting, Inslee indicated that "[you] do not want to lock yourself into infrastructure that is going to be there 50 years to essentially expand fossil fuel. We do not want to get into that mindset for making that kind of decision."[28]

89. In another Climate Change town hall meeting, Defendant Inslee again referenced Millennium, warned against "build[ing] an infrastructure that locks us into fossil fuels," and asserted that Washington State will "do some great things to reduce our carbon pollution from all sources wherever it is, so we can reduce carbon whether it is produced in China, or Montana, or Brazil . . . ." [29]

90. Defendant Inslee's policy goal of stopping coal exports is implemented in large part through the Washington Department of Ecology.

91. Defendant Bellon was appointed by Defendant Inslee to the position of Director of the Washington Department of Ecology in February 2013. In that position, she has worked with Defendant Inslee to oppose coal exports.

92. In November 2013, Defendant Bellon explained during a panel discussion that "This effort starts with Governor Inslee's vision, his mission . . . . I've been asked to lead the sustainable energy and clean environment goal area . . . . Governor Inslee is

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[26] *Governor Jay Inslee Press Conference*, TVW (Mar. 25, 2017), www.tvw.org/watch/?eventID=2017031315.
[27] *Id.*
[28] Climate Townhalll with Gov Inslee Q&A (Oct 19 2017) (see https://youtu.be/h_qohfqCYx8). At 2:00
[29] Governor Inslee Climate Change Town Hall - October 25, 2017 (see www.tvw.org) - see www.tvw.org/watch/?eventID=2017101081.

pushing us hard on 'You don't do your work in a silo. You check in with [other administration officials]' . . . Something that I may push from the environmental or water quality perspective may be problematic in a different area."[30]

93. When the Washington Department of Ecology (Ecology) published its Environmental Impact Statement (EIS) for the Millennium Bulk Terminal in April 2017, its official Twitter account tweeted out four "key findings" from the EIS, while paying little attention the EIS's findings of no significant adverse impact.

94. When Ecology tweeted a "key finding" that "[t]he project would increase carbon pollution globally by 2 million metric tons," Defendant Bellon retweeted that statement.

95. Despite Ecology having jurisdiction over several pending and future permits for the Terminal project, Defendant Bellon also tweeted in April 2017 that "[t]he proposed coal terminal in Longview would significantly impact the environment . . . ."

96. Defendant Franz campaigned against coal exports when running for Washington State Lands Commissioner, indicating in response to a questionnaire that she "opposes coal and oil exports from Washington ports."[31]

97. Defendant Franz's campaign website also argued that coal "is projected to be an economically outdated energy source within 10 years," and praised the U.S. Army Corps

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[30] *Panel Discussion on "A New Direction in Washington" with Maia Bellon (Director, Dept. of Ecology), Carol Nelson (Director, Dept. of Revenue), and Joel Sacks (Director, Dept. of Labor & Industries)*, TVW (Nov. 14, 2013 9:00 AM), https://www.tvw.org/watch/?eventID=2013111061.

[31] TJ Martinelli, *Different Visions for Public Lands Chief*, THE LENS (Sept. 7, 2016), http://thelens.news/2016/09/07/a-different-visions-for-public-lands-chief/; *see 46th District Democrats Legislative & Statewide Questionnaire*, THE LENS, http://thelens.news/wp-content/uploads/2016/09/CommissionerofPublicLands_HllaryFranz.pdf 7 (last visited Nov. 11, 2013).

of Engineers for "suspend[ing] the Cherry Point Coal Terminal project," another proposed coal export terminal in Washington State.[32]

98. In sum, all the Defendants steadfastly oppose the use of coal as a source of energy and, more specifically, the export of coal to Asian markets.

99. As public officials of the state of Washington, the Defendants have translated their personal opposition to coal exports into official state policy by actively thwarting Lighthouse's plans to ship coal from Montana and Wyoming to the proposed Millennium Bulk Terminal for export to Asia.

G. Defendants' coordination with other states to block coal exports

100. On information and belief, the Defendants have also coordinated with officials in Oregon and California in a "subnational" effort to prevent any new coal exports from the United States Pacific Coast to Asian markets.

101. The Pacific Coast Collaborative (PCC), a partnership between Washington, Oregon, California, Alaska, and British Columbia that was initially formed in June 2008, has been used to coordinate policies and actions between the states of Oregon, Washington, and California, as well as British Columbia.

102. Opposition to coal exports originated with one PCC member state at least as early as February 2011, when then-Oregon First Lady Cylvia Hayes responded to an email

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[32] Hilary Franz, *Issue Priorities*, ELECT HILARY FRANZ, http://www.hilaryfranz.com/issues/ (last visited Nov. 11, 2013).

from the environmental group Climate Solutions about the proposed Millennium Bulk Terminal coal export facility.[33]

103. Hayes and her fiancée, then-Oregon Governor John Kitzhaber actively worked to stop coal exports in Oregon and expanded collaboration with officials in Washington, including one or more of the Defendants, in an attempt to block all coal exports from the West Coast.

104. On information and belief, subnational efforts to prevent coal exports from the West Coast by PCC member states were also intertwined with the efforts of environmental groups seeking to block coal exports to Asia.

105. For instance, while acting as First Lady of Oregon, Hayes was being paid by the Clean Economy Development Center to develop "a strategic approach to preventing the development of coal export facilities on the west coast."[34] A substantial part of that compensation came from the Energy Foundation, a group that also worked with Governor Kitzhaber to align anti-coal policies in Washington, Oregon, and California.[35]

106. Hayes worked with Governor Kitzhaber to ensure that Oregon's policies and decisions opposing coal exports were consistent with the positions taken by the

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[33] *See* E-mail from Cylvia Hayes, CEO, 3E Strategies, to KC Golden, Senior Policy Advisor, Climate Solutions (Feb. 19, 2011), http://media.oregonlive.com/politics_impact/other/Nelson%20Hayes%20email.pdf; *see also* Nick Budnick, *Kitzhaber Told Staff State Policies Should Match Cylvia Hayes' Paid Agenda*, OREGON LIVE (July 20, 2015, 1:47 PM), http://www.oregonlive.com/politics/index.ssf/2015/07/kitzhaber_told_staff_state_pol.html; Anne Mulkern, *West Coast Pact on Climate Action Pulled into Former Ore. Governor's Scandal*, E&ENEWS (Feb. 23, 2015), https://www.eenews.net/stories/1060013822 .

[34] Budnick, *supra* note 27.

[35] Nick Budnick, *Cylvia Hayes Scandal: Kitzhaber Associates Help Create Jobs for Her That Had Oregon Influence in Mind*, OREGONLIVE (Feb. 9, 2015, 9:15 PM), http://www.oregonlive.com/politics/index.ssf/2015/02/cylvia_hayes_kitzhaber_associa.html.

environmental groups who paid her salary. They also worked with the Defendants to help Washington adopt the same anti-coal export policies.

107. In December 2012, before Defendant Inslee was sworn into office, Oregon Governor Kitzhaber left him a message to invite his participation in a project that would create a systemic case against investment in west coast coal export infrastructure.

108. In March 2013, Defendant Inslee and Governor Kitzhaber co-authored a letter to the chair of the White House Council on Environmental Quality that decried the "inevitable consequences of coal leasing and coal export . . . [which] are likely to lead to long-term investments in coal generation in Asia" and urges the federal government "in the strongest possible terms to undertake and complete a thorough examination of the greenhouse gas and other air quality effects of continued coal leasing and export . . . ."[36]

109. The Defendants also continued to coordinate with Oregon and California officials through the PCC, using the PCC to "present united fronts opposing new coal export facilities on the West Coast," and seeking grant funding for the PCC from environmental organizations opposed to coal exports.[37]

110. On October 28, 2013, as part of their public efforts with the PCC, California, Oregon, Washington, and British Columbia signed an "Action Plan on Climate and Energy" that agreed to "meaningful coordination and linkage between states and provinces in North America . . . [to] improve the effectiveness of [their] actions, increase their overall positive

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[36] Letter from Jay Inslee, Governor of Wash., and John Kitzhaber, Governor of Or., to Nancy Sutley, Chair, Council Envtl. Quality (Mar. 25, 2013), http://critfc.org/wp-content/uploads/2012/10/sutley-coal.pdf?x78172.

[37] *See Inslee's Enviro Outsourcing: 5 Things We Learned from Jay Manning's Grant Proposals*, SHIFT WA (June 2, 2014), https://shiftwa.org/5-things-we-learned-from-jay-mannings-grant-proposals/.

impact and build momentum for broader international coordination to combat climate change."

111. Officials in Oregon also sought funding for the PCC from groups opposed to coal exports with the idea that the states on the west coast, including the Defendants, could work with those anti-coal export groups as a unified "network."

112. During an April 19, 2014 speech to the League of Conservation Voters, Governor Kitzhaber made it clear that he intended to stop all coal exports: "It is time once and for all to say no to coal exports from the Pacific Northwest . . . . The future of Oregon and the West Coast does not lie in nineteenth century energy sources."[38]

113. On October 8, 2014, *Willamette Week* published a story explaining how First Lady Hayes had misused her position in Governor Kitzhaber's administration. In January 2015, it came to light that Hayes had not disclosed her contract with the Clean Economy Development Center in her ethics filings.

114. On February 4, 2015, the Oregonian editorial board called for Kitzhaber to resign. On February 9, 2015, Oregon Attorney General Ellen Rosenblum announced a criminal investigation. On February 13, the U.S. Attorney's Office issued a subpoena for records.[39]

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[38] Ben Adler, *Kitzhaber is on His Way Out, But Expect Oregon to Keep Being a Green Leader*, GRIST (Feb. 14, 2015), http://grist.org/politics/kitzhaber-is-on-his-way-out-but-oregon-should-continue-being-a-green-leader/; Rob Davis, *Oregon Gov. John Kitzhaber Firmly Opposes Ambre Energy Coal Export Terminal, Sets May Deadline*, OREGONLIVE (Apr. 25, 2015, 12:54 PM), http://www.oregonlive.com/environment/index.ssf/2014/04/oregon_gov_john_kitzhaber_firm.html.

[39] *See* Jonathan Cooper, *Feds Subpoena Records Pertaining to Departing Oregon Gov.*, AP NEWS (Feb. 14, 2014), https://apnews.com/d2b8cb51c03947df859fe26b583bd0f3.

115. Kitzhaber resigned as Governor of Oregon effective February 18, 2015, but PCC member states continued to act in opposition to coal exports.

116. On June 1, 2016, members of the PCC—British Columbia, California, Oregon, and Washington—together with the cities of Los Angeles, Oakland, Portland, San Francisco, Seattle, and Vancouver, signed the "Pacific North America Climate Leadership Agreement." The Preamble to that agreement noted that the parties are "embracing the Pacific Coast's opportunity to demonstrate global leadership by providing a model for decisive, coordinated subnational climate action . . . ."

H. Washington's environmental review of the proposed Terminal

117. In November 2010, MBT Longview received a Shoreline Substantial Development Permit from Cowlitz County for initial development of a coal export facility at the Terminal. Several environmental groups appealed that decision.

118. The Washington Department of Ecology filed to intervene in the appeal. Ecology's Southwest Regional Office claimed in an email that Ecology was not "suggesting that the SEPA analysis should include emissions that occur from the burning of coal in China." Instead, Ecology's position was that the greenhouse gas emissions inventory should evaluate transportation impacts from the border of Washington to the three mile territorial limit.

119. Rather than litigate the appeal of its original Shoreline Development Permit, MBT Longview withdrew its permit application and began a new process that would evaluate the environmental effects of the possible expansion of coal exports at the Terminal—including preparation of an EIS.

120. In October 2012, the U.S. Army Corps of Engineers, Washington Department of Ecology, and Cowlitz County agreed to collaborate on a joint National Environmental Policy Act (NEPA)/State Environmental Policy Act (SEPA) document. Approximately three years later, after Defendants Inslee and Bellon were in office, the parties amended their Memorandum of Understanding to allow separate state and federal environmental reviews.

121. The separation of the federal and state environmental review process stemmed from a disagreement over the scope of the document. As Defendant Bellon explained on August 22, 2013, the State's broader scope of environmental review was based on "the end use of a product" and that "there is no speculation as to the end use of the exported coal; it will be combusted for thermal power."[40]

122. In other words, Defendant Bellon explicitly proposed to expand the environmental review of proposed Terminal project beyond the scope originally envisioned with the federal government solely because of the commodity being exported: coal.[41]

123. In November 2013, just 2 days after the public scoping comment period to define the scope of the Millennium Bulk Terminal EIS ended, Governor Kitzhaber praised Defendant Inslee for assuring that Washington's review of coal export facilities would

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[40] Letter from Maia Bellon, Dir. of Wash. Dept. of Ecology, to Doug Erickson, Wash. State Senator 4, 7 (Aug. 22, 2013), http://washingtonports.org/wp-content/uploads/2013/11/Annual13-CLE-EcologyLetterGatewayReview.pdf.

[41] The proposed MBT Longview coal export terminal is almost six years into the permitting process and it has undergone repetitive, burdensome, and unnecessarily complex government processes. As of October 2017, MBT Longview has invested about $15 million in permitting. A report by James Bacchus and Rosa Jeong of the law firm Greenberg Traurig LLP prepared for the National Association of Manufacturers noted that expanded SEPA review could constitute export restrictions under World Trade Organization rules. *See* JAMES BACCHUS & ROSA JEONG, GREENBERG TRAURIG LLP, LNG AND COAL: UNREASONABLE DELAYS IN APPROVING EXPORTS LIKELY VIOLATE INTERNATIONAL TREATY OBLIGATIONS 3-5 (Nov. 2013), http://www.nam.org/Issues/Energy/LNG-and-Coal-Report-NOV-2013/LNG-COAL-Report.pdf.

include a full examination of upstream and downstream impacts, including rail effects and the effects of coal's use as a fuel in Asia.

124. In February 2014, Ecology formally decided that the Draft EIS for the Terminal project would evaluate impacts beyond the State's borders, including impacts from lifecycle greenhouse gas emissions and transportation that occurs outside of the project area and the State of Washington. This change in scope was inconsistent with both Ecology's stated position in 2011 and its original scoping agreement with the federal government.

125. The U.S. Army Corps of Engineers declined to follow Ecology's decision to conduct an expansive environmental review.

126. The Corps explained its scoping decision in a February 2014 Memorandum of Record. In sum, the Corps concluded that Ecology's broader analysis infringed on numerous areas over which "other Federal agencies may have regulatory control."

127. On information and belief, Defendant Inslee and Defendant Bellon influenced the scope and preparation of the EIS in a manner to include factors over which Washington State has no jurisdiction, some of which are exclusively under federal jurisdiction.

128. In June 2016, following publication of the state's Draft EIS, Defendant Bellon reiterated the State of Washington's goal of being a national and global leader in opposing

the use of carbon-based fuels, and argued that if Washington, Oregon, and California show leadership, then "others will fall in line."[42]

129. During the same June 2016 interview, Defendant Bellon acknowledged that the state has little authority to regulate rail transportation, and that if a recently passed law went further, it would be "beyond our authority again and . . . interfering with commerce clause concepts."[43]

130. The unusually broad, global scope of analysis for the Final EIS is just one of the ways that the Defendants undermined the Terminal expansion project's goal of exporting U.S. coal to Asian markets.

131. On information and belief, Defendant Inslee and Defendant Bellon also influenced the preparation of the EIS to exclude analysis that did not support their opposition to coal exports.

132. For example, the draft EIS excluded the analysis of greenhouse gas emissions during coal extraction. After several comment letters noted the omission, the final EIS added two paragraphs referencing "uncertainty associated with estimated coal extraction emissions"—but entirely excluded the results of that analysis from its conclusion that the project would increase greenhouse gas emissions.

133. This omission is particularly glaring in light of the 122-page SEPA Greenhouse Gas Emissions Technical Report—prepared by Ecology's own third-party

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[42] Inside Olympia, Interview with WA Dept. of Ecology Director Maia Bellon, TVW (June 2, 2016, 7:00 PM), www.tvw.org/watch/?eventID=2016061084.
[43] *Id.*

consultant—which found that U.S. coal mining actually reduces total greenhouse gas emissions by displacing mining with higher emissions elsewhere in the world, even when accounting for uncertainty.[44]

134. Ultimately, the Defendants used their substantive authority under SEPA to reject MBT Longview's proposal by finding that it would cause significant adverse environmental effects not reasonably capable of mitigation.

135. In particular, the Defendants concluded that the environmental effects of a coal export facility at the Terminal could not be mitigated because those effects were subject to federal jurisdiction, and not within the state's authority to mitigate.

136. On May 25, 2017, following publication of the Final EIS, Defendant Bellon admitted that the state subjected the Terminal project to a greater level of scrutiny because the coal it would export is "meant to be used as an end product for combustion."[45] These comments again confirmed Defendant Bellon's opposition to coal export to Asian markets.

137. Washington State's expanded review of the Terminal stands in sharp contrast to its treatment of the Barlow Point terminal, which is adjacent to the MBT Longview site and is served by the same rail line that serves the Terminal.

138. At Barlow Point, the Port of Longview aims to export dry or liquid bulk commodities including bio-diesel, crude oil, methanol, potash, urea/ammonia, and wood

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[44] The final EIS reported that the project increased total net annual emissions in 2028 by 1.19 million metric tons of CO2 equivalent. MBT Longview SEPA Final Environmental Impact Statement, *supra* note 4, at 5.8-18. However, if coal extraction analysis is included as reported in the Technical Report, total net annual emissions in 2028 decreases by 3.77 million metric tons of CO2 equivalent. *See* ICF, SEPA GREENHOUSE GAS EMISSIONS TECHNICAL REP., 3-23 tbl. 67 (Apr. 2017).

[45] Inside Olympia, Interview with Wash. Dept. of Ecology Maia Bellon, TVW (May 25, 2017, 7:00 PM), www.tvw.org/watch/?eventID=2017051094.

chips[46] State officials and agencies are actively pushing for expedited development of Barlow Point.[47] It was estimated that its environmental review process will take between 18 and 24 months.[48]

139. The primary material difference between the Barlow Point project and the Terminal is the commodity being shipped from the Terminal: coal.

140. Washington State's expanded review of the Terminal also stands in sharp contrast to its review of a grain export terminal that was originally proposed at the Port of Longview in or about June 2009.[49]

141. Despite the fact that this grain export terminal also receives 110-car trains from Montana and other states, and transloads grain onto oceangoing vessels bound for Asian markets,[50] it proceeded quickly through the environmental review and permitting process. It began receiving trains in September 2011.[51]

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[46] *See* PORT OF LONGVIEW: MASTER PLAN PHASE I FEASIBILITY STUDY, PORT OF LONGVIEW 1-3 (Mar. 9, 2016), http://wa-portoflongview.civicplus.com/DocumentCenter/Home/View/49.
[47] *See* Letter from Roger Millar, Sec'y of Transp., and Dan Gatchet, Chair, Wash. State Freight Advisory Comm., to David Schumacher, Dir., Office of Fin. Mgmt., Curtis King, Chair, Senate Transp. Comm., and Judy Clibborn, Chair, House Transp. Comm. (Oct. 31, 2016), http://wa-portoflongview.civicplus.com/DocumentCenter/Home/View/70; *see also* DRAFT 2017 WASHINGTON STATE FREIGHT SYSTEM PLAN, WASH. STATE DEP'T OF TRANSP. (2017), https://www.wsdot.wa.gov/NR/rdonlyres/AC37124C-A761-485F-8AD1-5D673191A9B8/0/DraftFreightSystemPlanAppendices20170815.pdf; KPFF & PORT OF LONGVIEW, PORT OF LONGVIEW: MASTER PLAN PHASE I FEASIBILITY STUDY EXECUTIVE SUMMARY REPORT, 14 (Mar. 9, 2016) , http://wa-portoflongview.civicplus.com/DocumentCenter/Home/View/49.
[48] PORT OF LONGVIEW: MASTER PLAN PHASE I FEASIBILITY STUDY EXECUTIVE SUMMARY REPORT at 14.
[49] Bunge partners with two leading agribusiness firms to build export grain terminal in the Pacific Northwest (June 1, 2009), http://www.egtgrain.com/news/release/bunge-partners-with-two-leading-agribusiness-firms-to-build-export-grain-terminal-in-the-pacific-northwest/.
[50] Longview Export Grain Terminal, http://www.egtgrain.com/facility/.
[51] EGT receives first wheat shipment from Washington State (Sept. 21, 2011), http://www.egtgrain.com/news/release/egt-receives-first-wheat-shipment-from-washington-state/.

142. The primary material difference between the grain export terminal at the Port of Longview and the Millennium Bulk Terminal is the commodity being shipped from the Terminal: coal.

143. The State of Washington's treatment of the Terminal further stands in contrast to its review of a 2015 Port of Seattle proposal to modernize its currently-vacant Terminal 5, including associated dredging, to allow much bigger container ships to call at that terminal.

144. The Port of Seattle's proposed container terminal modernization project is targeted at attracting new shipping to the Northwest through upgrades that would allow Terminal 5 to handle at least 1 million more twenty foot shipping containers per year than the facility's current permits allow.

145. SEPA review for the Port of Seattle's Terminal 5 modernization project, which was initiated in 2015, limited its analysis of GHG emissions to emissions related to the operation of the project itself. This limitation was in spite of the revitalized terminal's potential effects on the dynamics international trade in any number of products.

146. Ecology also did not request an analysis of GHG emissions from the trans-Pacific shipping of goods to or from the terminal, or any analysis of the market effects of a modernized terminal designed to accommodate much bigger vessels than any port in the Northwest can currently handle.

147. The final EIS was issued in October 2016, just one year after the Port of Seattle determined that an EIS would be prepared.

148. Again, the primary material difference between the Port of Seattle terminal expansion and the Millennium Bulk Terminal is the commodity being shipped from the Terminal: coal.

I. Washington State's denial of a sublease to MBT Longview

149. LHR Infrastructure initially approached the Washington Department of Nature Resources (DNR) in August 2010 to discuss LHR Infrastructure becoming the sublessee under the Aquatic Lands Sublease at the Terminal.

150. After LHR Infrastructure transmitted the lessee's consent to DNR, the Department's representative indicated in an October 18 email that he had "no objections" to the sublease. He then explained that "[t]he only thing [DNR] require[s] will be the security and insurance be in place at the time or before the sublease is in place."

151. On October 19, 2010, in a follow up telephone conversation, the same DNR representative confirmed that his October 18 email was DNR's consent to the sublease, and that DNR would not sign a written consent because there was no one within the agency to sign such a document.

152. Later in October 2010, as part of the transaction for MBT Longview to acquire the Terminal assets, Northwest Alloys submitted a written request for approval of an aquatic lands sublease to MBT Longview.

153. On November 12, 2010, four environmental groups (Sierra Club, Columbia Riverkeeper, Washington Environmental Council, and Climate Solutions) sent then-Washington DNR Commissioner, Peter Goldmark, a letter urging him to deny consent to

a "sublease transfer" to LHR Infrastructure and requesting a meeting to discuss DNR's decision.

154. Six days later, on November 18, 2010, DNR left a voice message for LHR Infrastructure's attorney to inform him that an attorney would be taking over the sublease issue.

155. More than six years later, in January 2017, DNR announced that it would not approve the proposed sublease between Northwest Alloys and MBT Longview.

156. Although the ostensible reason for this sublease denial was a lack of information about MBT Longview's finances and the structure of the sublease, MBT Longview had in fact provided all of the information normally required.

157. Opponents of the Terminal project hailed DNR's decision as "a firm no to the largest coal terminal in the country."[52]

158. Defendant Franz, who assumed leadership of the DNR just weeks after her predecessor's decision, subsequently explained that the denial of the sublease was "right" because "the answer to sustainable, long-term revitalization of our economies is best served by looking forward to the development of new technologies that protect the environment, not backward to technologies that exploit it."[53]

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[52] Hal Bernton, *Departing DNR Boss Jolts Longview Coal-Terminal Plan*, THE SEATTLE TIMES (Jan. 4, 2017, 10:21 AM), https://www.seattletimes.com/seattle-news/environment/dnr-boss-rejects-longview-coal-export-loading-dock-sublease/.

[53] Marissa Luck, *Millennium Appeals State's Denial of Coal Dock Sublease*, TDN (Feb. 11, 2017), http://tdn.com/news/local/millennium-appeals-state-s-denial-of-coal-dock-sublease/article_1a70be78-0191-5eb1-bc50-4a9b4f4e78c6.html.

159. Defendant Franz's statement is consistent with the platform she espoused when running for her current office, when she indicated that she "opposes coal and oil exports from Washington ports,"[54] but inconsistent with DNR's stated reasons for denying the sublease.

160. When MBT Longview challenged DNR's sublease denial in Cowlitz County Superior Court, the judge ruled that DNR's decision was "arbitrary and capricious."

J. Washington State's denial of a Clean Water Act § 401 certification

161. In July 2016, MBT Longview requested a water quality certification under section 401 of the Clean Water Act (CWA) from the Washington Department of Ecology (Ecology). Obtaining that certification is a key step in securing a CWA section 404 dredge and fill permit for the Terminal project from the U.S. Army Corps of Engineers.

162. On September 26, 2017—just 3 business days after receiving 240 pages of additional information in response to Ecology's requests and questions—Ecology denied the request for a CWA section 401 certification "with prejudice."

163. Lighthouse and MBT Longview are not aware of any other instances in which Ecology denied a request for CWA section 401 certification "with prejudice." Ecology has also admitted that does not know of other "with prejudice" 401 certification denials.

164. Ecology's denial was not based on the water quality effects of the Terminal, as required by CWA section 401. Indeed, the SEPA EIS for the Terminal project concluded that it would not have any significant adverse effects on water quality.

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[54] TJ Martinelli, *Different Visions for Public Lands Chief*, THE LENS (Sept. 7, 2016), http://thelens.news/2016/09/07/a-different-visions-for-public-lands-chief/; *see 46th District Democrats Legislative & Statewide Questionnaire*, THE LENS, http://thelens.news/wp-content/uploads/2016/09/CommissionerofPublicLands_HIlaryFranz.pdf (last visited Nov. 11, 2017).

165. Unable to rely on water quality issues, Ecology denied the certification based almost entirely on effects that would be caused by rail carriers transporting coal into Washington from Montana and Wyoming, where it is being mined by LHR Coal's subsidiaries.

166. Ecology's denial was also founded in part on the potential effects of the oceangoing vessels that would transport coal from the Terminal to LHP's customers in Asia.

167. Defendant Bellon announced Ecology's denial of MBT Longview's request for CWA section 401 certification on her Twitter account. She has not mentioned other CWA section 401 certification decisions on Twitter.

168. Defendant Bellon also "liked" several responses to her tweet announcing Ecology's denial, including a tweet that said "Let's keep Powering Past Coal!"

169. In October 2017, on the heels of Ecology's section 401 denial, Defendant Inslee publicly argued that "[c]limate change policy is under attack at the federal level, making state and local action more urgent and important than ever."[55]

170. Defendant Inslee further stated that because Washington State has "control of [its] own destiny," it has "done some very progressive things leading the country and the world to reduce carbon pollution that is damaging our future here in the state."[56] This appears to be a direct reference to Ecology's denial of MBT Longview's requested CWA section 401 certification.

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[55] WA Governor's Office, *Inslee Visits Colleges to Urge Climate Action*, MEDIUM (Oct. 25, 2017), https://medium.com/wagovernor/inslee-visits-colleges-to-urge-climate-action-5a5b385fd290.
[56] *See Governor Inslee Climate Change Town Hall*, TVW (Oct. 25, 2017, 2:45 PM), www.tvw.org/watch/?eventID=2017101081.

171. During the same October 2017 discussion, Defendant Inslee specifically referenced the proposed Terminal as a project that could not meet Washington's rigorous environmental standards in order to receive permits.[57] In another apparent reference to the Terminal, he warned against building "an infrastructure that locks us into a fossil fuel."[58]

172. MBT Longview's CWA section 401 certification request was not treated like other requests of its kind. It was denied because the Defendants oppose coal exports and construction of a coal export facility at the Terminal.

K. Washington State's refusal to permit improvements to the Terminal

173. In August 2017, the current lessee of the Millennium Bulk Terminal, Northwest Alloys, sought DNR's consent under the lease to make certain improvements to the existing terminal.

174. The proposed improvements to the terminal were part of MBT Longview's plan to construct a coal export facility, but they did not exempt MBT Longview from any permitting or approval requirements.

175. Because the lease already allows transloading of coal and the coal export facility would still be subject to numerous federal and state environmental review and permitting requirements, DNR approval should have been straightforward and consistent with the 60 days allowed for such review under the lease.

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[57] *Id.*; *see also* Emily Boerger, *Gov. Inslee Encourages Action and Innovation at Climate Town Hall*, WASH. STATE WIRE (Oct. 26, 2017), https://washingtonstatewire.com/gov-inslee-encourages-action-innovation-climate-town-hall/.

[58] *Governor Inslee Climate Change Town Hall*, TVW (Oct. 25, 2017), www.tvw.org/watch/?eventID=2017101081. Similarly, at a Climate Change Town Hall at Bellevue College, Defendant Inslee noted that he doesn't want Washington to "lock [it]self into infrastructure that is going to be there 50 years that will essentially expand fossil fuel and lock you into that. We do not want to get into that mindset or make those kinds of decisions." 350 Seattle, *Climate Townhall with Gov. Inslee Q&A 10.19.2017*, YOUTUBE (Oct. 24, 2017), https://youtu.be/h_q0hIqCYx8.

176. Nonetheless, on October 26, 2017, Defendant Franz sent a lengthy legal memorandum to the lessee explaining that DNR had determined the proposed improvements were not "in the best interests of the State."

177. Defendant Franz's memorandum rejecting the proposed lease improvements adopts Ecology's rationale for denying MBT Longview's request for CWA section 401 certification, including Ecology's reliance on the environmental effects of rail transportation.

178. Despite having executed a lease that expressly allows a coal export facility at the site, DNR did not treat the request to make improvements to the Terminal like other similar requests. It refused to consent to the proposed improvements because Defendant Franz and the other Defendants do not support construction of a coal export facility at the Terminal.

L. Defendants' actions lead to the denial of MBT Longview's shoreline permit

179. As part of its proposal to construct a coal export facility at the Terminal, MBT Longview applied for a Shoreline Substantial Development Permit and a Shoreline Conditional Use Permit from Cowlitz County. In November 2017, the permits came before a Cowlitz County Hearing Examiner for review.

180. The Cowlitz County staff who reviewed MBT Longview's proposal found that it was consistent with all requirements of the county's Shoreline Master Plan and with the Shoreline Management Act and recommended that the permits be approved.

181. Despite Cowlitz County's recommendation, the Hearing Examiner explicitly relied on Ecology's EIS, as well as the findings that Ecology made in connection with its CWA section 401 decision, to deny the permits.

182. The Hearing Examiner further observed that DNR's refusal to authorize improvements related to MBT Longview's proposal made it "likely" that DNR would also deny future permits.

183. Despite the fact that the Cowlitz County staff recommended granting the permits requested by MBT Longview, the Hearing Examiner relied on the prior decisions of the Defendants to block MBT Longview's proposed coal export terminal. Those prior decisions were motivated by the Defendants' opposition to coal exports, and were not based in law or consistent with the facts of the case.

M. Defendants have no intention of ever approving the Terminal

184. It is well established that the Defendants oppose coal and coal exports on policy grounds. Their actions in denying the proposed sublease, the CWA section 401 certification, and the proposed lease improvements demonstrate that they have no intention of allowing the Terminal to be constructed.

185. On October 23, 2017, Ecology sent a letter to MBT Longview that makes the state's position on the proposed Terminal crystal clear.

186. In that letter, Ecology stated that the same potential environmental effects on which it relied to deny MBT Longview's request for CWA section 401 water quality certification "likely preclude Ecology from approving" any of MBT Longview's other permit applications.

187. Ecology's letter also bluntly stated that its "staff will not be spending time on permit preparation" related to those applications.

188. The letter, which was signed by Defendant Bellon, referred any questions MBT Longview might have to the Washington Attorney General's Office.

189. Defendants, in their capacity as Washington public officials, are using the state's regulatory approval authority to set economic and foreign policy for the United States as a whole.

190. Any bulk commodity shipped by train would have many of the same in-state environmental effects as coal. If the environmental review processes and regulatory standards that Defendants have applied to the proposed coal export facility at the Terminal were applied more broadly, it would have a chilling effect on virtually all interstate and foreign commerce.

191. The SEPA EIS concludes that the project can meet all state and federal environmental standards. But because they believe that coal exports should not be permitted, the Defendants are blocking both foreign and interstate commerce by not approving—or even processing—the permits for the Millennium Bulk Terminal.

LEGAL AND REGULATORY BACKGROUND

A. Federal support for coal and coal exports

192. The United States government has long supported coal mining and coal export to other countries.

193. Twenty-five years ago, Congress directed the Secretary of Commerce to prepare "a plan for expanding exports of coal mined in the United States."[59]

194. Between 2002 and 2012, total U.S. coal exports grew from 39.6 million short tons to 125.7 million short tons.[60]

195. The current administration continues to pursue a policy of "export[ing] American energy all over the world," including into Asian markets.[61]

196. On March 29, 2017, Secretary of Interior Ryan Zinke published Secretary's Order 3348, which lifted a moratorium on the federal coal leasing program that had been put in place by the prior administration.

197. Secretary's Order 3348 directed the Bureau of Land Management to process coal lease applications and modifications expeditiously. Much of the coal that will be mined under these leases and modifications is intended for export to Asia.

198. Secretary Zinke issued a statement accompanying Order 3348 in which he explained that "it is better to develop our energy here under reasonable regulations and export it to our allies . . . . [A]chieving American energy independence will strengthen our national security by reducing our reliance on foreign oil and allowing us to assist our allies with their energy needs."

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[59] 42 U.S.C. § 13367(a).

[60] *Coal Data Browser*, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/beta/coal/data/browser/#/topic/41?agg=2,1,0&rank=ok&linechart=COAL.EXPORT_QTY.TOT-TOT-TOT.A&columnchart=COAL.EXPORT_QTY.TOT-TOT-TOT.A&map=COAL.EXPORT_QTY.TOT-TOT-TOT.A&freq=A&ctype=map&ltype=pin&rtype=s&pin=&rse=0&maptype=0 (last visited Nov. 11, 2013).

[61] Office of the Press Secretary, *Remarks by President Trump at the Unleashing America Energy Event*, THE WHITE HOUSE (June 29, 2017, 3:31 PM), https://www.whitehouse.gov/the-press-office/2017/06/29/remarks-president-trump-unleashing-american-energy-event.

199. More than a quarter of all existing United States coal exports are shipped to South Korea, Japan, China, and India.[62] And demand for coal in Asian markets is continuing to increase.[63]

200. Japan, for example, is "highly interested in importing coal from the United States" to stabilize and secure its energy supplies.[64]

201. The United States recently launched a "U.S.-Japan Economic Dialogue," aimed at, among other things, "deepen[ing] energy ties."[65]

202. The United States also recently forged an agreement with the Government of Ukraine that facilitates purchase of American coal. In connection with that agreement, Secretary of Energy Rick Perry issued a statement indicating that the U.S. "looks forward to making available even more of our abundant natural resources to allies and partners like Ukraine in the future to promote their own energy security through diversity of supply and source."[66]

203. Secretary of Commerce Wilbur Ross also issued a statement in connection with the agreement to supply coal to the Ukraine. There, he emphasized that he "look[s]

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[62] *25% of U.S. Coal Exports go to Asia, but Remain a Small Share of Asia's Total Coal Imports*, U.S. ENERGY INFO. ADMIN. (June 21, 2013), https://www.eia.gov/todayinenergy/detail.php?id=11791.
[63] *Southeast Asia's Coal Demand Boom*, INST. FOR ENERGY RESEARCH (Nov. 6, 2017), https://instituteforenergyresearch.org/analysis/southeast-asias-coal-demand-boom/.
[64] Shozo Kaneko, *The Coal-Terminal Debate: A View from Japan*, THE SEATTLE TIMES (Sept. 19, 2017, 2:03 PM), https://www.seattletimes.com/opinion/the-coal-terminal-debate-a-view-from-japan/.
[65] Press Release, Office of the Vice President, Joint Press Release from Vice President Mike Pence and Deputy Prime Minister Taro Aso on the Second Round of U.S.-Japan Economic Dialogue (Oct. 16, 2017), https://www.whitehouse.gov/the-press-office/2017/10/16/joint-press-release-vice-president-mike-pence-and-deputy-prime-minister; *see also* Roberta Rampton & Minami Funakoshi, *Pence Kicks Off Japan Talks, Both Sides Seek 'Near Term' Results*, REUTERS (April 17, 2017, 2:05 PM), https://www.reuters.com/article/us-pence-asia-japan/pence-kicks-off-japan-talks-both-sides-seek-near-term-results-idUSKBN17J1GI.
[66] Dept. of Energy, *Secretary Perry and Secretary Ross Hail New Coal Deal with Ukraine*, ENERGY.GOV (JULY 31, 2017), https://energy.gov/articles/secretary-perry-and-secretary-ross-hail-new-coal-deal-ukraine.

forward to working with Secretary Perry and others in industry and government to further expand American exports in support of our goals of keeping this country safe and promoting robust economic growth."

204. In December 2017, the White House released its updated National Security Strategy. Its discussion of energy issues includes "Promote Exports" in a list of "Priority Actions."[67]

205. The National Security Strategy further explains that "[t]he United States will promote exports of our energy resources," including by "expand[ing] our export capacity through the continued support of private sector development of coastal terminals . . . ."[68]

B. The dormant commerce clause

206. The U.S. Constitution's commerce clause provides that "Congress shall have Power . . . [t]o regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes."

207. Though the commerce clause only explicitly mentions Congress' affirmative power to regulate commerce, federal courts have long read into it a "dormant" or negative limitation that also constrains the states' power to regulate foreign and interstate commerce.

208. States violate the dormant commerce clause if their actions discriminate against or unduly burden foreign or interstate commerce.

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[67] White House, National Security Strategy for the United States of America at 23 (December 2017), https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf.
[68] *Id.*

209. More specifically, state regulation runs afoul of the foreign commerce clause if it (1) creates a substantial risk of conflicts with foreign governments; or, (2) undermines the ability of the federal government to speak with "one voice" concerning foreign commercial affairs.

210. Dormant interstate commerce clause claims are analyzed using a two-tier framework: If an action is facially discriminatory, either in purpose or "practical effect," it is unconstitutional unless it serves a legitimate local purpose that could not be served by available nondiscriminatory means. Nondiscriminatory actions, on the other hand, are unconstitutional when the burden imposed on interstate commerce is clearly excessive in relation to the putative local benefits.

C. General Agreement on Tariffs and Trade

211. The United States has been a party to the General Agreement on Tariffs and Trade (GATT) since January 1, 1948, and a member of the World Trade Organization (WTO) since January 1, 1995.

212. Article XI:1 of the GATT provides "[n]o prohibition or restrictions other than duties, taxes or other charges, whether made effective through quotas, import or export licenses or other measures, shall be instituted or maintained by any contracting party . . . on the exportation or sale for export of any product destined for the territory of any other contracting party."

213. Article XI:2 provides a number of exceptions to this general rule, including "[e]xport prohibitions or restrictions temporarily applied to prevent or relieve critical shortages of foodstuffs or other products essential to the exporting contracting party" and

"export prohibition or restrictions necessary to the application of standards or regulations for the classification, grading or marketing of commodities in international trade."

214. Article XX of the GATT provides certain additional exceptions to the requirements of Article XI, provided that the measure in question is not "a disguised restriction on international trade."

215. In the past, the United States has relied on GATT Article XI:1 to protect its commercial interests. For instance, in a recent case, the United States successfully challenged Chinese export restrictions on rare earths, tungsten, and molybdenum.

D. ICC Termination Act

216. Congress and the courts long have recognized a need to regulate railroad operations at the federal level. Today that regulation is performed pursuant to the ICC Termination Act (ICCTA),[69] which created the Surface Transportation Board and gave it complete jurisdiction, to the exclusion of the states, over the regulation of railroad operations.

217. ICCTA further provides that "remedies . . . with respect to regulation of rail transportation are exclusive and preempt the remedies provided under Federal or State law."[70]

218. Any form of state or local permitting or preclearance that, by its nature, could be used to deny, or place conditions on, a railroad's ability to conduct some part of its operations is "categorically" preempted by ICCTA.

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[69] 49 U.S.C. §§ 10101, *et. seq.*
[70] 49 U.S.C. § 10501(b).

219. Even when state actions are not categorically preempted, they are still preempted if they may reasonably be said to have the effect of managing or governing rail transportation.

E. Ports and Waterways Safety Act

220. The Ports and Waterways Safety Act (PWSA)[71] regulates the operation of marine tanker vessels in U.S. harbors.

221. In enacting the PWSA, Congress intended to provide for sole federal regulation of national and international maritime commerce.

222. The PWSA accordingly preempts state and local laws that are inconsistent with the federal statutory structure.

223. Where state actions bear on national and international commerce, there is no threshold assumption that concurrent regulation by the State is a valid exercise of its police power.

CLAIMS FOR RELIEF

Count I – Dormant Foreign Commerce Clause

224. Plaintiffs incorporate and re-allege the foregoing paragraphs.

225. By unreasonably denying and refusing to process permits for the Millennium Bulk Terminal, the Defendants have discriminated against Lighthouse's and its subsidiaries' efforts to export coal to their Asian customers, in violation of the dormant foreign commerce clause.

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[71] 33 U.S.C. §§ 1221, *et seq.*

226. By expanding the scope of their SEPA review beyond the boundaries of Washington State, and especially by including the environmental effects of coal exports to foreign nations, the Defendants have further discriminated against Lighthouse's and its subsidiaries' efforts to export coal to their Asian customers, in violation of the dormant foreign commerce clause.

227. The Defendants' actions have created a substantial risk of conflict with foreign governments, which rely on American coal exports for power production.

228. In addition, the federal government has made it clear that the policy of the United States is to favor the expansion of coal exports to foreign countries, including countries in Asia.

229. By taking actions and refusing to act in ways consistent with the federal government's coal export policies, the Defendants have severely undermined the ability of the United States to speak with one voice in foreign commercial affairs and to implement its National Security Strategy.

230. By unilaterally imposing an embargo on new coal exports, the Defendants are interfering with Washington's sister states'—including Wyoming and Montana—ability to engage in foreign commerce.

231. By expanding the scope of their SEPA review beyond the boundaries of Washington State, and especially by including the environmental effects of coal shipments destined for foreign nations, the Defendants have further discriminated against Lighthouse's and its subsidiaries' efforts to engage in foreign commerce.

232. By concluding that potential environmental effects cannot be mitigated under SEPA if those effects are within the jurisdiction of the federal government, the Defendants are unduly burdening, and in effect regulating, foreign commerce.

233. Defendants' refusal to license a coal export facility is prohibited under the United States' obligations as a member of the WTO, as it constitutes a prohibition or restriction on exportation under GATT Article XI:1; is not covered by any of the exceptions set out in GATT Articles XI:2 or XX; and, in any case, is a "disguised restriction on international trade."

234. In addition, Defendants' actions could be cited and leveraged by respondents in WTO disputes involving export restrictions brought by the United States, and may interfere with the ability of the United States to compel other nations through the WTO dispute settlement process and other available bilateral, regional, and multilateral mechanisms to reduce or remove export restrictions that impair the foreign commerce of the United States.

235. The Defendants' actions also injure Lighthouse and its subsidiaries by impacting the willingness of the private sector to invest in the development of coal export facilities in the State of Washington, and along the entire Pacific Coast.

236. Defendants' actions have injured Lighthouse and its subsidiaries directly and have created a disincentive to build or expand other coal export facilities, which will negatively impact U.S. economic growth, job creation, and exports.

237. Defendants' actions amount to an embargo or quota on American coal exports to Asia, in violation of the dormant foreign commerce clause.

238. On information and belief, the Defendants' true reason for denying the Plaintiffs' permit applications is the desire to prevent American coal export to Asia.

239. In all of these ways, the Defendants in their capacity as public officials of the state of Washington have violated the dormant foreign commerce clause and 42 U.S.C. § 1983.

Count II – Dormant Interstate Commerce Clause

240. Plaintiffs incorporate and re-allege the foregoing paragraphs.

241. By unreasonably denying and refusing to process permits for the Millennium Bulk Terminal, the Defendants have discriminated against Lighthouse's and its subsidiaries' efforts to transport into Washington coal that is being mined in Montana, Wyoming, and other states in violation of the dormant interstate commerce clause.

242. By expanding the scope of their SEPA review beyond the boundaries of Washington State, and especially by including the environmental effects of coal shipments being transported from other states, the Defendants have further discriminated against Lighthouse's and its subsidiaries' efforts to transport into Washington coal that is being mined in Montana and Wyoming.

243. By concluding that potential environmental effects cannot be mitigated under SEPA if those effects are within the jurisdiction of the federal government, the Defendants are unduly burdening, and in effect regulating, interstate commerce.

244. Defendants' actions and inactions with respect to the Millennium Bulk Terminal discriminate against interstate commerce in both purpose and practical effect,

and they serve no legitimate local purpose that could not be served by nondiscriminatory means.

245. Defendants' actions and inactions with respect to the Millennium Bulk Terminal have also imposed a burden on interstate commerce that is clearly excessive in relation to its putative local benefits.

246. Defendants' actions also injure Lighthouse and its subsidiaries by impacting the willingness of the private sector to invest in the development of coal export facilities in the State of Washington, and along the entire Pacific Coast.

247. Defendants' actions have injured Lighthouse and its subsidiaries directly and have created a disincentive to build or expand other coal export facilities, which will negatively impact U.S. economic growth, job creation, and exports.

248. In all of these ways, the Defendants in their capacity as public officials of the state of Washington have violated the dormant interstate commerce clause and 42 U.S.C. § 1983.

Count III – ICCTA Preemption

249. Plaintiffs incorporate and re-allege the foregoing paragraphs.

250. Lighthouse, LHR Coal and its subsidiaries, and LHP are all rail customers who have a right to common carrier rail service under ICCTA.

251. Defendants' actions and inactions with respect to the Millennium Bulk Terminal are forms of permitting or preclearance that are being used to deny or condition rail carriers' ability to provide common carrier service to Lighthouse and its subsidiaries.

252. Defendants' actions and inactions with respect to the Millennium Bulk Terminal have the effect of managing or governing rail transportation, including the common carrier service requested by Lighthouse's subsidiaries.

253. Defendants' conclusion that potential environmental effects cannot be mitigated under SEPA if those effects are within the jurisdiction of the federal government, and their actions in denying permits and approvals on that basis, have the effect of managing or governing rail transportation, including the common carrier service requested by Lighthouse's subsidiaries.

254. Defendants' actions also injure Lighthouse and its subsidiaries by impacting the willingness of the private sector to invest in the development of coal export facilities in the State of Washington, and along the entire Pacific Coast.

255. Defendants' actions have injured Lighthouse and its subsidiaries directly and have created a disincentive to build or expand other coal export facilities, which will negatively impact the investment-backed expectations of Lighthouse investors specifically, as well as U.S. economic growth, job creation, and exports generally.

256. For all these reasons, Defendants' actions in their capacity as public officials of the state of Washington are preempted by ICCTA and violate Lighthouse's and its subsidiaries' rights to receive common carrier service under 42 U.S.C. § 1983.

Count IV – PWSA Preemption

257. Plaintiffs incorporate and re-allege the foregoing paragraphs.

258. Lighthouse, LHR Coal and its subsidiaries, and LHP all have a right to receive vessel service as a means of exporting coal to their Asian customers.

259. The PWSA preempts state laws that attempt to regulate the operation of vessels in U.S. harbors, including the vessels that would provide service to Lighthouse and its subsidiaries at the proposed Millennium Bulk Terminal coal export facility.

260. By concluding that potential environmental effects cannot be mitigated under SEPA if those effects are within the jurisdiction of the federal government, the Defendants are in effect regulating the operation of vessels in U.S. harbors, including the vessels that would provide service to Lighthouse and its subsidiaries at the proposed Millennium Bulk Terminal coal export facility.

261. Defendants in their capacity as public officials of the state of Washington have acted to prevent vessels from serving the Terminal, including by relying on the effects of vessel traffic as one reason for the denial of MBT Longview's request for CWA section 401 certification.

262. Defendants' actions also injure Lighthouse and its subsidiaries by impacting the willingness of the private sector to invest in the development of coal export facilities in the State of Washington, and along the entire Pacific Coast.

263. Defendants' actions have injured Lighthouse and its subsidiaries directly and have created a disincentive to build or expand other coal export facilities, which will negatively impact U.S. economic growth, job creation, and exports.

264. For all these reasons, Defendants' actions in their capacity as public officials of the state of Washington are preempted by the PWSA and violate Lighthouse's and its subsidiaries' rights to receive vessel service under 42 U.S.C. § 1983.

PRAYER FOR RELIEF

Wherefore, the Plaintiffs respectfully request the following relief:

A. A declaration that Defendants' denial of MBT Longview's requested sublease for the Millennium Bulk Terminal was an unconstitutional violation of the dormant commerce clause.

B. A declaration that Defendants' denial of MBT Longview's requested CWA section 401 certification was an unconstitutional violation of the dormant commerce clause.

C. A declaration that Defendants' denial of MBT Longview's requested CWA section 401 certification was preempted by ICCTA and the PWSA.

D. A declaration that any environmental reviews of the proposed coal export facility at the Millennium Bulk Terminal—or any future coal export terminal that Lighthouse or its subsidiaries propose—may not be used to deny or unreasonably condition a permit beyond the standards applied to other non-coal terminal projects, including denying or unreasonably conditioning a permit based on the effects of transporting coal to and from the Terminal by rail and vessel traffic in interstate or foreign commerce.

E. A declaration that potential environmental effects within the jurisdiction of the federal government cannot be the basis of a conclusion that the environmental effects of the Millennium Bulk Terminal—or any future coal export terminal that Lighthouse or its subsidiaries propose—project are unmitigable.

F. A declaration that any decision by any state or local entity relying on the Defendants' denial of the sublease or the Defendants' denial of the CWA section 401

certification, including the denial of MBT Longview's requested shoreline permit, is an unconstitutional violation of the dormant commerce clause and/or is preempted by ICCTA and the PWSA.

G. An order vacating any and all of the Defendants' unconstitutional and illegal decisions regarding the Millennium Bulk Terminal, as well as any state or local decisions relying on Defendants' unconstitutional or illegal actions.

H. An injunction ordering the Defendants to apply the same review standards to the Millennium Bulk Terminal—or any future coal export terminal that Lighthouse or its subsidiaries propose—that are applied to other non-coal terminal proposals.

I. An injunction ordering the Defendants not to deny MBT Longview's requested CWA section 401 certification or any other permit or approval for the Millennium Bulk Terminal on the basis of rail or vessel traffic, or any other potential environmental effects within the jurisdiction of the United States.

J. An injunction ordering the Defendants to continue processing any and all current and future MBT Longview permit applications.

K. An order awarding plaintiffs their costs of litigation, including attorneys' fees and expert witness fees, including those awardable under 42 U.S.C. § 1988.

L. Such other relief as the court deems just and proper.

In closing, we can have clean water and a healthy environment while safely utilizing the vast natural resources provided by the Columbia River. We thank you for your efforts to clarify the original intent of the CWA, and section 401 in particular, and trust that this letter will both set the record straight as it concerns Millennium's project, and provide support for the badly needed clarifying amendment your committee is debating.

Sincerely,

Kristin Gaines
Sr. Vice President of Regulatory Affairs
Millennium Bulk Terminals-Longview

CC: Patty Murray, Senator
Maria Cantwell, Senator
Jaime Herrera Beutler, Representative
Senate Environment & Public Works Committee Members

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API welcomes Senate action to increase certainty in pipeline permitting process

WASHINGTON, July 31, 2018 – API welcomed action today by Senate Environment and Public Works Committee Chairman John Barrasso, R-Wyo., along with Sen. Shelley Moore Capito, R-W. Va., Sen. Steve Daines, R-Mont., and Sen. James Inhofe, R-Okla., to introduce the Water Quality Certification Improvement Act of 2018. The legislation would improve the permitting process for energy infrastructure projects subject to section 401 of the Clean Water Act (CWA).

"Restoring certainty in the pipeline permitting process is critical to American jobs and ensuring that American consumers have the energy they need and demand every day," said API Midstream Group Director Robin Rorick. "For too long, politicians have abused the Clean Water Act to block energy projects designed to improve the safety and integrity of our infrastructure. For example in New York State, these efforts to restrict natural gas delivery to New England have especially hurt consumers who depend on natural gas to generate the affordable electricity that's needed to heat and cool their homes in extreme temperatures.

"The legislation will strengthen the Clean Water Act by protecting it from these types of abuses and will help better protect the environment and communities surrounding energy infrastructure projects around the country. We hope that this legislation will advance quickly through the legislative process so that American consumers, workers and the environment can continue to benefit from America's energy resources."

API is the only national trade association representing all facets of the oil and natural gas industry, which supports 10.3 million U.S. jobs and nearly 8 percent of the U.S. economy. API's nearly 620 members include large integrated companies, as well as exploration and production, refining, marketing, pipeline, and marine businesses, and service and supply firms. They provide most of the nation's energy and are backed by a growing grassroots movement of more than 47 million Americans.

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UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON
AT TACOMA

LIGHTHOUSE RESOURCES INC., et al., Plaintiffs, and BNSF RAILWAY COMPANY Intervenor-Plaintiff, v. JAY INSLEE, in his official capacity as Governor of the State of Washington; MAIA BELLON, in her official capacity as Director of the Washington Department of Ecology; and HILARY S. FRANZ, in her official capacity as Commissioner of Public Lands of the State of Washington, Defendants.	No.: 3:18-cv-05005-RJB Honorable Robert J. Bryan **INTERVENOR-PLAINTIFF BNSF RAILWAY COMPANY'S COMPLAINT IN INTERVENTION FOR DECLARATORY AND INJUNCTIVE RELIEF**

Intervenor-Plaintiff BNSF Railway Company ("BNSF") alleges as follows:

I. INTRODUCTION

1. BNSF operates rail lines in interstate commerce. BNSF's rail lines run through Washington, among other places. And, among many other commodities, BNSF transports coal destined for Asia across BNSF's rail lines.

2. Well before his inauguration, Defendant Inslee made clear that, if elected Governor, he would work to build a regulatory wall to block expanded coal shipments through Washington.

3. Since his inauguration, Governor Inslee, and Defendants Bellon and Franz among others, have abused their state regulatory authority to prevent interstate and international commerce involving coal transport, because they oppose the use of coal by anyone, anywhere.

4. No one in Washington would use the export coal that Defendants seek to stop. Rather, that coal would flow in interstate commerce from sources in Montana and Wyoming, through Washington, and over international waters, to destinations in Asia.

5. Washington has few and narrow ties to this flow of coal in interstate and international commerce. Specifically, the coal would move by rail within Washington, much of which lies within BNSF's congressionally granted railroad rights of way. Then, upon the coal's arrival at an export terminal, workers would load the coal from rail cars onto ships destined for Asian coal markets. Defendants' illegal actions and inactions show that they intend to stop coal from being used halfway across the globe by building a regulatory wall to stop the expanded flow of coal in interstate and foreign commerce.

6. Defendants built this wall by commandeering a variety of state regulatory processes. Defendants abuse these processes to delay, deny, and otherwise prevent activities needed to effect the flow of coal in interstate and foreign commerce.

7. Departing from ordinary past practices, Defendants' plan specifically targets railroads, the instrumentality of interstate commerce most essential and efficient for moving coal to port and then to Asia. Washington normally evaluates projects that rely on rail transport without examining the ultimate use of the commodity that is moved through the project or examining the rail system that currently exists.

8. For example, in 2010, Washington's Department of Transportation ("WSDOT"), under Defendant Inslee's leadership, examined the effects of adding eight roundtrip passenger rail trips per day in roughly the same area as the proposed site for the Millennium Bulk Terminal project

in Longview, Washington ("Terminal" or "Project"). Ultimately, WSDOT and the Federal Railroad Administration issued a Finding of No Significant Impact under the National Environmental Policy Act. In that document, both entities concluded that using an existing railroad right of way for that passenger rail project would mitigate the likelihood of any community or other impact.

9. Most recently, Defendants' plan to stop new coal exports has targeted the proposed transloading and export terminal at the Project.

10. Plaintiffs designed the Terminal to export coal mined in the Powder River Basin in Montana and Wyoming, and the Unita Basin in Utah and Colorado, by interstate rail to port in Washington. BNSF owns large parts of this interstate railway.

11. For nearly five years, Plaintiffs have been pursuing permits and approvals for the Project from the State of Washington.

12. BNSF's rail system would be used to deliver up to eight unit trains per day from Plaintiffs' operations in Montana, Wyoming, and elsewhere to the Terminal. Defendants' actions have directly harmed BNSF's economic interests in the Project.

13. Defendants, unable to deny the permits and approvals needed to construct the Terminal on credible or legal grounds, have instead zeroed in the transportation of coal via rail to the Terminal. Defendants' scrutiny of and desire to regulate rail transport and operations in this way is not allowed, let alone required, because federal law preempts state regulation of railroad operations.

14. Defendants largely justify denying or delaying permits necessary for the Project by alleging harmful impacts from BNSF's railway operations. But their strategy of relying on those alleged rail impacts to deny or delay the Terminal further impacts, implicates, and harms BNSF, because the strategy creates uncertainty for future rail transport-dependent projects where politically disfavored commodities are involved.

15. On January 3, 2018, Plaintiff Lighthouse Resources Inc., and others ("Plaintiffs") involved in the sale to companies in Asia of coal that can only be delivered by rail, including rail operated by BNSF, sued Defendants. Plaintiffs' Complaint ("Compl.") (Dkt. # 1) asserts that

Defendants' conduct violates the United States Constitution and three federal statutes. Plaintiffs' Complaint also seeks relief from Defendants' pattern of unreasonable delay and denial of permits and approvals for the Project.

16. Consistent with the Complaint's allegations that Defendants rationalize their regulatory abuses by relying on purported rail impacts, Defendants have violated BNSF's rights under the United States Constitution and other federal law.

17. Defendants' actions have both the intent and effect of discriminating against and unduly burdening foreign and interstate commerce, in violation of the United States Constitution's dormant commerce clause, and the ICC Termination Act ("ICCTA").

18. Defendants' actions have the effect of choosing where BNSF may haul goods and what companies may ship which commodities on the interstate rail system upon that rail line's crossing into Washington. This directly regulates the railroad and violates ICCTA.

19. Further, the United States Constitution vests the federal government with exclusive authority to administer foreign affairs, free from local interference. In giving the federal government this exclusive authority, the Constitution preempts state laws that intrude on this solely federal power. Defendants' actions and their application of the law based on political objections to the international shipment of coal have unduly interfered with the federal government's national policy regarding coal resources and exports. In so doing, Defendants have also violated the foreign affairs doctrine.

II. JURISDICTION AND VENUE

20. This Court has jurisdiction under 28 U.S.C. § 1331 and because this controversy arises under the Constitution and laws of the United States.

21. This court has independent jurisdiction under 28 U.S.C. § 1343 and 42 U.S.C. § 1983 because this controversy involves the deprivation, under state law, of rights and privileges secured by the United States Constitution and acts of Congress.

22. This Court also has jurisdiction under its inherent equitable powers to enforce federal law and to enjoin state actions that federal law preempts.

23. The requested relief is proper under 28 U.S.C. §§ 2201 and 2202.

24. Venue is proper under 28 U.S.C. § 1391(b)(2) because a substantial part of the events or omissions giving rise to the claim occurred in this district.

III. PARTIES

25. BNSF adopts Plaintiffs' description of themselves. Compl. ¶¶ 16-20.

26. BNSF adopts Plaintiffs' description of Defendants. Compl. ¶¶ 21-23.

27. BNSF is a corporation, organized and existing under the laws of the State of Delaware. BNSF's principal place of business is in Texas; BNSF's officers direct, control, and coordinate BNSF's activities from Texas. BNSF's railroad system would be used to deliver up to eight unit trains per day from Plaintiffs' mines in Montana and Wyoming to the Terminal for loading and shipment to customers in northeast Asia, including Japan and South Korea.

IV. STANDING

28. Defendants have injured BNSF's economic and legal interests in transporting commodities in interstate and foreign commerce, including by delaying and deterring private sector investment in coal export facility development in Washington. Similarly, these injuries extend to BNSF directly because they negatively affect the volume of freight that can move across the country to the west coast, whether coal or otherwise.

29. Defendants' abuse of state regulatory processes to build a regulatory wall blocking expanded coal transport in Washington has caused BNSF's injuries.

30. The declaratory and injunctive relief that BNSF requests will likely redress BNSF's injuries, because Defendants' illegal practices will be reversed, and Defendants would presumably not violate this Court's award of such relief in the future. Further, this Court could further ensure compliance with its orders by retaining jurisdiction over this case.

V. FACTUAL BACKGROUND

31. This pleading adopts and incorporates by reference, as if fully set forth herein, Plaintiffs' Factual Background. Compl. ¶¶ 24-191.

A. BNSF's History and Operations

32. BNSF operates one of the largest freight railroad networks in North America, and is one of seven North American Class I railroads, defined as "having annual carrier operating revenues of $250 million or more." 49 C.F.R. § 1201.1-1. BNSF owns or controls considerable amounts of land, including over 11,700 parcels, covering over 160,000 acres. Congress provided some of that land to BNSF's predecessor railroads as part of congressional land grants.

33. BNSF serves the western two-thirds of the United States (28 states), as well as portions of Canada and key Mexican gateways, with approximately 32,500 route miles. BNSF operates three transcontinental routes in the United States. BNSF moves an average of 1,600 trains per day and shipped over 570 *million* tons of freight in 2016. BNSF also employs more than 40,000 individuals and serves more than 40 ports.

34. BNSF is one of the nation's top transporters of consumer goods; grain and other agricultural products; low-sulfur coal; industrial goods such as petroleum and chemicals; housing materials; and food and beverages. BNSF's shipments help feed, clothe, supply, and power American homes and businesses every day. BNSF also helps connect local businesses with the global supply chain, which is especially critical in Washington State where 40 percent of all jobs are tied to trade.

35. Over the past five years, BNSF has invested approximately $940 million to expand and maintain its network in Washington. In 2018 alone, BNSF's capital expenditure program in Washington will be approximately $160 million, which will help keep BNSF's network infrastructure in optimal condition. This year, BNSF's maintenance program in Washington includes approximately 490 miles of track surfacing, undercutting work, or both, as well as the replacement of about 40 miles of rail and close to 230,000 ties. Along the Fallbridge Subdivision, BNSF plans to

install new double-track between Washougal and Mt. Pleasant. The company will also begin to install new double-track along the Spokane Subdivision between Hauser, Idaho and Spokane. Two bridge replacement projects are also slated to begin this year in Home Valley and North Bonneville. The construction of a new unloading track and additional parking capacity at the Orillia Automotive Facility is also planned for 2018.

B. Asian Demand for Coal and the Search for a West Coast Export Facility

36. Coal producers and exporters, such as Plaintiffs, rely on rail transportation to reach end-user markets, including markets in Asia.

37. The five countries that import the most coal in the world are in Asia. They accounted for 63% of global coal imports in 2014. Historically, the United States has supplied less than five percent of Asia's demand for imported coal, but recently the federal government has announced and pursued a policy of aiding coal exports to Asia. Japan and South Korea, both signatories to the Paris Accord on climate change and both among the world's top five coal-importing countries, seek to import coal from the United States. Compl. ¶¶ 24-34.

38. Lighthouse, through its subsidiaries, operates a coal energy supply chain. It manages and arranges coal mining, coal transfer from rail to ocean-going vessels, and coal sales to end users. Lighthouse subsidiaries own and lease mining properties in Montana and Wyoming and have coal sale contracts with South Korea and Japan. Its subsidiary Lighthouse Products, LLC ("LHP") supplies coal to Asian customers by shipping coal out of a Canadian port. That port, however, lacks the capacity to fulfill all of LHP's contracts. Lighthouse and its subsidiaries need more coal export capacity to fulfill all their contracts and meet market demand. Compl. ¶¶ 35-51.

39. Because the west coast of North America lacks sufficient coal export capacity for Lighthouse and its subsidiaries to fulfill existing contracts and meet increasing Asian market demand, since 2009 Lighthouse has been working to identify additional existing port capacity and develop new west coast coal export facilities.

40. The Project site has been an active industrial site since 1941, and it presently receives weekly coal shipments subject to capacity limits. A 2008 Aquatic Lands Lease between Washington and Northwest Alloys, Inc. allows coal to be handled at the Project site. Yet, since 2013, Defendants have built a regulatory wall to block coal exports of kind and degree subject to Defendants' judgment on how much coal anyone in the world should be able to sell, buy, or use. BNSF anticipates that at least some coal will be shipped by BNSF on its rail lines to the Terminal. Accordingly, if Defendants' illegal actions and inaction are allowed to stand, BNSF's service will be limited by Defendants' regulatory wall.

41. In 2011, MBT Longview bought the Terminal assets and executed a ground lease with Northwest Alloys, Inc. Upon completion, the Terminal is expected to export 44 million metric tons of coal annually, which would satisfy Lighthouse's export requirements and also provide export capacity to third-party shippers. The Terminal currently receives common carrier service from BNSF.

42. In part because the Millennium Bulk Terminal is significantly underutilized, Cowlitz County suffers serious economic challenges and lags state employment averages. Experts expect that the Terminal will bring over 1,300 construction jobs and approximately 135 long-term family-wage jobs to Cowlitz County and the surrounding area. A 2012 economic study estimated that the Terminal would generate $146 million in tax revenues over a 30-year period and opined that investment in the Terminal would attract further investment to improve other infrastructure in the area. The Terminal would also directly and indirectly support thousands of jobs throughout the country and generate revenue for Wyoming and Montana. Finally, the Terminal would help shrink the United States' trade deficit with Asia and give Asian customers options to meet energy demand, reducing their reliance on higher-sulfur coal from other countries, and on other fuel sources including wood and trash.

C. BNSF's Interest in the Millennium Bulk Terminal

43. BNSF's railway system is an integral part of Plaintiffs' proposed transloading and coal export terminal. Customers would use BNSF's existing railroad system to deliver up to eight unit trains (i.e., rail cars that carry the same commodity) per day from Plaintiffs' operations in Montana and Wyoming to the Terminal for export to Asia.

44. BNSF trains would travel on existing BNSF rail lines in Montana, Wyoming, Idaho, and Oregon to Washington. Trains would then travel on BNSF main line routes in Washington State and the BNSF Spur and Reynolds Lead in Cowlitz County, Washington, to the Project site.

45. While customers would use BNSF's existing rail system to deliver unit trains to the Terminal, the BNSF rail system is not part of the Project and no permits are required of BNSF for this Project.

D. Washington's Pretextual Expanded Environmental Review of the Terminal

46. In 2012, MBT Longview began a new process to evaluate the Project's potential environmental impacts, including preparation of an environmental impact statement.

47. In October 2012, the U.S. Army Corps of Engineers (the "Corps"), Washington Department of Ecology ("Ecology"), and Cowlitz County agreed to collaborate on a joint National Environmental Policy Act ("NEPA")/State Environmental Policy Act ("SEPA") Environmental Impact Statement ("EIS") document. The Corps, Ecology, and Cowlitz County memorialized their agreement in a Memorandum of Understanding.

48. In February 2014, Ecology formally decided that the Draft EIS for the Project would evaluate impacts beyond the State's borders, including impacts from rail transportation that occurs outside of the project area and outside of Washington. This scope change was inconsistent with Ecology's position in 2011 and with the Memorandum of Understanding's terms.

49. The Corps declined to follow Ecology's move to expand environmental review to focus on non-Project rail activities. The Corps explained:

> When considered in accordance with applicable laws and regulations, many of the activities of concern to the public, such as rail traffic, coal mining, shipping coal overseas, and the burning of exported coal in other countries, are outside the Corps'

> control and responsibility. . . . [W]hile there is general Federal oversight of existing rail lines and rail traffic, neither the [Surface Transportation Board] nor the [Federal Railroad Association] have a licensing role or are funding any aspect of the proposed project. Federal oversight of existing rail lines is limited to [Federal Railroad Association] authority over rail safety.
>
> . . .
>
> If transportation of coal requires new rail lines, the Surface Transportation Board (STB) would be responsible for approving the new rail lines that might be needed to move coal to its ultimate destination.[1]

The Corps concluded that Ecology's broader analysis, including rail-related issues, infringed on numerous areas over which "other Federal agencies may have regulatory control."[2]

50. On information and belief, Defendants Inslee and Bellon decided to expand the Project's environmental review beyond the scope that Ecology and the federal government originally envisioned solely because of one commodity that would be exported via the Terminal – coal.

51. Defendants have consistently and publicly expressed their opposition to the use of coal, anywhere by anyone. Defendant Inslee co-authored a book, *Apollo's Fire: Igniting America's Clean Energy Economy*, which asserts that coal is "killing us" and cites coal demand growth in Asia as compounding climate change issues. Defendant Inslee reiterated his opposition to coal use during his 2013 inaugural address, his first press conference as Governor, at campaign fundraisers, and during various meetings. Defendant Bellon has stated she supports Defendant Inslee's opposition to coal, and has tweeted that "[t]he proposed coal terminal in Longview would significantly impact the environment." Defendant Franz campaigned against coal exports when she ran for Commissioner of Public Lands.

52. On information and belief, Defendant Inslee and Defendant Bellon directed the expansion of the EIS scope to include factors over which Washington State has no jurisdiction, including rail-related matters as well as the actual use of the coal in other parts of the world.,

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[1] U.S. Army Corps of Engineers, Memorandum For Record, NWS-2010-1225, Millennium Bulk Terminals–Longview, LLC, February 14, 2014, p. 4, fn.1 (last visited on February 7, 2018 at http://www.millenniumbulkeiswa.gov/assets/mbtl-nepa-eis-scope-mfr-(14feb2014).pdf)

[2] *Id.* at 4.

thousands of miles from Washington. On May 25, 2017, after Ecology published its Final EIS, Defendant Bellon admitted that Washington subjected the Project to greater scrutiny because the coal that would pass through the Terminal was "meant to be used as an end product for combustion." Defendant Bellon's comments confirm her broad opposition to coal exports to Asian markets.

53. The pretext behind Ecology's Final EIS for the Project is demonstrated by, among other things, contrasting it with EIS's drafted for similar projects, such as the Barlow Point terminal, which is adjacent to the Project and is served by the same rail line that serves the Terminal. The contrast is stark. Permitting authorities estimated that that the environmental review process for Barlow Point terminal would take between 1.5 and 2 years, compared to over 6 years for the Project.

54. The State of Washington's expanded review of the Terminal also stands in sharp contrast to its review of the EGT export grain terminal. The Project was subjected to far greater expanded environmental review than was the EGT export grain terminal permitted at the Port of Longview which opened in 2012, despite the fact that the export terminal can accommodate six 110-car grain trains at any given time from Montana and other states; a comparable number the Terminal. And, just as the Terminal would transload coal to ships bound for Asian markets, so too does the EGT export terminal transload grain to ships bound for Asian markets. The latter proceeded quickly through the environmental review and permitting process; the former has faced only delay and obstruction from Washington State officials. There is little to explain why one facility would be treated so differently than the other, except that the EGT terminal exports grain; the Project would export coal.

55. Defendants' treatment of the Terminal and non-Project rail activities also stands in stark contrast to the State of Washington's review of other rail projects within the state. In 2009, WSDOT, in close coordination with the Federal Railroad Administration, completed an Environmental Assessment of the Pacific Northwest Rail Corridor project.[3] The purpose of that

[3] WSDOT, Washington Segment of the Pacific Northwest Rail Corridor, Program Environmental Assessment (September 2009) (last visited on February 19, 2018

project is to enhance intercity passenger rail service in Washington. Both WSDOT and the Federal Railroad Administration determined that the project, which includes the addition of eight trains to the BNSF rail system in the same geographic area as the Terminal, would result in no significant impacts.[4] Importantly, unlike Defendants' review of distant rail-related impacts of Terminal, WSDOT analyzed rail impacts, such as air quality impacts from increased rail operations, consistent with federal guidance under NEPA and with due deference to the Federal Railroad Administration. Defendants have treated passenger rail, which is primarily an intrastate program where people move within Washington, significantly differently than the Defendants treat interstate and international coal shipments.

56. Similarly, in 2009, WSDOT, in conjunction with the federal Surface Transportation Board, completed an Environmental Assessment for the Northern Columbia Basin Railroad project in Eastern Washington, which stressed the local economic benefits of building new rail that would attract new industries. The project includes the construction of two new rail line segments and the refurbishment of an existing rail segment. The Northern Columbia Basin Railroad project's purpose is to provide rail service to lands designated for industrial development in the City of Moses Lake which would, in turn, enhance economic development opportunities and attract new rail-dependent business to the area. The commodities expected to be shipped via the rail line include steel, manufactured parts, and specialty chemicals. The Environmental Assessment concluded that if the mitigation measures identified in the Assessment are imposed by the Surface Transportation Board, the potential impacts resulting from the proposed rail project would not be significant. Again, unlike Defendants' review of the far removed rail-related impacts of the Terminal, WSDOT analyzed rail impacts consistent with federal guidance under NEPA and with due deference to the Surface Transportation Board. Again, the primary material difference between the Northern Columbia Basin

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https://www.wsdot.wa.gov/NR/rdonlyres/3B84DD70-5569-48FE-BB33-A637193A17F7/0/PNWRCProgramEnvironmentalAssessment.pdf).

[4] Federal Railroad Administration, Washington Segment of the Pacific Northwest Rail Corridor, Finding of No Significant Impact (November 2010) (last visited on February 19, 2018 at https://www.fra.dot.gov/eLib/Details/L01417).

project and the Terminal is the opposition of State officials to the commodity being exported from the Terminal: coal.

57. As early as 2014, Washington's Freight Advisory Committee, which is responsible for advising WSDOT on freight transportation projects, highlighted Defendants' novel and harmful use of SEPA reviews, noting that the "[u]nprecedented use of SEPA to include environmental impacts beyond the jurisdiction of the project site and beyond what is normally required under NEPA causes concern among rail, ports, and private sector investment interests in Washington," and that this practice "is a significant departure from standard planning and policy work in Washington."[5] The Washington State Freight Advisory Committee recommended that WSDOT "[w]ork with Ecology to create a parallel review process with NEPA, and limit a project's impact area to the location of the project."[6]

58. On June 13, 2016, BNSF submitted 36 pages of comments in response to the publication of the Terminal's draft Environmental Impact Statement. BNSF's comments echoed concerns that the Washington Freight Advisory Committee raised regarding Defendants' unprecedented decision to expand the geographic scope of the state SEPA analysis. BNSF's comments alerted Defendants to the fact that ICCTA grants exclusive jurisdiction over railroad operations to the Surface Transportation Board. Accordingly, BNSF's comments advised that the SEPA analysis should defer to the Surface Transportation Board and Federal Railroad Administration's consideration and regulation of the interstate rail system. BNSF also commented on the draft EIS's discussion of impacts associated with commodity transport by rail, including purported rail capacity issues and other environmental impacts. BNSF's comments highlighted the speculative nature of the impacts identified in the draft EIS and offered information that would

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[5] Washington State Freight Advisory Committee, Washington State Freight Trends & Policy Recommendations for Air Cargo, Freight Rail, Ports & Inland Waterways, & Trucking (May 2014), pp. 24, 30. http://www.wstc.wa.gov/Meetings/AgendasMinutes/agendas/2014/June17/documents/2014_0618_BP9_FMS1BFreightTrendsPolicyRecommendations.pdf).

[6] *Id.* at 14.

correct the erroneous assumptions that permeated the draft EIS's assessment of non-Project rail impacts. Defendants ignored BNSF's comments and recommendations and proceeded with finalizing the EIS based on an unprecedented scope of analysis and unfounded assessment impacts from rail operations.

E. Washington's Unprecedented and Pretextual Denial of the Clean Water Act Section 401 Water Quality Certification

59. The Final EIS's unusually broad scope is but one of the ways in which the Defendants have sought to block the Terminal's development. Defendants abused their power under SEPA to reject MBT Longview's proposal by denying a federally-required water quality certification, erroneously concluding that the Project would cause significant adverse environmental effects not reasonably capable of mitigation. Specifically, Defendants concluded that the Terminal's environmental effects could not be mitigated because those effects are subject to federal jurisdiction, and not within the state's authority to mitigate. The majority of those purported environmental effects were alleged rail-related impacts, not Project impacts on water quality.

60. In July 2016, MBT Longview requested from Ecology a water quality certification under section 401 of the Clean Water Act. Obtaining that certification is a key step in securing a CWA section 404 dredge and fill permit for the Terminal from the Corps.

61. On September 6, 2017, Ecology and the Governor's Office indicated they would send MBT Longview a letter which would state that its section 401 certification request lacked sufficient information and would be denied *without* prejudice. In other words, that denial would not preclude MBT Longview from resubmitting its request along with the requested additional information. Upon information and belief, that letter never arrived.

62. On September 26, 2017, *only three business days* after receiving 240 pages of the additional information that it had requested, Ecology denied MBT Longview's request for a section 401 certification "*with* prejudice." Ecology has admitted that it does not know that it has *ever* issued any other 401 certification denial "with prejudice".

63. As with the Final EIS, Ecology based its unprecedented "with prejudice" denial on unusual grounds. Specifically, Ecology based its *water quality* certification denial almost entirely on various purported rail transport effects, not on findings that the Terminal would significantly and adversely affect water quality. For example, Ecology cited rail impacts of train horn noise, safety, and rail capacity. None of those impacts relates to or affects water quality, and all of them are regulated under federal law, not state law.

F. Washington's Pretextual Environmental Review and Section 401 Water Quality Certification and Terminal Improvement Permit and Shorelines Permit Denials

64. In August 2017, the current lessee of the Millennium Bulk Terminal, Northwest Alloys, sought the consent of the Washington Department of Natural Resources' ("DNR") under its lease from DNR to make certain improvements to the existing terminal.

65. MBT Longview's proposed improvements to the Terminal are part of its plan to build a coal export facility. The proposed improvements do not exempt MBT Longview from permitting or approval requirements. But, because the DNR lease already allows transloading of coal, and because the coal export facility would remain subject to numerous federal and state environmental review and permitting requirements, DNR approval should have been straightforward and consistent with the 60-days' review period allowed under the lease.

66. On October 24, 2017, however, Defendant Franz, consistent with Defendant Bellon's personal objection to approving any coal related project, rejected the proposed lease. Defendant Franz's rejection adopted Ecology's rationale for denying MBT Longview's request for a Clean Water Act section 401 water quality certification, including Ecology's reliance on the alleged environmental effects of rail transportation.

67. Despite having executed a lease which allows a coal export facility at the site, DNR did not treat the request to make improvements to the Terminal as it had treated similar requests by others. DNR instead refused to consent to the proposed improvements, because Defendants do not support a coal export facility's construction at the Terminal.

68. As part of its proposal to construct a coal export facility at the Terminal, MBT Longview also applied to Cowlitz County for a Shoreline Substantial Development Permit and a Shoreline Conditional Use Permit. The Cowlitz County staff who reviewed MBT Longview's proposal concluded that it met all requirements and recommended that the permits be issued. Despite Cowlitz County's recommendation, the Hearing Examiner also relied on Ecology's EIS and Ecology's findings from its unprecedented "with prejudice" denial of a section 401 certification. Consistent with Ecology's and DNR's baseless rejection of the Terminal, the Hearing Examiner relied on purported rail impacts to deny the shoreline permits.

G. Defendants Try to Use Rail Transport to Justify Their Illegal Actions

69. Defendants oppose coal, coal exports, and coal use anywhere in the world. Defendants have made clear that they will not allow the Project to be completed and that they will use whatever mechanism they can find as a pretext to stop it, including claims about rail transport impacts that are speculative and beyond their authority to regulate.

70. In an October 23, 2017 letter, Ecology said that the environmental effects outlined in the SEPA EIS which it relied on to deny section 401 certification, including purported issues related to train horns, train traffic, and train capacity, would "likely preclude Ecology from approving" other permit applications and its "staff will not be spending time on permit preparation" for those other applications.

71. Defendants, in their capacity as Washington public officials, are abusing Washington's regulatory power to directly undermine international economic and foreign policy set by the United States.

72. Any bulk commodity shipped by train would have essentially the same rail effects that Defendants claim increased coal transport to the Terminal would have. Applying the same environmental review processes and regulatory standards that Defendants have applied to the Project to similar projects involving commodities other than coal would result in a chilling effect on virtually all interstate and foreign commerce where major rail transport is involved.

73. The SEPA EIS concludes that the Project can in fact meet all state and federal environmental standards. But because they believe that coal exports should not be allowed, Defendants effectively block foreign and interstate commerce by refusing to process, let alone approve, permits required for the Terminal.

VI. LEGAL AND REGULATORY BACKGROUND

A. ICC Termination Act

74. Congress has recognized a need to regulate railroad operations at the federal level. Today, the federal government regulates railroad operations under ICCTA. Specifically, ICCTA created the Surface Transportation Board and gave it complete and exclusive jurisdiction over the regulation of railroad operations.

75. ICCTA further provides that "remedies . . . with respect to regulation of rail transportation are exclusive and preempt the remedies provided under Federal or State law." 49 U.S.C. § 10501(b).

76. Any form of state or local permitting or preclearance that, by its nature, could be used to deny, or place conditions on, a railroad's ability to conduct some part of its operations is "categorically" preempted by ICCTA.

77. Even when state officials' actions are not categorically preempted, they are still preempted if they may reasonably be said to have the effect of managing or governing rail transportation.

78. Courts have repeatedly and consistently upheld these Congressional directives.

B. The Dormant Commerce Clause

79. The United States Constitution's commerce clause provides that "Congress shall have Power . . . [t]o regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes." U.S. Const. art. I, § 8, cl. 3.

80. Though the commerce clause explicitly only mentions Congress' affirmative power to regulate commerce, federal courts have long read into it a "dormant" or negative limitation that also constrains the states' power to regulate foreign and interstate commerce.

81. States violate the dormant commerce clause if their actions discriminate against or unduly burden foreign or interstate commerce. More specifically, state regulation runs afoul of the foreign commerce clause if it (1) creates a substantial risk of conflicts with foreign governments, or (2) undermines the federal government's ability to speak with "one voice" concerning foreign commercial affairs.

82. Dormant interstate commerce clause claims are analyzed using a two tier framework: If an action is facially discriminatory, either in purpose or "practical effect," it is unconstitutional unless it serves a legitimate local purpose that could not be served by available nondiscriminatory means. Nondiscriminatory actions, on the other hand, are unconstitutional when the burden imposed on interstate commerce is clearly excessive in relation to the putative local benefits.

C. The Foreign Affairs Doctrine

83. The United States Constitution grants the federal government plenary power to administer foreign affairs. U.S. Const. art. IV, § 2; art. II, § 2; art. I, § 8. This is the source of the foreign affairs doctrine.

84. The foreign affairs doctrine preempts states intruding on the exclusively federal power to direct the nation's foreign affairs. A state law or action must yield if it conflicts with an express federal foreign policy, such as a treaty, federal statute, of executive branch policy.

D. Federal Support for Coal Exports

85. Multiple federal treaties, statutes, and policy statements preempt Defendants' scheme to prevent coal exports to Asia, including:

86. *The General Agreement on Tariffs and Trade*. The United States has been a party to the General Agreement on Tariffs and Trade (GATT) since January 1, 1948, and a member of the World Trade Organization (WTO) since January 1, 1995. Article XI:1 of the GATT provides: "No

prohibition or restrictions other than duties, taxes or other charges, whether made effective through quotas, import or export licenses or other measures, shall be instituted or maintained by any contracting party . . . on the exportation or sale for export of any product destined for the territory of any other contracting party."

87. *The United States-Korea Free Trade Agreement.* Article 2.8 of the U.S.-Korea Free Trade Agreement provides that "Except as otherwise provided in this Agreement, neither Party may adopt or maintain any prohibition or restriction on the importation of any good of the other Party or on the exportation or sale for export of any good destined for the territory of the other Party, except in accordance with Article XI of GATT 1994 . . . ."

88. *Energy Policy and Conservation Act of 1975 and Energy Policy Act of 1992.* The Energy Policy Act of 1975 authorizes the President to restrict coal exports. Over the past four decades, however, the President has not used this power to impose significant coal export restrictions. Instead, section 1338 of the Energy Policy Act of 1992 directs the Secretary of Commerce to create a plan for *expanding* coal exports.

89. The current presidential administration continues to pursue a policy of "export[ing] American energy all over the world," including to Asian markets.[7]

a. On March 29, 2017, Secretary of the Interior Ryan Zinke published Secretary's Order 3348, which lifted a moratorium on the federal coal leasing program that had been put in place by the prior administration. Secretary Zinke issued a statement accompanying Order 3348 in which he explained that "it is better to develop our energy here under reasonable regulations and export it to our allies . . . . [A]chieving American energy independence will strengthen our national security by reducing our reliance on foreign oil and allowing us to assist our allies with their energy needs."

[7] Office of the Press Secretary, Remarks by President Trump at the Unleashing America Energy Event, THE WHITE HOUSE, p. 23 (June 29, 2017) (last visited on February 7, 2018 at https://www.whitehouse.gov/briefings-statements/remarks-president-trump-unleashing-american-energy-event/).

b. The United States also recently forged an agreement with the Government of Ukraine which facilitates Ukraine's purchase of American coal.[8]

c. In December 2017, the White House released its updated National Security Strategy, which explains directs that "[t]he United States will promote exports of our energy resources," including by "expand[ing] our export capacity through the continued support of private sector development of coastal terminals . . . ."[9]

VII. CLAIMS FOR RELIEF

Count I - ICCTA Preemption

90. BNSF incorporates and re-alleges the foregoing paragraphs.

91. BNSF is a rail carrier with rights under ICCTA.

92. Defendants' actions and inactions with respect to the Project are forms of permitting or preclearance that are being used to deny or condition BNSF's ability to provide common carrier service to Plaintiff Lighthouse and its subsidiaries.

93. Defendants' actions and inactions with respect to the Terminal have the effect of managing or governing rail transportation, including BNSF rail operations and Lighthouse's subsidiaries' request for BNSF's common carrier service.

94. Defendants' actions and inactions with respect to the Terminal have the effect of choosing where BNSF may haul goods and what companies may ship which commodities on the interstate rail system upon that rail line's crossing into Washington. This directly regulates the railroad and violates the ICCTA.

95. Defendants' conclusion that potential environmental effects cannot be mitigated under SEPA if those effects are within the jurisdiction of the federal government, and their actions in

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[8] *See* Compl. ¶ 202; Alessandra Prince, *After Trump meeting, Ukraine to import U.S. thermal coal for the first time*, REUTERS (July 31, 2017) https://www.reuters.com/article/us-ukraine-usa-coal/after-trump-meeting-ukraine-to-import-u-s-thermal-coal-for-the-first-time-idUSKBN1AG208.

[9] WHITE HOUSE, NATIONAL SECURITY STRATEGY FOR THE UNITED STATES OF AMERICA at 23 (Dec. 2017) (last visited on February 7, 2018 at https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf).

1 denying permits and approvals on that basis, have the effect of managing or governing rail
2 transportation, including BNSF's rail operations and Lighthouse's subsidiaries' request for BNSF's
3 common carrier service.
4 96. Defendants' actions also injure BNSF by impacting the willingness of the private
5 sector to invest in the development of coal export facilities in the state of Washington, and along the
6 entire Pacific Coast, that would be served by BNSF rail lines.
7 97. Defendants' actions have injured BNSF directly and have created a disincentive to
8 build or expand other coal export facilities that would be served by BNSF rail lines, which will
9 negatively U.S. economic growth, job creation, and exports generally.
10 98. For all these reasons, Defendants' actions in their capacities as public officials of the
11 State of Washington are preempted by ICCTA and violate BNSF's common carrier rights under 42
12 U.S.C. § 1983.
13 **Count II - Violation of the Foreign Commerce Clause**
14 99. BNSF incorporates and re-alleges the foregoing paragraphs.
15 100. By unreasonably denying and refusing to process permits for the Terminal,
16 Defendants have discriminated against and interfered with BNSF's ability to engage in foreign
17 commerce through the transport of coal to the Terminal for export to Asian markets, in violation of
18 the dormant foreign commerce clause.
19 101. Defendants' illegal actions and inaction have created a substantial risk of conflict
20 with foreign governments, which rely on American coal exports for power production.
21 102. In addition, the federal government has made clear that the United States' policy
22 favors the expansion of coal exports to foreign countries, including to countries in Asia.
23 103. By exercising and abusing their regulatory power in a way which is at cross-purposes
24 with the federal government's coal export policies, Defendants have severely undermined the United
25 States' ability to speak with one voice in foreign commercial affairs and to implement its National
26 Security Strategy.

104. By concluding that potential environmental effects, including alleged rail-related effects, cannot be mitigated under SEPA because those effects are within the federal government's jurisdiction, the Defendants unduly burden, and in effect seek to regulate, foreign commerce.

105. Defendants' refusal to license a coal export facility is prohibited under the United States' obligations as a member of the WTO. Indeed, Defendants' refusal constitutes a prohibition or restriction under GATT Article XI:1; is not covered by any of the exceptions set out in GATT Articles XI:2 or XX; and, in any case, is a "disguised restriction on international trade."

106. Defendants' actions could be cited and leveraged by respondents in WTO disputes involving export restrictions brought by the United States, and may interfere with the ability of the United States to compel other nations through the WTO dispute settlement process and other available bilateral, regional, and multilateral mechanisms to reduce or remove export restrictions that impair the foreign commerce of the United States.

107. Defendants' actions amount to an embargo or quota on American coal exports to Asia, including coal that would be shipped to the Terminal by BNSF, in violation of the dormant foreign commerce clause.

108. On information and belief, the Defendants' true reason for denying the Plaintiffs' permit applications is the desire to prevent American coal exports to Asia.

109. In all of these ways, the Defendants in their capacities as public officials of the State of Washington have violated the dormant foreign commerce clause and 42 U.S.C. § 1983.

Count III - Violation of the Interstate Commerce Clause

110. BNSF incorporates and re-alleges the foregoing paragraphs.

111. By unreasonably denying and refusing to process permits for the Terminal, Defendants have discriminated against BNSF's efforts to transport coal into Washington from Montana, Wyoming, and other states, in violation of the dormant interstate commerce clause.

112. By expanding the scope of SEPA review beyond the boundaries of Washington, to include purported environmental effects of rail transport of coal from states other than Washington,

Defendants have discriminated against BNSF's efforts to transport into Washington coal from Montana and Wyoming.

113. By concluding that potential environmental effects cannot be mitigated under SEPA if those effects are within the jurisdiction of the federal government, including alleged effects related to rail transportation, the Defendants are unduly burdening, and in effect regulating, interstate commerce.

114. Defendants' actions and inactions with respect to the Terminal discriminate against interstate commerce in both purpose and practical effect, and they serve no legitimate local purpose that could not be served by nondiscriminatory means.

115. Defendants' actions and inactions with respect to the Terminal also burden interstate commerce excessively when weighed against any putative local benefits of Defendants' abuse of their regulatory power.

116. Defendants' actions also injure BNSF by discouraging private sector willingness to invest in the development of coal export facilities in Washington that would be served by BNSF rail lines.

117. Defendants' actions have injured BNSF directly by impacting BNSF's economic interest in providing rail delivery services for the Project and have created a disincentive to build or expand other coal export facilities that would be served by BNSF rail lines, which will negatively impact U.S. economic growth, job creation, and exports.

118. In all of these ways, the Defendants in their capacities as public officials of the State of Washington have violated the dormant interstate commerce clause and 42 U.S.C. § 1983.

Count IV - Violation of the Foreign Affairs Doctrine

119. BNSF incorporates and re-alleges the foregoing paragraphs.

120. On information and belief, the Defendants' true reason for denying the Plaintiffs' permit applications is their desire to prevent coal exports to Asia.

121. The federal government has made it clear that the policy of the United States is to favor the expansion of coal exports to foreign countries, including countries in Asia.

122. By unreasonably denying and refusing to process permits for the Terminal based on their policy of opposing the export of coal for the purposes of energy generation by U.S. allies in Asia, Defendants have intruded on the exclusively federal power to direct the nation's foreign affairs in violation of the foreign affairs doctrine.

123. By expanding the scope of SEPA review beyond the Washington's boundaries, and especially by including the environmental effects of coal shipments destined for foreign nations as a basis to deny permits for the Project, Defendants fail to address any area of traditional state responsibility.

124. Defendants have created a substantial risk of conflict between the United States and foreign governments that rely on coal imports for power production.

125. Defendants' actions have injured BNSF directly and have created a disincentive to build or expand other coal export facilities that would be served by BNSF rail lines, which runs counter to the federal government's foreign policy.

126. In all of these ways, the Defendants in their capacities as public officials of the State of Washington have violated the foreign affairs doctrine and 42 U.S.C. § 1983.

VIII. PRAYER FOR RELIEF

BNSF respectfully requests the following relief:

127. A declaration that ICCTA preempts any decision by any state or local entity relying on the Defendants' denial of the sublease or the Defendants' denial of the CWA section 401 certification, including the denial of MBT Longview's requested shoreline permit, when such denials are based on the purported rail-related impacts of a proposed project.

128. A declaration that Defendants' denial of MBT Longview's requested sublease for the Millennium Bulk Terminal violates the dormant commerce clause.

129. A declaration that Defendants' denial of MBT Longview's requested CWA section 401 certification violates the dormant commerce clause.

130. A declaration that any environmental reviews of the proposed coal export facility at the Millennium Bulk Terminal—or any future coal export terminal that Plaintiffs or BNSF may propose—may not be used to deny or unreasonably condition a permit beyond the standards applied to other non-coal terminal projects, including denying or unreasonably conditioning a permit based on the effects of transporting coal to and from the Terminal by rail traffic in interstate or foreign commerce.

131. A declaration that potential environmental effects within the jurisdiction of the federal government cannot be the basis of a conclusion that the Project's environmental effects—or any future coal export terminal that Plaintiffs or BNSF propose—are not mitigatable.

132. An order vacating any and all of the Defendants' unconstitutional and illegal decisions regarding the Project, as well as any federal, state, or local decisions relying on Defendants' unconstitutional or illegal actions.

133. An injunction ordering the Defendants to apply the same review standards to the Project—or any future coal export terminal that Plaintiffs or BNSF propose—that are applied to other non-coal terminal proposals.

134. An injunction ordering the Defendants not to deny MBT Longview's requested CWA section 401 certification or any other permit or approval for the Terminal on the basis of rail traffic, or any other potential environmental effects within the jurisdiction of the United States.

135. An injunction ordering the Defendants to continue processing any and all current and future MBT Longview permit applications.

136. An order awarding to BNSF the costs of this litigation, including attorneys' fees and expert witness fees, including those awardable under 42 U.S.C. § 1988.

137. Such other relief as the court deems just and proper.

Dated this 27th day of February, 2018.

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CERTIFICATE OF SERVICE

I hereby certify that on February 27, 2018, I caused the foregoing document to be electronically filed with the Clerk of the Court using the CM/ECF system which will send notification of the filing to all counsel of record.

DATED: February 27, 2018

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08.01.18

Daines Defends Montana's Right to Export Coal to Asia

Introduces Bill to Clear Path for Construction of Millennium Bulk Terminal, Create Hundreds of Jobs

U.S. SENATE —U.S. Senators Steve Daines, John Barraso, Shelley Moore Capito and James Inhofe introduced a bill clearing the way for construction of the Millennium Bulk Terminal, which would create hundreds of Montana jobs by expanding trade opportunities for Montana coal. The legislation clarifies that Section 401 of the Clean Water Act cannot be used as a weapon to prohibit Montana's exportation of clean and reliable coal to the nation's allies in the Asia Pacific Region.

Watch HERE

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"Montana is rich in natural resources and has the capability of supplying energy not only for our nation, but to the entire the world," Daines said. **"This bill will ensure our state's abundant resources are no longer gridlocked by activist bureaucrats and will spur high–paying Montana jobs, empower our Tribes, and importantly, strengthen our national security."**

Today, there is a large demand for Montana's clean coal in Asia. Despite this, the State of Washington has blocked the construction of the Millennium Bulk Terminal, which is the point of access for Montana coal to make its way to Asia.

Earlier this month, Daines pushed for congressional action to stop the abuse of power by Washington State to construct the terminal and get Montana's clean coal into Asia's markets.

Opening the terminal would allow coal from Montana's Decker Mine, Spring Creek Mine and the Crow's Big Metal Project to have access to Asian markets. An operating terminal would create an estimated 300 to 400 high-paying mining jobs – most of them in Montana.

Statement of Support:

Everett King, President & CEO, Lighthouse Resources: "When a project meets all water quality standards, the project's water quality certification should be awarded. Unfortunately, this was not the case with our coal export project in Washington state. This legislation ensures that Clean Water Act decisions remain about water quality and are not used for an improper purpose. In addition, the proposed legislation will bring greater clarity for the development of the port for other non-coal products."

Tim Fox, Attorney General of Montana: "Montana is a commodity-rich state and our businesses need reliable access to overseas markets. Sen. Daines' legislation is an important step in depoliticizing the environmental review process for export terminals. By leveling the playing field among the states, we can maintain robust environmental protection standards while also ensuring Montanans can ship their goods to customers around the world."

Background:

The Water Quality Certification Improvement Act of 2018 would:

- Clarify that the scope of a section 401 review is limited to water quality impacts only
- Clarify that states, when evaluating water quality, can only consider discharges that would result from the federally permitted or licensed activity itself – not from other sources.
- Require states to publish clear requirements for water quality certification requests;
- Require states to make final decisions on whether to grant or deny a request in writing based only on water quality reasons.
- Require states to inform a project applicant within 90 days whether the states have all of the materials needed to process a certification request.

Click here for bill text.

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WESTERN STATES WATER COUNCIL
Summary of State Responses
Clean Water Act Section 401 Water Quality Certification Activities
April 2014

The Council surveyed its 18 member states. Responses have not yet been received from Nebraska, North Dakota and Washington.

Hydropower permitting-related requests vary widely by state as might be expected, with little or no hydropower development and related 401 certification requirements in most Plains States. Even in the Rocky Mountains there appear to be relatively few active requests. West Coast States have more certification and permitting actions.

It appears that 401 certifications related to CWA Section 404 permitting dominate the number of certification requests. Coordination and collaboration between the States and Corps often expedite the process, but projects requiring an individual 404 permit can be time consuming.

CWA 401 certifications are also used to inform state 402 NPDES permits issued by states, and would be required in those states without primacy to issue 401 permits, which would include Idaho and New Mexico.

1. In your opinion is State 401 certification authority a significant obstacle to timely federal licensing and permitting activities? Specifically hydropower licensing? Other permits (such as CWA Section 404 permits)?

States unanimously reported that the CWA 401 State Water Quality Certification is not usually an obstacle in itself to timely federal licensing and permitting, provided that all applications are complete and ancillary federal activities are complete or nearly complete (e.g. public notice, study requirements, a complete EIS, mitigation requirements, etc.).

States report certification applications filed with missing signatures, illegible maps, and/or required documents such as a CWA Section 404 application. Often substantive details of the proposed action requirement certification can also change. Many times certification requests are filed before the Corps has completed their assessment. Certifications may also be held up by the applicant not responding to requests for additional information, or failing to comment on proposed project conditions.

EPA and other federal agency comments, conditions and other actions can delay certification. It is not uncommon for example for 404 permitting applications to be elevated to Corps/EPA Headquarters for consideration.

The complexity and long duration of the FERC licensing and relicensing process is a major contributing factor in those States with related 401 certification requests pending. FERC's Integrated Licensing Process (ILP) takes a minimum of five years to complete.

Some States have separate environmental review requirements, such the California Environmental Quality Act (CEQA) process required for non-governmental entities (which can be time consuming). The federal NEPA process is the starting point for CEQA. Further, the California State Water Resources Control Board, consistent with maintaining a transparent and public process, provides a public comment opportunity on draft certification decision before issuance. As project licenses typically range from 3050 years, this is considered to be important, though this is not a required step.

Oregon has a separate state hydropower licensing process, in parallel to the federal process.

2. How long does it usually take for your State to act on a certification application? It there a specific goal or timeline for action?

This varies by state, but all are within the one year period allowed by law. The majority, on average, fall between 40-90 days, while some may process certification requests within a couple of weeks. Action on a request can depend on a number of factors, such as a 30-day public comment period requirement. Other reasons for delay are listed below under Question #3.

States generally do have a process and specific rules outlining a formal timetable or goal for action, but where there is not, every effort is made to issue the certification or a waiver in a timely manner.

Alaska has a goal of processing 401 certification requests within 10 days after the close of the public notice and comment period.

Similarly, the Texas Commission on Environmental Quality (TCEQ) reviews 401 certification requests in parallel with federal licensing and 404 permitting activities, and based on an memorandum of agreement (MOA) with the Corps Southwestern Division, TCEQ make a decision within 10 days of the Corps having reached a permitting decision (certification is required before a permit is issued).

3. Does the State currently have a backlog of certification applications? If so, what is the size of the backlog? What types of licenses or permits are most likely to be delayed? What are the primary reasons for delays (incomplete applications, study requirements, state staff or other resource limitations, etc.)?

The vast majority of states have no backlog of certification actions, but a few do. Delays are typically due to submission of an incomplete application, completion of study requirements, and constraints on state resources, including staff limitations. Often, 401 certification is a part-time duty for staff, assigned as needed. State turnover is another problem, and often entry level staff is assigned 401 certification responsibilities. Given the length of the FERC permitting process staff may change over time.

California reported the most delayed FERC projects and certification requests (only 2-3 staff are devoted to requests). California is working on certification for sixteen FERC licensed projects where their license has expired. Most should be completed within two years. Post-licensing monitoring of certification and

permitting conditions, which may involve continuing studies given the uncertainty regarding future conditions, also place an increasing burden on staff time.

Oregon does have two large hydropower projects which haven't been certified within one year of the original application, one due to ongoing federal activities, and ongoing mitigation studies have delayed the other.

At least one state will no longer accept 401 certification applications as complete until required federal actions have already been approved or completed.

4. What actions has the state taken to simplify or expedite the certification process (such as interagency MOUs, online applications, etc.)? Please provide references and copies.

States have undertaken various process improvements, including coordinating state and federal environmental reviews, some through formal memoranda of understanding.

The Alaska Department of Environmental Conservation has developed a waiver process applied to individual 404 permits issued by the U.S. Army Corps of Engineers. Criteria are based on the potential risk of a particular activity that may affect water quality, such as the size of the wetlands fill, the type of activity, the proximity to a waterbody and the particular wetlands functions and values.

On November 19, 2013, The California State Water Resources Control Board (SWRCB) executed a memorandum of understanding (MOU) with FERC that covers coordination of pre-application activities that include "consultation, environmental scoping, study planning, and submittal of and commenting on the applicant's preliminary licensing proposal." A copy of the MOU is available online at:

http://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/ferc_mou/index.shtml

Also, with the support of the California Hydropower Reform Coalition and FERC licensees, SWRCB is ramping up staffing resources and increasing fees. Three 401 certification requests were completed within an eight month period. Each project request is also assigned a back-up staff person to assure continuity. There are templates for standard letters and more common certification conditions, and SWRCB is developing a program manual and training staff on up-to-date techniques.

For large, complex projects the Colorado Department of Public Health and Environment works with applicants prior to formal filing of a certification request to streamline the review process and minimize requests for additional information. In 2010, Colorado executed an MOU with FERC, and also hired a contractor to identify a number of small projects that were reviewed and certified, but the contract was not renewed and FERC has not informed the State of new conduit or other small scale hydropower project licensing applications, though some potential projects have come to light through public information and conversations with Corps staff.

Idaho has used settlement agreements to develop FERC 401 certifications.

New Mexico has expedited the certification process through the use of general permits and established procedures. The "New Mexico Implementation Plan" governs the process for issuing NPDES permits.

Oklahoma meets regularly with the Corps to coordinate procedures for public notice and processing of permit and certification applications.

Oregon Department of Environmental Quality staff work with applicants on study design and data review early on to ensure a 401 request is complete. Oregon also has a statute outlining state review of hydropower relicensing in coordination with federal relicensing to avoid duplication through a Hydroelectric Application Review Team (HART) with staff from DEQ, the Department of Water Resources, and the Department of Fish and Wildlife. Other state agencies may participate as well.

HART may provide applicants with an estimate of costs for relicensing work, including certification, and one applicant entered into an agreement to pay the state agencies' costs. HART addresses relicensing, but state agencies coordinate as needed for any new project to reduce inefficiencies. Also, DEQ invoices all 401 certification applicants for costs incurred in processing, providing the revenue necessary for timely action, including reassigning staff work.

A Texas/Corps MOA implements a tiered classification system for projects that require an individual CWA 404 permit, which require certification reviews for proposed projects that directly impact aquatic resources of greater than three acres or 1500 linear feet of stream (Tier II projects). For Tier I projects (below that threshold), TCEQ waives certification if the permit applicant agrees to incorporate specific best management practices.

In Wyoming, electronic delivery of certification requests directly from the USACE (Corps) Wyoming Regulatory Office to the Department of Environmental Quality facilitates timely review and processing. WY DEQ encourages project proponents to contact the agency prior to submitting their 404 application to the Corps. Lastly, Wyoming has categorically certified several nationwide permits, further expediting the process.

5. What public information regarding 401 certification is available from the State (include state websites and addresses)?

Many states provide information in advance to assist applicants in navigating the 401 certification process, including online resources. This may include current program activity, staffing, current projectspecific webpages, 401 certifications issued, etc. FERC also posts 401 certification information on its website. Further, Corps Districts may post information on 404 permit applications.

AK: http://dec.alaska.gov/water/wwdp/wetlands/index.htm

AZ: http://www.azdeq.gov/environ/water/permits/cwa401.html

CA: http://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/

CO: http://www.colorado.gov/cs/Satellite/CDPHE-WQ/CBON/1251596872987

ID: http://www.deq.idaho.gov/water-quality/surface-water/standards/401-certification.aspx

This is Idaho's 401 certification website. The 401 certification list of projects is on these webpages:

NPDES: http://www.deq.idaho.gov/water-quality/surface-water/standards/401-certification/401certifications-npdes-permits.aspx

404 Permits: http://www.deq.idaho.gov/water-quality/surface-water/standards/401-certification/401certifications-dredge-fill.aspx

MT: All FERC related 401 water quality certifications are posted on the FERC website. Montana shares the public notice with the Army Corps of Engineers for individual 404 related 401 water quality certifications.

NV: http://ndep.nv.gov/bwqp/401cert.htm

NM: Section 404 program can be found at **http://www.nmenv.state.nm.us/swqb/404/** . The web site for the NPDES program can be found at **http://www.nmenv.state.nm.us/swqb/Permits/**.

OK: http://www.deq.state.ok.us/wqdnew/401_404/index.htm.

Public notices for the Section 404 permits are located on the U.S. Army Corps of Engineers, Tulsa District website: http://www.swt.usace.army.mil/Missions/Regulatory/PublicNotices.aspx

OR: http://www.deq.state.or.us/wq/sec401cert/hydro.htm

SD: http://denr.sd.gov/des/sw/401.aspx

TX: The TCEQ maintains several public web pages containing information about the TCEQ 401 certification program. Each page can be accessed from the following URL:

http://www.tceq.texas.gov/permitting/401certification UT:

http://www.waterquality.utah.gov/permits/index.htm

WA:

WY: The USACE Wyoming Regulatory Office website provides a link to the Wyoming Department of Environmental Quality website that contains information on specific State 401 certification.

6. Do you anticipate an increase in the number of 401 certification requests in the future, and what might be the impact on State administrative resources?

Most states do not anticipate a significant increase in 401 certification requests. Some do. Some states have actually seen significant declines in requests. Again, most requests appear to be related to 404 permitting, which in turn increase with general economic conditions and related construction starts, oil and gas development, etc.

[Expansion of CWA jurisdiction as may be proposed by new rules could have an undetermined impact on the number of requests related to any increase in Section 404 permitting requirements.]

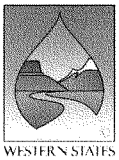
California expects an increase in requests due to FERC relicensing, license amendments, and new projects. Further, as described post-licensing monitoring of conditions, as well as non-hydropower certification requests will significantly impact the State's administrative resources. FERC currently lists 115 non-federal hydropower projects in California, not including transmission line projects, with varying expiration dates. Since 2000, 22 FERC project licenses have expired, and another 26 will expire through 2029, necessitating either relicensing or surrender of the license. Decommissioning can also have water quality impacts. SWRCB is already involved in a number of relicensing pre-application activities. The Division of Water Rights Water Quality Certification Program also certifies non-hydropower projects that involve water rights.

Colorado does not anticipate a significant increase in the number of requests, but does anticipate 4-5 very large and complex project certification requests from water diversion and storage projects over the next 3-4 years.

Idaho does expect an increase in requests, as well as additional review requirements related to antidegradation reviews and analyses associate with federal permits, placing greater demands on static staff.

New Mexico noted drought limits the viability of hydropower projects.

Oregon has certified several projects through the federal relicensing process over the past several years. Currently there are only a few projects under relicensing review. Oregon anticipates ongoing interest in retrofitting both irrigation and drinking water systems with hydro turbines, but many will be exempt from licensing and no 401 certification will be required. Many preliminary permit applications have not proceeded to licensing, making certification requirements difficult to estimate.



August 9, 2018

The Honorable Paul Ryan
Speaker of the House
U.S. House of Representatives
H-232 U.S. Capitol
Washington, D.C. 20515

The Honorable Mitch McConnell
Majority Leader
United States Senate
S-230 U.S. Capitol
Washington, D.C. 20510

The Honorable Nancy Pelosi
Minority Leader
U.S. House of Representatives
H-204 U.S. Capitol
Washington, D.C. 20515

The Honorable Charles Schumer
Minority Leader
United States Senate
419 Hart Senate Office Building
Washington, D.C. 20510

Dear Senators McConnell and Schumer, and Representatives Ryan and Pelosi:

We write to express our concerns about various proposals to alter the state certification process under Section 401 of the federal Clean Water Act (CWA). Because each state is unique, we need the flexibility and authority to address our individual water needs. We urge Congress to reject any legislative or administrative effort that would diminish, impair or subordinate states' ability to manage or protect water quality within their boundaries.

States have primary legal authority over the allocation, administration, protection and development of their water resources. Responsible growth and development, as well as proper environmental management, depend upon the recognition and preservation of state stewardship.

We recognize the importance of partnerships between states and the federal government. To implement the CWA, Congress purposefully designated states as co-regulators under a system of cooperative federalism that recognizes state interests and authority. Congress recognizes the legal position of states in the CWA; Section 101 clearly expresses Congress's intent to:

> recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources, and to

> consult with the Administrator in the exercise of his authority under this chapter...Federal agencies shall co-operate with state and local agencies to develop comprehensive solutions to prevent, reduce, and eliminate pollution in concert with programs for managing water resources.

A balanced system of cooperative federalism has enabled states to implement the CWA effectively and with flexibility. The CWA correctly recognizes that a one-size-fits-all approach to water management and protection does not accommodate the practical realities of geographic and hydrologic diversity among states.

A vital component of the CWA's system of cooperative federalism is state authority to certify and condition federal permits of discharges into waters of the United States under Section 401. This authority has helped ensure that activities associated with federally permitted discharges will not impair state water quality. The U.S. Supreme Court has addressed this issue of state authority and concluded that, "[s]tate certifications under [Section] 401 are essential in the scheme to preserve state authority to address the broad range of pollution." *S.D. Warren Co. v. Maine Board of Environmental Protection*, 547 U.S. 370 (2006), citing 116 Cong. Rec. 8984 (1970).

Curtailing or reducing state authority or the vital role of states in maintaining water quality within their boundaries would inflict serious harm to the division of state and federal authorities established under the Constitution and recognized by Congress in the CWA. Any legislative or regulatory effort to streamline environmental permitting should be developed in consultation with states and must not be achieved at the expense of authority delegated to states under the CWA or any other federal law. Any such effort must also recognize, and defer to, states' sovereign authority over the management and allocation of their water resources. We implore you to ensure that the CWA continues to effectively protect water quality while maintaining the proper balance between state and federal authorities.

Sincerely,

James D. Ogsbury
Executive Director
Western Governors' Association

Julia Anastasio
Executive Director and General Counsel
Association of Clean Water Administrators

Virgil Moore
President
Association of Fish and Wildlife Agencies

Jeanne Christie
Executive Director
Association of State Wetland Managers

oversight over their own decision-making have nevertheless felt empowered to second-guess every comma and semicolon in our filings. Again and again, they have grossly mischaracterized our decisions, impugned our motives and challenged longstanding legal precedents.

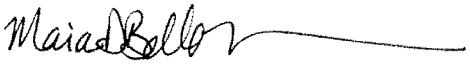
Many legal bodies have already examined our authority and our decision. All of them have affirmed our actions. The water quality certification itself is just one of 23 approvals needed from local, state and federal authorities. Department of Ecology is one of three independent government bodies that has rejected this proposal.

The company's appeal of the Department of Ecology's decision now appropriately rests with Washington State's Pollution Control Hearings Board, which has indicated that it will issue a summary judgment decision in the days ahead. We anticipate the pollution board's decision will validate ours.

A copy of the state's denial is enclosed for your reference. I hope this letter helps committee members understand the facts about the permit denial. I am proud of the effort that my agency dedicated to this project. And I will continue to defend our water quality decision every step of the way.

Thank you for your interest in this matter.

Sincerely,



Maia D. Bellon
Director

cc: Patty Murray, Senator
Maria Cantwell, Senator
Senate Environment & Public Works Committee Members

THE HONORABLE ROBERT J. BRYAN

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON
AT TACOMA

LIGHTHOUSE RESOURCES INC.; LIGHTHOUSE PRODUCTS, LLC; LHR INFRASTRUCTURE, LLC; LHR COAL, LLC; and MILLENNIUM BULK TERMINALS-LONGVIEW, LLC, Plaintiff, v. JAY INSLEE, in his official capacity as Governor of the State of Washington; MAIA BELLON, in her official capacity as Director of the Washington Department of Ecology; and HILARY S. FRANZ, in her official capacity as Commissioner of Public Lands, Defendant.	No.: 3:18-cv-05005-RJB *AMICUS CURIAE* BRIEF IN OPPOSITION TO DEFENDANTS' MOTION FOR ABSTENTION BY WYOMING, KANSAS, MONTANA, NEBRASKA, SOUTH DAKOTA AND UTAH NOTED ON THE MOTION CALENDAR: MAY 15, 2018

TABLE OF CONTENTS

TABLE OF AUTHORITIES

INTRODUCTION 4

BACKGROUND 5

I. The Millennium Bulk Terminal Coal Export Facility. 5

II. The Defendants' Opposition to the Millennium Bulk Terminal Port Facility. 6

Bullivant|Houser|Bailey PC
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III. Defendants' Motion for Abstention of the Commerce Clause Claims. 7

STANDARD OF REVIEW 7

ARGUMENT 8

I. The Commerce Clause claims are a matter of overwhelming federal interest making abstention inappropriate. 8

II. Abstention is not proper under the *Pullman* doctrine. 10

III. Abstention is not proper under the *Colorado River* doctrine. 12

CONCLUSION 17

CERTIFICATE OF SERVICE

TABLE OF AUTHORITIES

Cases

Ashcroft v. Iqbal, 556 U.S. 662 (2009) 6

Bell Atl. Corp. v. Twombly, 550 U.S. 544 (2007) 6

Bethlehem Contracting Co. v. Lehrer/McGovern, Inc., 800 F.2d 325 (2d Cir. 1986) 18

Canton v. Spokane Sch. Dist. No. 81, 498 F.2d 840 (9th Cir. 1974) 10

Cingular Wireless, LLC v. Thurston Cty., 150 F. App'x 633 (9th Cir. 2005) 12

Colo. River Water Conservation Dist. v. United States, 424 U.S. 800, 817 (1976) 5, 13-15

Courthouse News Serv. v. Planet, 750 F.3d 776 (9th Cir. 2014) 6, 10

Daniels Sharpsmart, Inc. v. Smith, No. 1:17-cv-403-LJO-SAB, 2017 U.S. Dist. LEXIS 90840 (E.D. Cal. June 13, 2017) 8, 10, 14, 17

Hancock v. City of Ridgefield, No. C09-5580BHS, 2009 U.S. Dist. LEXIS 117948 (W.D. Wash. 2009) 12

Harper v. Pub. Serv. Comm'n, 396 F.3d 348 (4th Cir. 2005) 7, 8

Lazy Y Ranch LTD v. Behrens, 546 F.3d 580 (9th Cir. 2008) 6

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Life Partners, Inc. v. Morrison,
484 F.3d 284 (4th Cir. 2007) 8

McClellan v. Carland,
217 U.S. 268 (1910) 13

Moses H. Cone Mem'l Hosp. v. Mercury Constr. Corp.,
460 U.S. 1 (1983) 17, 20

Nat'l Ass'n for the Advancement of Multijurisdiction Practice v. Berch,
773 F.3d 1037 (9th Cir. 2014) 7

Porter v. Jones,
319 F.3d 483 (9th Cir. 2003) 10-12

Procunier v. Martinez,
416 U.S. 396 (1974) 7

Pue v. Sillas,
632 F.2d 74 (9th Cir. 1980) 17

R.R. Comm'n of Tex. v. Pullman Co.,
312 U.S. 496 (1941) 5

R.R. St. & Co. v. Transp. Ins. Co.,
656 F.3d 966 (9th Cir. 2011) ..... passim

Thornburgh v. Abbott,
490 U.S. 401 (1989) 7

Travelers Indem. Co. v. Madonna,
914 F.2d 1364 (9th Cir. 1990) 17, 18

United States v. Morros,
268 F.3d 695 (9th Cir. 2001) 7, 14-16

Wisconsin v. Constantineau,
400 U.S. 433 (1971) 12

Zwickler v. Koota,
389 U.S. 241 (1967) 10

Statutes

42 U.S.C. § 1983 ..... 4, 17

U.S. Const. art. IV, § 8 7

Other Authorities

Fed. R. Civ. P. 12 ..... 5, 6

Leonard Birdsong, *Comity and Our Federalism in the Twenty-First Century: The Abstention Doctrines Will Always Be With Us – Get Over It!*, 36 Creighton L. Rev. 375 (2003) 10

The Federalist No. 22 (Alexander Hamilton) 2

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INTRODUCTION

In 2016, the States of Wyoming and Montana generated tax revenues of just over $800 million from coal mining and coal-power generation. (*See* Aff. to Mot. for Amicus status). These revenues fund essential services to the citizens of the States, including water and highway infrastructure and education. (*Id.*). Coal is a critical source of income to the fiscal health of these two states and for the provision of basic services necessary for the health and well-being of their citizens. In addition to the specific interests of Wyoming and Montana, the additional amici states have a broad interest in ensuring that no single state can engage in a pattern of discrimination that results in control over any other state's ability to engage in a lawful activity involving interstate or foreign commerce. The Defendants' unconstitutional actions threaten these interests.

The Defendants have publicly expressed their personal antipathy to the use of coal as a fuel source. (*See, e.g.,* Compl. at ¶¶ 80-99). Defendant Governor Inslee is on record as opposing coal exports, particularly to Asia. (*Id.* at ¶ 86). The other named Defendants either share or have adopted Governor Inslee's anti-coal position. (*Id.* at ¶¶ 92-95 (Def. Bellon); 96-97 (Def. Franz)). With regard to the Millennium Bulk Terminal Port Facility, the Defendants have engaged in a pattern of discrimination to prevent Wyoming and Montana from engaging in interstate and foreign commerce. In doing so, the Defendants' have violated the Dormant Foreign and Domestic Commerce Clauses of the United States Constitution. The Defendants are interfering with the free trade of other states, something anathema to the founding principles of our nation. As Alexander Hamilton succinctly put it:

> The interfering and unneighborly regulations of some States, contrary to the true spirit of the Union, have, in different instances, given just cause of umbrage and complaint to others, and it is to be feared that examples of this nature, if not restrained by a national control, would be multiplied and extended till they became not less serious sources of animosity and discord than injurious impediments to the intercourse between the different parts of the Confederacy.

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The Federalist No. 22 (Alexander Hamilton).

The amici States offer this brief to assist the Court in its consideration of Defendants' argument that this Court should abstain from adjudicating the Commerce Clause claims in this suit. This Court should not abstain from considering these claims because abstention is not appropriate in dealing with Commerce Clause claims. Even if it was, the facts in this case do not satisfy the requirements under either the *Pullman* or *Colorado River* abstention doctrines. Accordingly, this Court should proceed to adjudicate the Commerce Clause claims.

BACKGROUND

I. The Millennium Bulk Terminal Coal Export Facility.

Since 2012, Lighthouse Resources, Inc., a vertically-integrated coal production, transportation, and export company, has sought to develop the Millennium Bulk Terminal Port Facility (Terminal Facility or Project) in Longview, Washington, on the Columbia River. (Compl. at ¶¶ 60-70). Lighthouse desires to transport coal it mines in Montana and Wyoming by rail to the Terminal Facility and then ship it to meet the growing demand for coal in Asia. (Compl. at ¶¶ 35-37; 45-50). The Project requires additional coal export capacity on the West Coast and, accordingly, Lighthouse has applied to obtain the necessary permits from the State of Washington to expand and develop the Terminal Facility to handle the additional coal. (Compl. at ¶¶ 51; 117; 149; 161; 173; 179).

The State of Washington has consistently denied Lighthouse's permit applications. (Compl. at ¶¶ 149-60; 161-72; 173-78; 179-83). There are currently actions related to these permit denials in state court and the Shorelines Hearing Board involving the denial by the Washington Department of Natural Resources of the transfer of a sublease for the site of the proposed Terminal Facility, the Washington Department of Ecology's denial of a Clean Water Act Section 401 certification on appeal to the Washington Pollution Control Hearings Board, and Cowlitz County's denial of a shoreline development and conditional use permit. (*See generally* Overton Decl. Exs. 4, 5, 8, and 10 attached to Def. Mot.).

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II. The Defendants' Opposition to the Millennium Bulk Terminal Port Facility.

The Defendants have a long-documented public opposition to fossil fuels, and coal in particular. (Compl. at ¶¶ 80-99; 107-10). Since the Defendants' accession to their current positions, Washington State agencies have denied *every* necessary permit for the Terminal Facility. (*Id.* at ¶¶ 121-24; 127-36; 149-59; 162-71; 176-78; 180-83). In response, Lighthouse has appealed the permit denials through the Washington state administrative and court systems. Lighthouse initiated this litigation in federal district court not to challenge the outcome of a specific permitting process, but to stop the Defendants' violation of the Dormant Foreign and Domestic Commerce Clause provisions of the United States Constitution under 42 U.S.C. § 1983. (*Id.* at ¶¶ 206-10). Specifically, Lighthouse alleges that the Defendants have discriminated against Lighthouse's project because it involves coal, thus preventing Wyoming and Montana from engaging in foreign and interstate commerce and depriving Lighthouse and its subsidiaries of an economic opportunity and prospective investment. (*Id.* at ¶¶ 225-39, 241-48).

The Defendants are not parties to any proceeding in a state court or administrative body where there is a Commerce Clause claim at issue. Further, the claim against the Defendants and the relief sought against them is distinct from that in the state-level proceedings. In the state proceedings, the issues are whether the state agencies lawfully denied various permits under various state laws. (Dkt. No. 21-1 at Ex. 4, 5, 8, 10, and 11). If the Facility prevails in the state proceedings, the remedy would be to grant the permit or to remand the matter to the permitting agency for an appropriate consideration of the permit application. By contrast, the claims in this Court rest on alleged violations of federal law and the remedy Lighthouse seeks is fundamentally different than that available in the state proceedings. Specifically, Lighthouse seeks: (1) an order reversing the Defendant's unconstitutional and illegal actions; (2) an injunction requiring the Defendants to apply the same standards to Lighthouse's permit

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applications that are applied to non-coal applications; (3) an injunction ordering that the Defendants not deny Clean Water Act Section 401 certification on a basis unrelated to the requirements of that Act; and (4) an injunction requiring the Defendants to continue to process all future and current permit applications made by Lighthouse. (*Id.* at Prayer for Relief, ¶¶ F-J).

III. Defendants' Motion for Abstention of the Commerce Clause Claims.

Defendants responded to the Complaint with a "Motion for Partial Dismissal Under Eleventh Amendment and FRCP 12(b)(6) and Motion for Abstention." The request for abstention derives from two doctrines established by the United States Supreme Court in the cases of *Railroad Commission of Texas v. Pullman Company*, 312 U.S. 496 (1941), and *Colorado River Water Conservation District v. United States*, 424 U.S. 800, 817 (1976), and is directed to Lighthouse's Commerce Clause claims. (Def. Mot. at 16-24). Because the Defendants do not meet the criteria for abstention, the States respectfully request that this Court deny the Motion for Abstention and adjudicate the Commerce Clause claims.

STANDARD OF REVIEW

Defendants bring their motion for abstention under Federal Rule of Civil Procedure 12(b)(6). (Def. Br. at 7). When considering an abstention request under Rule 12(b)(6), the court generally accepts as true the allegations in the complaint, construes the pleading in the light most favorable to the party opposing the motion, and resolves all doubts in the pleader's favor. *Lazy Y Ranch LTD v. Behrens*, 546 F.3d 580, 588 (9th Cir. 2008). To survive a Rule 12(b)(6) motion to dismiss, the plaintiff must "allege enough facts to state a claim to relief that is plausible on its face." *Id.* (quoting *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 570 (2007)). "A claim has facial plausibility when the [p]laintiff pleads factual content that allows the court to draw the reasonable inference that the defendant is liable for the misconduct alleged." *Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009).

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Further, the Defendants' motion is a "facial" challenge to this Court's exercise of jurisdiction, not a "factual" one. "A factual challenge relies on affidavits or any other evidence properly before the court to contest the truth of the complaint's allegations." *Courthouse News Serv. v. Planet*, 750 F.3d 776, 780 (9th Cir. 2014) (internal quotes and brackets omitted). The Defendants filed a Declaration from counsel identifying the concurrent state proceedings that included exhibits of related orders, notices of appeal, and other procedural filings. (Decl. of Lee Overton). The Defendants, however, do not contest the truth of any of the allegations in the Complaint. Accordingly, the factual allegations in the Complaint are true for purposes of this Court's resolution of the Defendants' motion.

ARGUMENT

Defendants assert that the parallel, state-level proceedings require this Court to abstain from ruling on Lighthouse's Commerce Clause claims. Initially, the Court should reject the Defendants' request for abstention because the Commerce Clause claims raise important federal questions that impact the economic interests of other states. Even if the abstention doctrines did apply, the Defendants have failed to establish that under the facts and circumstances of this case that either the *Pullman* or the *Colorado River* doctrine supports abstention.

I. The Commerce Clause claims are a matter of overwhelming federal interest making abstention inappropriate.

"The Commerce Clause of the United States Constitution, Article I, Section 8, prohibits states from discriminating against interstate commerce, and bars regulations that, although facially nondiscriminatory, unduly burden interstate commerce." *Nat'l Ass'n for the Advancement of Multijurisdiction Practice v. Berch*, 773 F.3d 1037, 1048 (9th Cir. 2014). Abstention is not favored when sensitive federal constitutional claims are at stake. *See, e.g., Procunier v. Martinez*, 416 U.S. 396, 404 (1974), *overruled on other grounds by Thornburgh v. Abbott*, 490 U.S. 401, 413-14 (1989); *Harper v. Pub. Serv. Comm'n*, 396 F.3d 348, 355-56

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(4th Cir. 2005); *United States v. Morros*, 268 F.3d 695, 706-07 (9th Cir. 2001). The "commerce clause power itself justifies a narrower view of state interests in the abstention context." *Harper*, 396 F.3d at 357.

> The commerce power plays a role in abstention analysis quite different from many of the other provisions of the Constitution. *The dormant Commerce Clause demonstrates a difference of kind, not merely of degree. By its very nature, it implicates interstate interests. It protects all states by ensuring that no state erects the kind of barriers to trade and economic activity that threatened the survival of a fledging country* under the Articles of Confederation.
>
> Giving the power over commerce to Congress was easily seen as structurally creating an interstate interest … Our "national common market" does not allow states – even inadvertently – to impede commerce and sow disunity.
>
> When there is an overwhelming federal interest – an interest that is as much a core attribute of the national government as the list of important state interests are attributes of state sovereignty in or constitutional tradition – no state interest, for abstention purposes, can be nearly as strong at the same time[.]

Harper, 396 F.3d at 355-56 (emphasis added; internal ellipses omitted); *see also Life Partners, Inc. v. Morrison*, 484 F.3d 284, 300-01 (4th Cir. 2007) (determining that the district court did not abuse its discretion in declining to abstain on Commerce Clause claim); *Daniels Sharpsmart, Inc. v. Smith*, No. 1:17-cv-403-LJO-SAB, 2017 U.S. Dist. LEXIS 90840, at *11-20 (E.D. Cal. June 13, 2017) (finding that abstention on a Commerce Clause claim is generally inappropriate under any of the recognized abstention doctrines).

The Defendants' illegal actions have violated the United States Constitution and adversely impacted the economic and fiscal interests of states that seek to export commodities to foreign markets. The Defendants are trying to force on other states their policy preferences regarding the use of coal as a source of fuel, and thus, they are impeding the free flow of commerce. Today it is coal, tomorrow it could be natural gas or non-organic produce. The interests of interior states in developing foreign trade are now subject to the barriers erected by the policy whims of states that control access to international markets through their ports.

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This is *clearly* a matter of "overwhelming federal interest" that is crucial to the trade and economic activity of this nation, and there is no state interest, for purposes of abstention, that is comparable. Indeed, the Defendants cannot explain how a decision in any of the state proceedings would prevent them from continuing to engage in actions improper under the Commerce Clause.

Consequently, this Court should not engage in an assessment of the different factors of either the *Pullman* or the *Colorado River* doctrines, as abstention on a Commerce Claim is inappropriate under both in these circumstances. Instead, the Court should hear Lighthouse's claims under the Commerce Clause on the merits.

II. Abstention is not proper under the *Pullman* doctrine.

In *Pullman*, the United States Supreme Court counseled "abstention by federal courts in order to avoid decisions of federal constitutional questions when the case may be disposed of on questions of state law." Leonard Birdsong, *Comity and Our Federalism in the Twenty-First Century: The Abstention Doctrines Will Always Be With Us – Get Over It!*, 36 Creighton L. Rev. 375, 388 (2003). "*Pullman* abstention 'is an extraordinary and narrow exception to the duty of a [d]istrict [c]ourt to adjudicate a controversy' that is properly before it." *Porter v. Jones*, 319 F.3d 483, 492 (9th Cir. 2003) (quoting *Canton v. Spokane Sch. Dist. No. 81*, 498 F.2d 840, 845 (9th Cir. 1974)). A court should give a plaintiff's choice of a federal forum for hearing and adjudication of their federal constitutional claims "due respect" and "*Pullman* abstention should rarely be applied." *Porter*, 319 F.3d at 492 (citing *Zwickler v. Koota*, 389 U.S. 241, 248 (1967)).

Pullman abstention is appropriate only if three mandatory criteria are established: "(1) the case touches on a sensitive area of social policy upon which the federal courts ought not enter unless no alternative to its adjudication is open, (2) constitutional adjudication plainly can be avoided if a definite ruling on the state issue would terminate the controversy, and (3)

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the proper resolution of the possible determinative issue of state law is uncertain." *Courthouse News Serv.*, 750 F.3d at 783-84 (quoting *Porter*, 319 F.3d at 492)).

None of these criteria are satisfied here. This case does not involve "a sensitive area of social policy" which has been defined to include "land use planning, landlord-tenant relationships, foreclosure policy, and death penalty procedures." *Daniels*, 2017 U.S. Dist. LEXIS 90840, at *15, n.11 (listing cases). The Defendants characterize this as a land use case. (Def. Mot. at 17). This is incorrect. This is actually a Commerce Clause claim under the United States Constitution. The premise of this case is that the Defendants used their official positions to interfere with the permitting **process**. There is no constitutional challenge to the validity of Washington's rules and laws governing the issuance of permits for projects like the Terminal Facility. The dispute does not touch on Washington's sovereign authority to regulate its lands, protect its environment, and the health and safety of its citizens. The dispute is that the Washington officials charged with enforcing those laws manipulated or simply ignored them in pursuit of their predetermined, personal agenda to block the export of coal through the State of Washington. Since a Commerce Clause challenge to the propriety of an administrative process is not "a sensitive area of social policy[,]" this alone makes *Pullman* abstention inappropriate in this case.

Moreover, Defendants fail to satisfy the second and third criteria. The second criterion asks whether a "constitutional adjudication plainly can be avoided if a definite ruling on the state issue would terminate the controversy[.]" *Porter*, 319 F.3d at 492. The Defendants assume that the mere existence of related parallel claims in concurrent state proceedings is a sufficient basis for the federal court to abstain from addressing an important federal constitutional claim. (Def. Mot. at 18). In a series of conclusory statements, Defendants maintain that resolution of state law claims relating to the denied permits "would likely moot the constitutional challenges." (*Id*). The Commerce Clause claims derive from the Defendants' improper and extra-constitutional actions to block the transportation of coal across

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Washington's border for export into foreign commerce. Defendants do not address how resolution of the state law issues would resolve the federal constitutional claim or prevent the Defendants from continuing to advance their anti-coal agenda through impermissible actions in future proceedings. A definite resolution of the state law claims would not necessarily avoid a constitutional adjudication and, therefore, the second criterion does not support abstention.

The third criterion crystalizes the difficulty with the Defendants' request for abstention: "[T]he proper resolution of the possible determinative issue of state law is uncertain[.]" *Porter*, 319 F.3d at 492. "Where there is no ambiguity in the state statute, the federal court should not abstain but should proceed to decide the federal constitutional claim." *Wisconsin v. Constantineau*, 400 U.S. 433, 439 (1971). Defendant has not identified "an **unsettled** issue of state or local law that would be determinative of the federal claims." *Hancock v. City of Ridgefield*, No. C09-5580BHS, 2009 U.S. Dist. LEXIS 117948, at *6 (W.D. Wash. 2009) (emphasis added); (*See* Def. Mot. at 16-24 (no state or local law has been identified)); *see also Cingular Wireless, LLC v. Thurston Cty.*, 150 F. App'x 633, 635-36 (9th Cir. 2005) (finding that *Pullman* abstention is not appropriate absent "an unsettled area of state law"). Defendants do not identify any "unclear" or "unsettled" state law and, accordingly, they have not met the third criterion necessary for *Pullman* abstention.

III. Abstention is not proper under the *Colorado River* doctrine.

The Defendants also argue that this Court should abstain from determining the Commerce Clause claim under the Supreme Court's decision in *Colorado River*, but "[g]enerally, as between state and federal courts, the rule is that 'pendency of an action in the state court is no bar to proceedings concerning the same matter in the Federal court having jurisdiction[.]" *Colo. River*, 424 U.S. at 817 (quoting *McClellan v. Carland*, 217 U.S. 268, 282 (1910)). "Only in rare cases will 'the presence of a concurrent state proceeding' permit the district court to dismiss a concurrent federal suit 'for reasons of wise judicial administration.'"

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R.R. St. & Co. v. Transp. Ins. Co., 656 F.3d 966, 977-78 (9th Cir. 2011) (quoting *Colo. River*, 424 U.S. at 818)).

In *Colorado River*, the federal government brought a federal court action against various water users seeking a declaration of rights on the Colorado River and several tributaries. *Colorado River*, 424 U.S. at 805. Colorado had already established water districts to adjudicate water rights in state courts. *Id.* at 804. The federal district court dismissed the action in deference to the state court proceedings. *Id.* at 806. The Supreme Court affirmed, stressing, in particular, the "highly interdependent" relationship between the claims in the two courts and federal policy, embodied in law, of avoiding the piecemeal adjudication of water rights. *Id.* at 819-20; *see also R.R. St. & Co.*, 656 F.3d at 978.

Given the factual context of this case, the *Colorado River* abstention doctrine is not applicable because "*Colorado River* was a state law case that the Government sought to have federally adjudicated ... [t]his case is the converse: a federal law case that the state seeks to have adjudicated in state court." *Morros*, 268 F.3d at 707. This case does not present a situation where "there is evidence of a strong federal policy that all claims should be tried in the state courts." *Morros*, 268 F.3d at 706-07. The federal adjudication of the Commerce Clause claims would not reach into an area of concern specific to the state; rather, it concerns an area of particular concern to the federal government: interstate commerce. Therefore, this is not a "rare" or "exceptional" case that calls for the federal court to abstain from adjudicating federal claims, and this Court should proceed to adjudicate the Commerce Clause claims. *See Daniels Sharpsmart*, 2017 U.S. Dist. LEXIS 90840, at *14-15 ("This case is premised on [a] claim, brought under a federal statute, that [d]efendants violated the Commerce Clause, a provision of the federal constitution. ... Consequently, *Colorado River* abstention has no applicability here.") (citations and quotation marks omitted).

Considering the substance of the Defendants' motion also leads to the conclusion that abstention is not appropriate under the circumstances. To determine whether the federal case

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presents the "exceptional circumstances" justifying abstention under *Colorado River*, "the district court must carefully consider 'both the obligation to exercise jurisdiction and the combination of factors counseling against that exercise.'" *R.R. St. & Co.*, 656 F.3d at 978 (quoting *Colo. River*, 424 U.S. at 818). The Ninth Circuit applies eight factors for assessing the appropriateness of a *Colorado River* stay or dismissal:

> (1) which court first assumed jurisdiction over any property at stake; (2) the inconvenience of the federal forum; (3) the desire to avoid piecemeal litigation; (4) the order in which the forums obtained jurisdiction; (5) whether federal law or state law provides the rule of decision on the merits; (6) whether the state court proceedings can adequately protect the rights of the federal litigants; (7) the desire to avoid forum shopping; and (8) whether the state court proceedings will resolve all issues before the federal court.

R.R. St. & Co., 656 F.3d at 978-79. Defendants conclude that factors 3, 4, 6, 7, and 8 weight in favor abstention. But neither these five factors, nor the other three, weigh in favor of abstention.

The *Colorado River* court was primarily concerned with avoiding piecemeal litigation. *Morros*, 268 F.3d at 706-07 (quoting *Colo. River*, 424 U.S. at 819). "Piecemeal litigation occurs when different tribunals consider the same issue, thereby duplicating efforts and possibly reaching different results ... [t]he mere possibility of piecemeal litigation does not constitute an exceptional circumstance." *R.R. St. & Co.*, 656 F.3d at 979 (internal quotations and citations omitted).

> *Colorado River* does not say that every time it is possible for a state court to obviate the need for federal review by deciding factual issues in a particular way, the federal court should abstain. As the Supreme Court has observed, such a holding would "make a mockery of the rule that only exceptional circumstances justify a federal court's refusal to decide a case in deference to the States." Rather, *Colorado River* stands for the proposition that when Congress has passed a law expressing a preference for unified state adjudication, courts should respect that preference. As the Third Circuit astutely observed, "it is evident that the avoidance of piecemeal litigation factor is met, as it was in ... *Colorado River* itself, only when there is evidence of a strong federal policy that all claims should be tried in the state courts.

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Morros, 268 F.3d at 706-07 (footnotes and internal quotation marks omitted). This case offers only the mere possibility of piecemeal litigation. There is no identified federal policy favoring the adjudication in the state courts of constitutional claims of state official misconduct in administrative permitting.[1] This factor strongly favors this Court exercising its jurisdiction to adjudicate these claims.

The fourth factor is the order in which jurisdiction was obtained. The Defendants admit the measure of the weight given to this factor does not depend on whether the state was the first to exercise jurisdiction. (Def. Mot. at 22). Indeed, "[t]he mere existence of a case on the state docket in no way causes a substantial waste of judicial resources nor imposes a burden on the defendant which would justify abstention." *Travelers Indem. Co. v. Madonna*, 914 F.2d 1364, 1370 (9th Cir. 1990). Further, abstention is particularly inappropriate when the federal proceeding, like this case, is brought under 42 U.S.C. § 1983. *See Daniels Sharpsmart*, 2017 U.S. Dist. LEXIS 90840, at *19-20; *see also Pue v. Sillas*, 632 F.2d 74, 77 n.4 (9th Cir. 1980).

Defendants acknowledge the progress of the state proceedings but do not offer any analysis of how that progress affects the federal litigation. *See Moses H. Cone Mem'l Hosp. v. Mercury Constr. Corp.*, 460 U.S. 1, 28 (1983) (stating that *Colorado River* abstention contemplates that "the parallel state-court litigation will be an adequate vehicle for the complete and prompt resolution of the issues ... [i]f there is any substantial doubt as to this, it would be a serious abuse of discretion to grant the stay or dismissal at all"). A recitation of the progress of the state court proceedings tells us nothing about the adequacy of that vehicle to completely and promptly resolve those claims; nor does it address the consequences of this action being filed under 42 U.S.C. § 1983. Thus, this factor does not support abstention.

[1] For example, the Washington Shorelines Hearings Board's enabling statutes and administrative rules do not provide that body with jurisdiction to consider federal constitutional questions. See RCW 90.58 et seq., and WAC 461-8-315.

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Applying the sixth factor, courts are to ask whether the state court proceedings can adequately protect the rights of the federal litigants. Defendants interpret this to mean that so long as the state courts are competent to hear federal constitutional claims, then the factor weighs in favor of abstention. (Def. Mot. at 21). Defendants misinterpret the nature of the factor. The Ninth Circuit "has not applied this factor against the exercise of federal jurisdiction, only in favor of it." *Travelers*, 914 F.2d at 1370. "This factor, like choice of law, is more important when it weighs in favor of federal jurisdiction." *Id.* (quoting *Bethlehem Contracting Co. v. Lehrer/McGovern, Inc.*, 800 F.2d 325, 328 (2d Cir. 1986); *see also R.R. St. & Co.*, 656 F.3d at 981. This factor is of no value to the Defendants' argument because to the extent the courts consider the factor, it is **only** to determine whether it weighs in favor of federal jurisdiction, not against it. So, even if a party advocating abstention can show that the state tribunal can protect the rights of the federal plaintiff, this factor is merely eliminated from consideration; it lacks any weight. By asking this Court to weigh this factor in favor of abstention, Defendants err.

The seventh factor addresses concerns over forum shopping. Naturally, the Defendants argue that this factor weighs in favor abstention because Lighthouse, allegedly, did not focus "its efforts in the forum that it deems most favorable, [but] has flung its claims across as many forums as possible in the hopes of finding a single sympathetic one … [with] [t]he result [being] vexatious litigation in which [Lighthouse] seeks to litigate five lawsuits simultaneously." (Def. Mot. at 24).

"In the *Colorado River* context, this Circuit has held that forum shopping weighs in favor of a stay when the party opposing the stay seeks to avoid adverse rulings made by the state court or to gain a tactical advantage from the application of federal court rules." *Travelers*, 914 F.2d at 1371. Defendants do not identify any adverse state court ruling Lighthouse is seeking to avoid or how the federal court rules could give Lighthouse a tactical advantage in this litigation. Further, that there are on-going state lawsuits has more to do with the fractured

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permitting process employed by the State of Washington than it does with any conscious choice by Lighthouse to seek out advantageous forums or to create vexatious litigation. Unless the Defendants are advocating that a party must give up certain due process rights to appeal adverse state rulings before filing an action in federal court, there is no evidence of forum shopping.

The final factor the Defendants contend weighs in favor of abstention is the eighth one in which this court should ask whether the state court proceedings will resolve all issues before it. Defendants argue that all they need show is that the state courts can adequately protect the rights of the litigants in the federal case for this factor to favor abstention. (Def. Mot. at 20-21). But this factor favors abstention when the parallel state court proceeding will "ensure comprehensive disposition of litigation … [o]therwise, a stay or dismissal will neither conserve judicial resources nor prevent duplicative litigation." *R.R. St. & Co.*, 656 F.3d at 982-83. Defendants' argument on this factor rests solely on the existence of parallel state proceedings. There is no analysis of whether the state court proceedings will "ensure [a] **comprehensive** disposition of [the] litigation." Accordingly, this factor is of little weight.

The ultimate "decision whether to dismiss a federal action because of parallel state-court litigation hinges on a careful balancing of the [relevant] factors … with the balance heavily weighted in favor of the exercise of jurisdiction." *R.R. St. & Co.*, 656 F.3d at 983 (quoting *Moses H. Cone*, 460 U.S. at 16). In this case, the balance weighs overwhelmingly in favor of this Court exercising jurisdiction.

I. CONCLUSION

The Defendants failed to meet their burden to show that the Commerce Clause claims set forth in Lighthouse's Complaint are of the rare and extraordinary type that would support abstention. Accordingly, *amicus curiae* the States of Wyoming, Kansas, Montana, Nebraska, South Dakota, and Utah respectfully request that this Court deny the Motion for Abstention and proceed to adjudicate the Commerce Clause claims.

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DATED: May 8, 2018

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4826-4881-3925.1

CERTIFICATE OF SERVICE

The undersigned attorney certifies that on the 8th day of May, 2018, I electronically filed the foregoing with the Clerk of the Court using the CM/ECF system which will send notification of such filing to all counsel on record in the matter.

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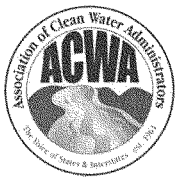

August 15, 2018

The Honorable Paul Ryan
Speaker of the House
U.S. House of Representatives
H-232 U.S. Capitol
Washington, DC 20515

The Honorable Mitch McConnell
Majority Leader
U.S. Senate
S-230 U.S. Capitol
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The Honorable Nancy Pelosi
Minority Leader
U.S. House of Representatives
H-204 U.S. Capitol
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The Honorable Charles Schumer
Minority Leader
U.S. Senate
419 Hart Senate Office Building
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Dear Senators McConnell and Schumer, and Representatives Ryan and Pelosi:

The Environmental Council of the States (ECOS), the Association of Clean Water Administrators (ACWA), and the Association of State Wetland Managers (ASWM) urge Congress to preserve states' ability to protect water quality under Section 401 of the Clean Water Act. Our members believe that Section 401 is an important tool states can use to protect their waters for the benefit of their citizens.

Congress built the Clean Water Act on the foundation of cooperative federalism—the principle that states are best positioned to implement federal environmental laws because of their expertise on local conditions and concerns. The Act therefore allows states to take on the legal authority to protect, restore, develop, and use their water resources. It also creates the Section 401 certification process, which allows states to review federal agencies' permitting decisions to ensure that permitted activities do not lead to violations of a water quality standard. This makes sense; states are best situated to determine whether a federally permitted activity will fully protect designated uses because states comprehensively manage water quality and water quantity within their borders.

For nearly 50 years, states have used Section 401 authority to review the water quality impact of federal licenses and permits, impose water quality conditions where necessary, and, in rare cases, withhold water quality certification entirely. States recognize that regulated entities depend on efficient and timely responses to certification requests, but states sometimes face challenges in issuing these responses. One

source of delay is resource limitations; funding for Section 401 programs has not grown at the same pace as the frequency and complexity of certification requests. But delays also frequently occur when state agencies lack proper access to the information they need to evaluate resource impacts and guarantee compliance with state water quality standards. Federal agencies and permit applicants can also cause delays when they do not adequately engage states during the scoping phase of infrastructure projects. Meaningful early engagement gives states a chance to raise water quality concerns about projects during the planning process, and gives federal agencies and private parties a chance to address those concerns in ways that facilitate the certification process. Early engagement also ensures that states have timely access to the information they need to make informed certification decisions.

In recent years, states, regulated communities, and others have also raised concerns about the ways in which the Section 401certification process has been used in the context of certain energy related development projects. While these concerns are recognized, to be fair, it should also be recognized that states only rarely deny permit certifications. Congress should exercise caution when considering proposals to altering its scope or substance. Any alteration of Section 401should be done with great care and caution to avoid unintended consequences for states, and done in such a manner that preserves states' rights to use Section 401 authority to protect their waters from the impact of a wide range of federal permitting decisions, including:

- Clean Water Act Section 404 permits for discharge of dredged or fill material
- FERC licenses for hydropower
- Permits issued under sections 9 and 10 of the Rivers and Harbors Act
- National Pollutant Discharge Elimination System (NPDES) permits in states where U.S. EPA administers the permitting program and
- Licenses from the Nuclear Regulatory Commission.

As Congress considers legislation that would modify the certification process, we ask that it work with ECOS and the states to ensure that any changes respect principles of cooperative federalism.

If you would like to discuss this further, please feel free to contact us. Thank you for your attention.

Sincerely,

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FOR IMMEDIATE RELEASE
August 1, 2018
Contact Toby Mack (202) 870-7715
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Reform Legislation Will Prevent Pipeline Permitting Abuse by States

Legislation will make it harder for states to slow or stop pipeline projects by abusing the water quality permitting process

Washington, DC – The Energy Builders coalition on Tuesday announced its support for legislation just introduced in the U. S. Senate that will make it harder for states to abuse the water quality permitting process to slow or stop pipeline projects based on unrelated political or ideological grounds.

The Water Quality Certification Improvement Act of 2018 clarifies the Federal Water Pollution Control Act to ensure that state water quality permitting reviews of a proposed project are limited to direct water quality impacts of that project, and that decisions to grant or deny a permit must be made based on water quality reasons only.

The measure was introduced by four energy state Senators led by John Barrasso (R-WY), chairman of the Senate Committee on Environment and Public Works, along with Shelley Moore Capito (R-WV), Jim Inhofe (R-OK), and Steve Daines (R-MT). In a Committee release, Senator Inhofe said "States hostile to fossil fuels have been taking advantage of loopholes in the Clean Water Act 401 certification process to block projects they simply don't like, circumventing the needs and interests of other states and communities. There is no better example of that than how the Northeast corridor is forced to import LNG from Russia because they lack the pipeline infrastructure to transport natural gas produced in America."

Committee Chairman Barrasso added, "The water quality certification process is being abused by a few states in order to delay important projects. The state of New York has taken similar steps to slow the construction of natural gas pipelines. This kind of obstruction is about politics, not water quality. This legislation returns the process to what it was originally designed for – protecting America's water."

Toby Mack, President of the Energy Equipment and Infrastructure Alliance, announced that EEIA and its Energy Builders coalition have made passage of the bill a top legislative priority for the current session of Congress. In announcing EEIA's support, Mack stated that "America's energy infrastructure workers and the businesses that build and support pipeline projects have too often seen their jobs and investments threatened by states whose leaders are simply opposed to building needed energy infrastructure. These projects must be built to deliver reliable and affordable energy to their own citizens and those in surrounding states that would be served by proposed pipelines."

# # #

EEIA's Energy Builders coalition consists of companies and trade organizations of businesses and workers that build and provide equipment, supplies and services for pipeline projects.

DONALD F. SANTA
PRESIDENT & CEO

September 20, 2018

The Honorable John Barrasso
Chairman
Committee on Environment and Public Works
United States Senate
Washington, DC 20510

Re: Hearing to Examine Implementation of Clean Water Act Section 401 and S. 3303, the Water Quality Certification Improvement Act of 2018

Dear Chairman Barrasso:

On behalf of the Interstate Natural Gas Association of America (INGAA), thank you for your efforts to bring clarity to section 401 of the Clean Water Act through both your legislation and the committee hearing process.

Section 401 is being used by those who oppose energy infrastructure development as a tool to disrupt or delay projects, sometimes using justifications unrelated to water quality. S. 3303, the Water Quality Certification Improvement Act of 2018, would restore the cooperative federalism intended by Congress by providing much-needed clarity on the appropriate federal and state roles under section 401. The section 401 process also can be improved by means of administrative reforms that can be implemented by the Environmental Protection Agency (EPA). We appreciate Acting Administrator Wheeler's commitment to work with you in achieving these reforms.[1]

The testimony provided to the Environment and Public Works Committee during the August 16, 2018, legislative hearing on S. 3303 identified many of the challenges associated with section 401. Still, this testimony did not highlight one of the primary sources of confusion in implementing section 401, that being EPA's Interim 2010 handbook.[2] This EPA guidance document, which was never finalized, conflicts directly with both the statute and recent case law from the U.S. Courts of Appeals for the D.C. Circuit and the Second Circuit.[3] Despite this, some agencies implementing the section 401 process consider the interim handbook to be authoritative. This inconsistency warrants examination as part of your committee's oversight of the section 401 process.

---

[1] Senate Committee on Environment and Public Works, Examining EPA's Agenda: Protecting the Environment and Allowing America's Economy to Grow, August 1, 2018.

[2] Clean Water Act Section 401 Water Quality Certification: A Water Quality Protection Tool for States and Tribes, April 2010, https://www.epa.gov/sites/production/files/2016-11/documents/cwa_401_handbook_2010.pdf.

[3] *See New York State Department of Environmental Conservation v. FERC*, 884 F.3d 450 (2018); *Millennium Pipeline Co. v. Seggos*, 860 F.3d 696 (2017).

INGAA appreciates your attention to this important issue. We request that this letter be submitted to the record for the August 16 legislative hearing on S. 3303.

Respectfully,

Donald F. Santa

The Honorable Robert J. Bryan

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON

LIGHTHOUSE RESOURCES INC.; LIGHTHOUSE PRODUCTS, LLC; LHR INFRASTRUCTURE, LLC; LHR COAL, LLC; and MILLENNIUM BULK TERMINALS-LONGVIEW, LLC, Plaintiffs, v. JAY INSLEE, in his official capacity as Governor of the State of Washington; MAIA BELLON, in her official capacity as Director of the Washington Department of Ecology; and HILARY S. FRANZ, in her official capacity as Commissioner of Public Lands, Defendants.	NO. 3:18-cv-5005-RJB BRIEF OF THE NATIONAL MINING ASSOCIATION, NATIONAL ASSOCIATION OF MANUFACTURERS, AMERICAN FARM BUREAU FEDERATION, AND AMERICAN FUEL & PETROCHEMICAL MANUFACTURERS AS *AMICI CURIAE* IN OPPOSITION TO DEFENDANTS' MOTION FOR PARTIAL DISMISSAL AND ABSTENSION

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TABLE OF CONTENTS

Table of Authorities ii

Interest of the *Amici Curiae* 1

Introduction 2

Argument 3

I. State Interference With Foreign Trade Undermines a Uniform Foreign Policy and Is Harmful to the National Economy. 3

A. Trade Plays an Important Role in America's Foreign Policy. 3

B. State Interference Impedes Federal Efforts to Establish and Implement Foreign Trade Policy. 5

II. Vigorous Enforcement of the Commerce Clause Is Essential to the Executive's Exclusive Foreign Policy Prerogatives. 6

A. The Foreign Commerce Clause Prohibits States From Impairing Federal Policy Uniformity in Foreign Commerce, or Imposing Burdens on Foreign Commerce That Outweigh Any Local Benefit. 6

B. Defendants' Conduct Violates These Principles. 8

1. Defendants' Actions Interfere With the Uniformity of Federal Policy. 9

2. Defendants' Actions Impose Burdens That Far Outweigh Any Local Benefits. 10

III. Dismissing the Case Would Give States a Green Light to Interfere With Foreign Trade Policy in Other Contexts. 13

Conclusion 15

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TABLE OF AUTHORITIES

Cases

Barclays Bank PLC v. Franchise Tax Bd. of Cal.,
512 U.S. 298 (1994) 7

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289 U.S. 48 (1933) 6

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553 U.S. 328 (2008) 11

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927 F.2d 616 (D.C. Cir. 1991) 11

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505 U.S. 71 (1992) 7, 8

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550 U.S. 330 (2007) 10

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Statutes, Rules and Regulations

33 U.S.C. § 1251(b) 11

33 U.S.C. § 1341 11

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INTEREST OF THE *AMICI CURIAE*

The National Mining Association (NMA) is a national trade association whose members produce most of America's coal, metals, and industrial and agricultural minerals. Its membership also includes manufacturers of mining and mineral processing machinery and supplies, transporters, financial and engineering firms, and other businesses involved in the nation's mining industries.

The National Association of Manufacturers (NAM) is the largest manufacturing association in the United States, representing small and large manufacturers in every industrial sector and in all 50 states. Manufacturing employs more than 12 million men and women, contributes $2.25 trillion to the U.S. economy annually, has the largest economic impact of any major sector and accounts for more than three-quarters of all private-sector research and development in the nation. The NAM is the voice of the manufacturing community and the leading advocate for a policy agenda that helps manufacturers compete in the global economy and create jobs across the United States.

The American Farm Bureau Federation (AFBF) is a voluntary general farm organization formed in 1919 to protect, promote, and represent the business, economic, social, and educational interests of American farmers and ranchers. It is headquartered in the District of Columbia. Through its state and county Farm Bureau organizations, AFBF represents about 6 million member families in all 50 states and Puerto Rico.

The American Fuel & Petrochemical Manufacturers (AFPM) is a national trade association whose members comprise virtually all U.S. refining and petrochemical manufacturing capacity. AFPM's members supply consumers with a wide variety of products that are used daily in homes and businesses. They also rely on a secure, uninterrupted, and plentiful supply of raw materials to produce products that are consumed both here and abroad.

Amici have a significant interest in this case because Washington's actions to block construction of a new coal export facility at the Millennium Bulk Terminal threaten the United

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States' energy economy and will set a harmful precedent that encourages other states to interfere with national trade policy that they oppose, in violation of the Constitution's command that the federal government be the sole representative of the nation in trade and foreign affairs. Denial of relief would, moreover, open the floodgates to local obstruction of national foreign policy initiatives with which coastal states disagree.[1]

INTRODUCTION

Defendants in this case—local policymakers in the State of Washington—have steadfastly refused to allow construction of a coal export facility at the Millennium Bulk Terminal at the Port of Longview. They have done so not to protect legitimate local interests, but because they oppose the use of coal as an energy source throughout the world. There is nothing local about it. Their avowed goal is, in other words, to inhibit the exportation of American coal and to slow its consumption in global markets.

In attempting to control American foreign policy in this way, Defendants have overstepped the constitutional limitations on their authority. The Constitution allocates exclusive authority over international trade to the federal government alone. And it does so for good reason: International trade not only impacts the economy of the entire nation, but it is a critical tool—both a carrot and stick—in the executive's dealings with foreign allies and adversaries alike. The common-sense corollary of the Constitution's allocation of exclusive authority to the federal government over foreign commerce, moreover, is its denial of that authority to the states, which may not regulate in ways that either interfere with the uniformity of federal policy regarding foreign trade or impose burdens on foreign trade that outweigh local benefits.

Defendants' actions here violate both of those proscriptions. *First*, their attempts to block construction of a major export facility have undeniably undermined the uniformity of federal trade policy, which is to encourage the export of coal, both for the benefit of American producers

[1] No counsel for a party authored this brief in whole or in part, and no person other than the *amici curiae*, their members, or their counsel contributed money that was intended to fund the preparation or submission of this brief.

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(who rely on exports for billions of dollars in job-creating income) and of the United States' allies in Asia (who rely on American exports as a critical source of energy). *Second*, Defendants' actions fail the Commerce Clause's so-called *Pike* balancing test because there is no appreciable local benefit of their conduct. Rather, defendants are overtly promoting their own, preferred international-level environmental policy interests in preventing the use of coal for energy.

This Court should deny the pending motion and enjoin Defendants' attempts to obstruct the federal government's policy of encouraging energy exports. To do otherwise would be an invitation to states across the country to begin legislating their own foreign policy, in flat contradiction of the Framers' plans and Supreme Court's teachings and disrupting national and international trade policies of all sorts.

ARGUMENT

I. State Interference With Foreign Trade Undermines a Uniform Foreign Policy and Is Harmful to the National Economy.

A. Trade Plays an Important Role in America's Foreign Policy.

International trade is the lifeblood of the American economy. As the world's largest exporter and importer of goods and services (*see* Office of the U.S. Trade Rep., *Benefits of Trade*, perma.cc/4UP6-TUW7), the United States depends on trade relationships and trade facilities to help American goods find their ways to buyers around the world and to bring critical resources and investment to the United States. As of 2013, America's exports of goods supported nearly 5,600 jobs per $1 billion exported, including an estimated 25% of all manufacturing jobs. *Id.* These benefits enrich Americans in every industry across the country.

The United States' abundant energy resources are critical to the country's export trade. Energy exports have accounted for a "substantial part" of U.S. economic growth in recent years, contributing approximately 10% of the nation's annual real GDP growth from 2006 to 2013. *See* Craig S. Hakkio & Jun Nie, Fed. Reserve Bank of Kansas City, *Implications of Recent U.S. Energy Trends for Trade Forecasts* 5, perma.cc/V3FC-24W8; Bureau of Econ. Analysis, *Gross Domestic Product: Percent change from preceding period*, perma.cc/8WJR-MBYZ. American

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energy exports have been fueled in no small part by a growth in coal exports, which grew by 68% between 2016 and 2017 alone. *See* U.S. Energy Information Admin., *U.S. Coal Exports*, perma.cc/E4GA-KTKG. For every million short tons of U.S. coal exported, an estimated 1,320 jobs are created, and expenditures on downstream transportation services related to coal exports supported another 8,850 jobs at transportation companies in 2011. Ernst & Young, *U.S. Coal Exports: National and State Economic Contributions* at i-ii (May 2013), perma.cc/6VE6-AKPL.

It is no surprise, therefore, that the proposed coal export facility at the Millennium Bulk Terminal would be a substantial economic boon to several states and, indirectly, to the rest of the country. The increased coal exports made possible by the new facility would generate more than one hundred million dollars in tax revenue for Washington State and its localities (Compl. ¶ 73); millions of dollars in new revenue for Montana and Wyoming (*id.* ¶¶ 76-77); and support thousands of jobs in those states and around the country (*id.* ¶¶ 72, 75). Benefits such as these are the reason why Congress has made it a national priority for more than two decades to increase exports of American-mined coal and directed the Commerce Department to prepare plans for encouraging these exports. *See* 42 U.S.C. § 13367(a).

In addition to its economic benefits, America's international trade is also an essential foreign policy tool for the United States to advance its interests around the world. By providing economic assistance to our allies, while denying it to our adversaries, the United States can strengthen the community of democratic nations economically and foster ties of cooperation and respect between those nations and the United States.

The current administration has made energy exports a key foreign policy focus. The administration's efforts have been particularly significant in the coal sector, where the Department of the Interior has moved to facilitate more leases of federal land for coal development (*see Concerning the Federal Coal Moratorium*, Order No. 3348 (Mar. 29, 2017), perma.cc/HZW5-3RYU), with the express goal of "assist[ing] our allies with their energy needs." Press Release, U.S. Dep't of Interior, Secretary Zinke Takes Immediate Action to

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Advance American Energy Independence (Mar. 29, 2017), perma.cc/F5NH-PK6L *See also* Compl. ¶¶ 192-205. These energy exports are critically needed in Asia, where allies such as Japan and South Korea have strong demand for American energy. *See, e.g.*, Qinnan Zhou, *The U.S. Energy Pivot: A New Era for Energy Security in Asia?*, Woodrow Wilson Int't Center for Scholars New Security Beat, Mar. 26, 2015, perma.cc/5CXZ-LNKT. And in order to reach Asian markets, coal producers must have access to export facilities on the West Coast—which is why the administration's current National Security Strategy states that it is critical for the United States to give "continued support of private sector development of coastal terminals" for energy exports. Office of the President, *National Security Strategy of the United States of America* 23 (Dec. 2017), perma.cc/QLU5-WR4J.

Yet the implications of Defendants' conduct reach far beyond the energy industry. Numerous other American industries rely on foreign trade—including agriculture, which has posted an annual trade surplus for over 50 years and contributed more than $138 billion to American exports in 2017 (*see* Office of the U.S. Trade Rep., *2018 Fact Sheet: USTR Success Stories: Opening Markets for U.S. Agricultural Exports*, perma.cc/G8WF-U8DY); and the manufacturing sector, which produced $1.2 trillion in exports in 2016 (*see* Nat'l Ass'n of Mfrs., *United States Manufacturing Facts* 2, perma.cc/U8AV-NGVT). Each of these trade-reliant industries makes critical contributions to the American economy and to relationships with America's trading partners, and the United States has a strong interest in ensuring that exports in these sectors remain strong.

B. State Interference Impedes Federal Efforts to Establish and Implement Foreign Trade Policy.

Against this backdrop, it is not difficult to see how and why interference like Defendants' undermines the federal government's plenary control over the nation's trade policy.

"Foreign commerce," as the Supreme Court has repeatedly recognized, "is pre-eminently a matter of national concern." *Japan Line, Ltd. v. Los Angeles Cty.*, 441 U.S. 434, 448 (1979). "In international relations and with respect to foreign intercourse and trade, the people of the

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United States act through a single government with unified and adequate national power." *Bd. of Trustees v. United States*, 289 U.S. 48, 59 (1933). The rationale for this approach is self-evident: The federal government, which comprises members from every state and an executive elected by the nation as a whole, is best positioned to balance the interests of different states and regions and to balance domestic goals with foreign policy objectives. The Constitution's design reflects this clear preference for federal policymaking in the realm of foreign trade. And while it grants Congress power to regulate *both* domestic *and* foreign commerce, "there is evidence that the Founders intended the scope of the foreign commerce power to be the greater" of the two. *Japan Line*, 441 U.S. at 448 & n.12 (collecting authorities).

Yet it would be impossible for the federal government to speak with one voice on behalf of the nation in foreign affairs and international trade if individual states could adopt their own policies that contradict or otherwise interfere with federal policy. When states attempt to influence international affairs through their own regulatory efforts and pursuing their own local agendas, they at best create legal uncertainty and burdens for international partners. At worst, they frustrate the federal government's efforts to implement its foreign policy altogether—just as the state of Washington has sought here to do.

II. Vigorous Enforcement of the Commerce Clause Is Essential to the Executive's Exclusive Foreign Policy Prerogatives.

To prevent states from interfering with federal trade policy, the Commerce Clause (which entrusts Congress with power to regulate foreign and interstate trade) has been held to preclude state regulation that discriminates against or burdens foreign commerce. Washington's actions, which run afoul of that prohibition, demonstrate the importance of vigorous enforcement of the Constitution's exclusive commitment of the foreign commerce power to the federal government.

A. The Foreign Commerce Clause Prohibits States From Impairing Federal Policy Uniformity in Foreign Commerce, or Imposing Burdens on Foreign Commerce That Outweigh Any Local Benefit.

The Supreme Court has "held on countless occasions that, even in the absence of specific action taken by the Federal Government to disapprove of state regulation implicating interstate

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or foreign commerce, state regulation that is contrary to the constitutional principle of ensuring that the conduct of individual States does not work to the detriment of the Nation as a whole, and thus ultimately to all of the States, may be invalid under the unexercised Commerce Clause." *Wardair Canada, Inc. v. Fla. Dep't of Revenue*, 477 U.S. 1, 7-8 (1986).

In its domestic-trade dormant Commerce Clause cases, "[t]he Supreme Court 'has adopted . . . a two-tiered approach to analyzing state economic regulations under the Commerce Clause.'" *Pharm. Research & Mfrs. of Am. v. Cty. of Alameda*, 768 F.3d 1037, 1039-40 (9th Cir. 2014) (quoting *Brown–Forman Distillers Corp. v. N.Y. State Liquor Auth.*, 476 U.S. 573, 578-79 (1986)). First, when a state law discriminates against interstate or foreign commerce by treating in-state or in-country economic interests better than out-of-state or out-of-country economic interests, the law "is virtually *per se* invalid." *Or. Waste Sys., Inc. v. Dep't of Envtl. Quality*, 511 U.S. 93, 99 (1994). Second, when a state law "regulates evenhandedly" with only "incidental effects" on interstate or foreign commerce, the law is invalid only if "the burden imposed on such commerce is clearly excessive in relation to the putative local benefits." *Id.* (quotations omitted).

Courts often rely on this general framework to resolve dormant Commerce Clause cases involving international trade as well. *See, e.g.*, *Kraft Gen. Foods, Inc. v. Iowa Dep't of Revenue & Fin.*, 505 U.S. 71, 81-82 (1992) (relying on interstate Commerce Clause decisions). However, it is well understood that the prohibitory power of the Commerce Clause is especially strong in the context of foreign commerce, with respect to which "a State's power is further constrained because of the special need for federal uniformity." *Barclays Bank PLC v. Franchise Tax Bd. of Cal.*, 512 U.S. 298, 311 (1994) (internal quotation marks omitted). Thus, "the constitutional prohibition" against state regulation of foreign commerce is even "broader than the protection afforded to interstate commerce" because "matters of concern to the entire Nation are implicated." *Kraft Gen. Foods*, 505 U.S. at 79; *accord, e.g.*, *Piazza's Seafood World, LLC v. Odom*,

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448 F.3d 744, 749 (5th Cir. 2006) ("[T]he scope of Congress's power to regulate foreign commerce, and accordingly the limit on the power of the states in that area, is greater").

For these reasons, and in light of the importance of uniform federal regulation in the area of foreign affairs, "a more extensive constitutional inquiry is required" to decide a dormant Commerce Clause challenge involving foreign commerce. *Japan Line*, 441 U.S. at 446. As the Ninth Circuit has put it, "when state regulations affect foreign commerce, additional scrutiny is necessary to determine whether the regulations 'may impair uniformity in an area where federal uniformity is essential,' or may implicate 'matters of concern to the whole nation . . . such as the potential for international retaliation.'" *Pac. Nw. Venison Producers v. Smitch*, 20 F.3d 1008, 1014 (9th Cir. 1994) (quoting *Japan Line*, 441 U.S. at 448, and *Kraft Gen. Foods*, 505 U.S. at 79). *Accord, e.g.*, LAURENCE H. TRIBE, AMERICAN CONSTITUTIONAL LAW § 6-21, at 469 (2d ed. 1988) ("If state action touching foreign commerce is to be allowed, it must be shown not to affect national concerns to any significant degree, a far more difficult task than in the case of interstate commerce.").

According to this more demanding standard, a court must ask additionally whether a state law regulating foreign commerce threatens to "impair federal uniformity in an area where federal uniformity is essential." *Japan Line*, 441 U.S. at 448. Such laws "are invalid 'if they (1) create a substantial risk of conflicts with foreign governments; or (2) undermine the ability of the federal government to speak with one voice in regulating commercial affairs with foreign states.'" *Piazza's Seafood World*, 448 F.3d at 750. That is so regardless of local benefit. *Kraft Gen. Foods*, 505 U.S. at 79.

B. Defendants' Conduct Violates These Principles.

The burden on foreign commerce from Washington's attempts to block development of the coal export facility at the Millennium Bulk Terminal far outweighs any benefit to the state. But the Court need not engage in any weighing of burdens and benefits because the resulting

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disruption of the uniform federal policy in favor of exporting American energy is an amply sufficient basis for finding a Foreign Commerce Clause violation here.

1. Defendants' Actions Interfere With the Uniformity of Federal Policy.

The question whether the United States should export coal—or any other good or commodity—and in what amounts, is one that squarely falls within the purview of the federal government. *Japan Line*, 441 U.S. at 448. As described above (at 3-5), the federal government has taken the initiative to set policy for the nation in this area, by prioritizing energy exports in general, and coal exports in particular, as key to the economic prosperity and national security of both the United States and its allies in Asia.

Washington's actions regarding the coal export facility at the Millennium Bulk Terminal threaten to undermine this uniform federal policy. Geography dictates that, in order to export coal to Asia from Montana and Wyoming (or, indeed, most anywhere in the United States), a coal producer must have access to export facilities on the West Coast, including in Washington. But Washington has sought to block development of any such facility in its jurisdiction—and worse, it has coordinated with other West Coast states to bring them along in this scheme, effectively closing the nation's west coast to the exportation of coal. *See* Compl. ¶¶ 100-16. If these efforts are successful, it will frustrate US energy and trade policy by restricting the ability to export coal to Asia. If allowed to stand, Washington's conduct will effectively have set the coal exportation policy for the entire Nation.

This kind of direct interference with an express federal policy unquestionably violates *Japan Line*'s "one voice" requirement. State laws have been held to violate the Commerce Clause where they merely articulated a foreign policy that tangentially diverged from the federal government's. *See, e.g., Nat'l Foreign Trade Council v. Natsios*, 181 F.3d 38, 68 (1st Cir. 1999) (Massachusetts law restricting state's ability to transact with companies doing business in Burma prevented the federal government from speaking with one voice). If such laws are unconstitu-

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tional, *a fortiori* Washington's overt attempt to undermine the federal government's export policy is as well.

2. Defendants' Actions Impose Burdens That Far Outweigh Any Local Benefits.

Even under the more permissive *Pike* balancing test that applies to state actions under the domestic Commerce Clause analysis, Washington's attempt to block development of Plaintiffs' coal export facility is unconstitutional. *See, e.g.*, *United Haulers Ass'n, Inc.* v. *Oneida-Herkimer Solid Waste Mgmt. Auth.*, 550 U.S. 330, 346 (2007). Whatever benefit accrues to Washington from denying these benefits is slight, and the cost to the rest of the country is massive.

Washington's refusal to permit the development of the export facility at the Millennium Bulk Terminal is blocking as much as $2.5 *billion* per year in coal trade—an amount that could provide significant benefits to the American economy and put a sizable dent in America's trade deficits with Asian nations. Compl. ¶ 78. This commerce would also provide substantial benefits to the economies of the states where the coal is produced—supporting local jobs and services in these states and communities. *Id.* ¶¶ 75-77. There currently is insufficient port capacity on the West Coast to allow export of sufficient coal to meet our Asian allies' demands. The proposed terminal would add capacity and open a vastly larger volume of commerce. But Washington is unilaterally blocking this development, imposing an enormous burden on foreign trade. In this way, Defendants are leveraging Washington's position on the coast to set energy and trade policy for the entire nation.[2]

Defendants would have to establish overwhelming local benefits to overcome the enormous costs of this interference on the national economy and withstand Plaintiffs' Commerce Clause challenge—and they plainly cannot. Indeed, development of the export facility would *benefit* Washington economically, producing substantial new tax revenues for the state and creating a significant number of new jobs and infrastructure opportunities in Cowlitz County,

[2] This impact on coal and energy trade, moreover, is just the tip of the iceberg, as a decision upholding Washington's actions would permit it to restrict other exports as well.

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where the facility would be located. Compl. ¶¶ 72-74. Defendants' willingness to forgo these benefits and block development of the terminal lays bare their true motivation, which is an ideological opposition to coal exports in general, not a desire to benefit Washington specifically.

To be sure, some of Defendants' actions rested on purported environmental concerns about the project. But none of the environmental concerns raised had anything to do with *Washington*'s environment or natural resources; rather, they concerned the projected *global* effects of consuming the coal that would be exported through the Millennium Bulk Terminal facility. *See, e.g.*, Compl. ¶ 124. Those concerns cannot satisfy the Commerce Clause inquiry, which looks only to "the benefits of a state or local practice," not to a state's desire to regulate national or international matters. *See, e.g.*, *Dep't of Revenue of Ky. v. Davis*, 553 U.S. 328, 353 (2008).

Defendants' rationale underlying the denial of a certification under Section 401 of the Clean Water Act (33 U.S.C. § 1341) exemplifies the lack of local interests at stake here and—if allowed to stand—would pave the way for all kinds of obstructive conduct in violation of the Commerce Clause. Through the Clean Water Act, Congress sought to "recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate [water] pollution" (33 U.S.C. § 1251(b)), and Section 401 was "[o]ne of the primary mechanisms" by which it set out to achieve that goal. *Keating v. FERC*, 927 F.2d 616, 622 (D.C. Cir. 1991). Congress's intent in Section 401 was "to give the states veto power over the grant of federal permit authority for activities potentially *affecting a state's water quality*" (*United States v. Marathon Dev. Corp.*, 867 F.2d 96, 99-100 (1st Cir. 1989) (emphasis added)), preserving their role as the "prime bulwark in the effort to abate water pollution." *See United States v. Puerto Rico*, 721 F.2d 832, 838 (1st Cir.1983).

Under Section 401, an applicant for a Section 404 discharge permit must obtain a certification from the State that the proposed discharge will comply with the applicable water quality standards under the Act. 33 U.S.C. § 1341(a). Here, however, the denial of plaintiffs'

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application for certification for the coal export facility had nothing to do with the water quality provisions of the Act, or indeed with water quality issues at all. Nor could it have. The environmental impact statement for the project prepared pursuant to Washington's State Environmental Policy Act ("SEPA") found that there would *not* be any adverse effects on water quality from the facility. Compl. ¶ 164. Instead, the denial rested on out-of-state environmental impacts from transporting the coal before and after export. This use of the Section 401 process to pursue interests that have nothing to do with water quality demonstrates that Defendants were not pursuing any putative "local benefit" when they blocked development of the export facility.

Perhaps more importantly, the implications of allowing states to hijack Section 401 for purposes unrelated to water quality would be disruptive to numerous sectors of the economy. If Washington can prohibit the export of coal by way of Section 401 permitting, states all across the country could similarly restrict domestic and foreign trade. After all, the mining industry is not the only industry that depends upon state certifications under Section 401 in order to do business. Recent years have seen an "immense expansion of federal regulation of land use" under the Clean Water Act, with the relevant agencies asserting federal jurisdiction over "virtually any parcel of land containing a channel or conduit—whether man-made or natural, broad or narrow, permanent or ephemeral—through which rainwater or drainage may occasionally or intermittently flow." *See Rapanos v. United States*, 547 U.S. 715, 722 (2006) (plurality opinion). Section 401 state certifications have accordingly become necessary for significant numbers of real estate, infrastructure, and agricultural projects. Indeed, in many states, Section 404 and 401 approvals are broadly required for any project that may involve "dredg[ing], fill[ing] or otherwise alter[ing] the bed or banks of any stream, lake, wetland, floodplain or floodway"—which describes the vast majority of agricultural projects. *See* U.S. Army Corps of Eng'rs, *Permit Requirements for the State of Illinois* 1, perma.cc/6T6W-E5YM.

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This kind of political gamesmanship is not what Congress contemplated when it granted states the authority to review proposed projects for water quality issues in Section 401.[3]

It also bears emphasis that Defendants have treated the Millennium Bulk Terminal facility differently from other port development projects proposed during the same time period. Plaintiffs allege that Washington supported development of several other export facilities in the state and that the only salient difference between those facilities and the proposed coal export facility is that the latter involves coal and the others did not. Compl. ¶¶ 138-48. Defendants therefore cannot deny that their true intent—and the actual effect of their conduct—is to unilaterally manipulate U.S. energy policy and foreign trade practices rather than to regulate Washington's environment. The Commerce Clause cannot abide that kind of preferential treatment with respect to foreign trade.

III. Dismissing the Case Would Give States a Green Light to Interfere With Foreign Trade Policy in Other Contexts.

As discussed above, there is more at stake here than just the export of coal to Asia, although that alone is a serious enough issue to warrant relief.

In light of the widespread polarization of the American electorate, many state governments themselves have assumed polarized political characters. Whereas the bodies politic and state governments in California, Oregon, Maryland, and New Mexico are known to lean strongly in favor of liberal foreign policy and trade policy, for example, those in states like South Carolina, Texas, Montana, and Alaska are known to lean strongly in the other direction. *See* Jeffrey M. Jones, Gallup, *Red States Outnumber Blue for First Time in Gallup Tracking* (Feb. 3, 2016), perma.cc/K35X-BBKE; Shanto Iyengar, Gaurav Sood & Yphtach Lelkes, *Affect, Not*

[3] Declining to invalidate Defendants' conduct here would have implications beyond offense to the dormant Commerce Clause. If a state with an ideological axe to grind can use a Section 401 certification to upend federal control over foreign affairs, so too can it use Section 401 certifications to interfere with *any* conduct by *any* industry it disapproves of. States whose officials disapprove of certain farming operations might use Section 401 to block construction of animal feedlots or other agricultural operations. Likewise, state officials who disapprove of infrastructure development or large-scale factories might deny Section 401 certification to new projects when they are proposed on lands subject to the Clean Water Act.

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Ideology: A Social Identity Perspective on Polarization, 76 Pub. Opinion Q. 405, 412-15 (2012); Alan I. Abramowitz & Steven Webster, *The Rise of Negative Partisanship and the Nationalization of U.S. Elections in the 21st Century*, 41 Electoral Stud. 12 (2016).

Each of these states controls, to some degree, American export trade with our foreign allies, including Mexico and Canada and those in Asia and Europe. If the Court allows Defendants' obstructionist conduct in this case to stand, it will serve as an open invitation to states like these to use their geographic leverage over international trade to obstruct any administration with whose policies they disagree. This is not a one-way ratchet; just as Republican administrations can expect obstruction from Democratic-leaning states, Democratic administrations can expect obstruction from Republican-leaning states.

The results would be disastrous for American foreign trade policy and a clear offense to the nation's federalist scheme. California could deny port access and refuse to permit new port facilities for agricultural exports if it disagrees with the manner in which livestock are raised. *Cf. Missouri v. California*, No. 22-O-148 (S. Ct. filed Dec. 7, 2017) (Missouri has sued California, challenging California's efforts to limit the sale of non-cage-free eggs within California). Conversely, South Carolina could refuse port access or to permit new port facilities for handing exports of manufactured goods if it disagrees with liberal immigration policies that ensure sufficient labor supply needed to make those goods. *Cf. United States v. California*, No. 18-cv-490 (E.D. Cal. filed Mar. 6, 2018) (United States' suit against California concerning immigration policy). And because virtually all international trade is bilateral, these states likewise could attempt to obstruct the importation of such goods from our foreign allies based on other policy objections. Worse still, states like Texas, New Mexico, and Montana could attempt to override in practice the prevailing administration's uniform federal policies concerning free trade (or not) with Mexico and Canada.

It was precisely to prevent such intrastate meddling in foreign trade policy that the Framers of the Constitution saw fit to allocate exclusive authority over international trade and

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foreign policy to the federal government. Washington's conduct in this case is inconsistent with that constitutional framework. In this case, it is coal; in the next case, it could be agriculture or manufactured goods. This Court should not tolerate Defendants' efforts to assume for themselves the unilateral power to set aside the federal government's judgments with respect to international trade in coal resources, just as it should not tolerate similar conduct in related contexts.

CONCLUSION

The Court should deny defendants' motion for partial dismissal and abstention.

DATED this 3rd day of May, 2018.

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CERTIFICATE OF SERVICE

The undersigned attorney certifies that on the 3rd day of May, 2018, I electronically filed the foregoing with the Clerk of the Court using the CM/ECF system which will send notification of such filing to all counsel on record in the matter.

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MILLENNIUM BULK TERMINALS—LONGVIEW SEPA ENVIRONMENTAL IMPACT STATEMENT

SEPA GREENHOUSE GAS EMISSIONS TECHNICAL REPORT

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Contents

List of Tables iii
List of Figures vi
List of Acronyms and Abbreviations vii

Chapter 1 **Introduction** **1-1**
1.1 Project Description 1-1
1.1.1 Proposed Action 1-1
1.1.2 No-Action Alternative 1-5
1.2 Regulatory Setting 1-5
1.3 Study Area 1-7

Chapter 2 **Existing Conditions** **2-1**
2.1 Greenhouse Effect 2-1
2.2 Methods 2-4
2.2.1 Data Sources 2-4
2.2.2 Impact Analysis 2-5
2.3 Existing Conditions 2-51
2.3.2 Cowlitz County 2-51
2.3.3 Washington State 2-52

Chapter 3 **Impacts** **3-1**
3.1 Proposed Action 3-1
3.1.1 Upland and Wetland Land-Cover Change 3-1
3.1.2 Dock Dredging During Terminal Construction and Operations—Sediment Carbon 3-2
3.1.3 Coal Extraction 3-2
3.1.4 Rail Transport 3-9
3.1.5 Vehicle-Crossing Delay 3-10
3.1.6 Coal Export Terminal Construction 3-11
3.1.7 Coal Export Terminal Operation—Equipment Operation 3-14
3.1.8 Coal Export Terminal Operation—Electricity Consumption 3-15
3.1.9 Employee Commuting 3-15
3.1.10 Vessel Idling and Tugboat Use at Coal Export Terminal 3-16
3.1.11 Helicopter and Pilot Boat Trips 3-16
3.1.12 Vessel Transport 3-17
3.1.13 Coal Combustion 3-18
3.1.14 Induced Natural Gas Consumption 3-19

3.1.15 Net Greenhouse Gas Emissions 3-20
3.2 No-Action Alternative 3-40
Chapter 4 **Supplementary Data** **4-1**
4.1 Interpolated Results from Coal Market Assessment 4-1
Chapter 5 **References** **5-1**
5.1 Written References 5-1
5.2 Personal Communications 5-6

Tables

Table 1. Regulations, Statutes, and Guidance for Greenhouse Gases 1-5
Table 2. Global Warming Potentials 2-3
Table 3. Scenarios in the Coal Market Assessment 2-13
Table 4. Upland Emission Factors 2-19
Table 5. Wetland Emission Factors 2-20
Table 6. Sediment Carbon Assumptions 2-21
Table 7. U.S. Mining Coal Extraction Factors 2-23
Table 8. International Underground and Surface Mining Coal Extraction Factors 2-26
Table 9. Mass of Coal Train Components 2-29
Table 10. Coal Supply Regions and Distances to Washington State 2-30
Table 11. Emission Factors from Rail Diesel Fuel 2-30
Table 12. Coal Types and Distances within Washington State beyond Cowlitz County 2-31
Table 13. Rail Distances Traveled within Cowlitz County 2-31
Table 14. Emission Factors for Locomotives 2-32
Table 15. Weighted Vehicle Fleet Mix for Cowlitz County, 2028 2-33
Table 16. Activity Data for Vehicle Delay in Cowlitz County, 2028 2-34
Table 17. Major Construction Activities and Typical Equipment Fleets 2-35
Table 18. Construction Equipment Activity Data and Emission Factors 2-36
Table 19. Barge Activity and Energy Use for Coal Export Terminal Construction 2-37
Table 20. Emission Factors for Construction Barges 2-37
Table 21. Terminal Material Mass and Emission Factors 2-38
Table 22. Coal Export Terminal Equipment and Emission Factors – Dredging Equipment 2-40
Table 23. Coal Export Terminal Equipment and Emission Factors – Mobile Combustion and Emergency Equipment 2-41
Table 24. Coal Export Terminal Equipment and Emission Factors – Maintenance Dredging 2-41
Table 25. Monthly and Annual Electricity Demand for Coal Export Terminal 2-42
Table 26. Average Fuel Mix and Fuel-Specific Emission Factor for the Cowlitz Public Utilities District Region 2-42
Table 27. Emission Factors for Idling Vessels and Tugboats 2-43
Table 28. Annual Helicopter and Pilot Boat Transfers per Vessel, 2028 2-44
Table 29. Helicopter and Pilot Boat Trips and Nautical Miles Travelled 2-44
Table 30. Helicopter Fuel Consumption 2-45

Table 31. Combustion Emissions for Aviation Gasoline 2-45
Table 32. Factors for Pilot Boat Fuel Consumption 2-45
Table 33. Combustion Emissions for Residual Fuel 2-46
Table 34. Emission Factors for Vessels in Transit 2-47
Table 35. Average Vessel Characteristics 2-47
Table 36. Auxiliary Engine and Boiler loads 2-48
Table 37. Vessel Emission Factors by Equipment Type 2-48
Table 38. Emission Factors by Vessel Type 2-48
Table 39. Net Change in Nautical Miles Traveled by Proposed Action-Related Vessels 2-49
Table 40. Heat Content and Carbon Coefficients for U.S. and Asian Reference Coals 2-50
Table 41. Current Vessel Transport Activities in the Project Area 2-51
Table 42. Vegetation Removal, Soil Disturbance, and Wetland Loss Emissions ($MtCO_2e$) 3-1
Table 43. Potential Loss of Sediment Carbon from Dock Dredging ($MtCO_2e$) 3-2
Table 44. Emissions from Coal Extraction ($MMTCO_2e$) 3-3
Table 45. Range of Coal Mine Methane Emission Factors for Coal Extraction 3-6
Table 46. Locomotive Emissions from Extraction Sites to Washington State ($MMTCO_2e$) 3-9
Table 47. Locomotive Emissions within Washington State (Excluding Cowlitz County) ($MMTCO_2e$) 3-10
Table 48. Locomotive Operation Emissions within Cowlitz County ($MMTCO_2e$) 3-10
Table 49. Vehicle-Crossing Delay Emissions from Fossil Fuel Combustion from Vehicles Idling within Cowlitz County ($MtCO_2e$) 3-11
Table 50. Coal Export Terminal Construction Emissions ($MtCO_2e$) 3-12
Table 51. Embedded Emissions in Construction Materials ($MtCO_2e$) 3-13
Table 52. Emissions from Dredging during Construction – Fuel Use ($MtCO_2e$) 3-14
Table 53. Coal Export Terminal Operation Emissions from Mobile Combustion ($MtCO_2e$) 3-14
Table 54. Dredging Emissions during Operations – Fuel Use ($MtCO_2e$) 3-15
Table 55. Coal Export Terminal Operation—Indirect Emissions from Electricity Consumption ($MtCO_2e$) 3-15
Table 56. Employee Commuting ($MtCO_2e$) 3-15
Table 57. Emissions from Vessel Idling and Tugboat Use at Coal Export Terminal ($MtCO_2e$) 3-16
Table 58. Emissions from Helicopter and Pilot Boat Trips for Pilot Transfers to Vessels ($MtCO_2e$) 3-16
Table 59. Emissions from Vessel Transport within Cowlitz County ($MMTCO_2e$) 3-17
Table 60. Emissions from Vessel Transport within Washington State (Excluding Transport within Cowlitz County) ($MMTCO_2e$) 3-17

Table 61. Net Emissions from Changes in International Vessel Transport to Asian Markets ($MMTCO_2e$) 3-18

Table 62. Net Emissions from Coal Combustion ($MMTCO_2e$) 3-19

Table 63. Net Emissions from Natural Gas Substitution in the United States ($MMTCO_2e$) 3-20

Table 64. Direct Emissions (Generated in Cowlitz County) for the Proposed Action ($MMTCO_2e$) 3-21

Table 65. Emissions Generated within Washington State, Excluding Cowlitz County ($MMTCO_2e$) 3-21

Table 66. Net (Direct and Indirect) Emissions for the Proposed Action Excluding Coal Extraction ($MMTCO_2e$) 3-22

Table 67. Net Emissions (Direct + Indirect) for the Proposed Action Including Coal Extraction ($MMTCO_2e$) 3-23

Table 68. Net Emissions (Direct and Indirect) Excluding Coal Extraction by Phase ($MMTCO_2e$) 3-36

Table 69. Net Emissions (Direct and Indirect) Including Coal Extraction by Phase ($MMTCO_2e$) 3-37

Table 70. No-Action Alternative Annual Average Emissions from Rail, Vessel, and Haul Trucks Operating within Cowlitz County ($MMTCO_2e$) 3-41

Table 71. Interpolated Coal Market Assessment Results, 2015 U.S. and International Energy Policy 4-2

Table 72. Interpolated Coal Market Assessment Results, Lower Bound 4-3

Table 73. Interpolated Coal Market Assessment Results, Upper Bound 4-4

Table 74. Interpolated Coal Market Assessment Results, No Clean Power Plan 4-5

Table 75. Interpolated Coal Market Assessment Results, Cumulative 4-6

Table 76. Coal Extraction by Region (Million Metric Tons) 4-7

Figures

Figure 1. Project Vicinity 1-3
Figure 2. Proposed Action 1-4
Figure 3. Model of the Natural Greenhouse Effect 2-2
Figure 4. Coal Export Stages and GHG Analysis Boundaries 2-6
Figure 5. Annual Coal Throughput, 2018-2038 2-17
Figure 6. Rail Transport of Coal to the Project Area 2-29
Figure 7. Net GHG Emissions from Coal Extraction by Country and U.S. Coal Basin for 2015 U.S. and International Energy Policy Scenario 3-4
Figure 8. Net GHG Emissions from Coal Extraction by Country and U.S. Coal Basin for No Clean Power Plan, Lower Bound, Upper Bound, and Cumulative Scenarios 3-5
Figure 9. Range of Net GHG Emissions from Coal Extraction for the 2015 Energy Policy Scenario 3-7
Figure 10. Range of Net GHG Emissions from Coal Extraction for the No CPP, Lower Bound, Upper Bound, and Cumulative Scenarios 3-8
Figure 11. Total Net Emissions for Each Scenario, Excluding Coal Extraction 2018-2038 ($MMTCO_2e$) 3-24
Figure 12. Total Net Emissions for Each Scenario, Including Coal Extraction 2018-2038 ($MMTCO_2e$) 3-25
Figure 13. No Clean Power Plan—Net Annual Emissions Excluding and Including Coal Extraction, 2018–2038 3-30
Figure 14. Lower Bound – Net Annual Emissions Excluding and Including Coal Extraction, 2018–2038 3-32
Figure 15. Upper Bound – Net Annual Emissions Excluding and Including Coal Extraction, 2018–2038 3-33
Figure 16. 2015 U.S. and International Energy Policy—Net Annual Emissions Excluding and Including Coal Extraction, 2018–2038 3-35
Figure 17. Cumulative Scenario—Net Annual Emissions, 2018–2038 3-40

Acronyms and Abbreviations

°F	degrees Fahrenheit
Applicant	Millennium Bulk Terminals—Longview, LLC
AR4	IPCC Fourth Assessment Report
BNSF	BNSF Railway Company
Btu	British thermal unit
Btu/lb	British thermal units per pound
CCC	Cowlitz County Code
CFR	Code of Federal Regulations
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
eGRID	Emissions & Generation Resource Integrated Database
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
FR	*Federal Register*
GHG	greenhouse gas
GMI	Global Methane Initiative
GREET	Greenhouse gases, Regulated Emissions and Energy use in Transportation Model
GWP	global warming potential
hp	horsepower
IPCC	Intergovernmental Panel on Climate Change
$kgCO_2e$	kilograms of carbon dioxide equivalent
$kgCO_2e/MWh$	kilograms of carbon dioxide equivalent per megawatt hour
$kgCO_2e/Mt$	kilograms of carbon dioxide equivalent per metric ton
kWh	kilowatt hour
LVSW	Longview Switching Company
MJ	megajoule
MMBtu	million British thermal units
$MMTCO_2e$	million metric tons of carbon dioxide equivalent
MOVES	MOtor Vehicle Emission Simulator
$MtCO_2e$	metric tons of carbon dioxide equivalent
MWh	megawatt hour
NEPA	National Environmental Policy Act
RCW	Revised Code of Washington
SEPA	Washington State Environmental Policy Act
UNFCC	United Nations Framework Convention on Climate Change
UP	Union Pacific Railway
USC	United States Code
WAC	Washington Administrative Code

Chapter 1
Introduction

This technical report assesses the potential greenhouse gas (GHG) emissions impacts of the proposed Millennium Bulk Terminals—Longview project (Proposed Action) and No-Action Alternative. For the purposes of this assessment, GHG emissions include the emissions from construction and operation of the Proposed Action as well as the indirect, market-influenced transportation, coal extraction, and end-use fossil fuel combustion emissions from operations. This report describes the regulatory setting, establishes the methods for assessing potential GHG emissions impacts, presents current GHG emissions in the study area, and assesses potential net GHG emissions from the Proposed Action and the No-Action Alternative.

1.1 Project Description

Millennium Bulk Terminals—Longview, LLC (Applicant) is proposing to construct and operate a coal export terminal (Proposed Action) in Cowlitz County, Washington, along the Columbia River (Figure 1). The coal export terminal would receive coal from the Powder River Basin in Montana and Wyoming and the Uinta Basin in Utah and Colorado via rail shipment. The coal export terminal would receive, stockpile, and load coal onto vessels and transport the coal via the Columbia River and Pacific Ocean to overseas markets in Asia.

1.1.1 Proposed Action

Under the Proposed Action, the Applicant would develop the coal export terminal on 190 acres (project area) primarily within an existing 540-acre site that is currently leased by the Applicant (Applicant's leased area). The project area is adjacent to the Columbia River in unincorporated Cowlitz County, Washington near Longview, Washington (Figure 2). The Applicant currently operates and would continue to operate a bulk product terminal within the Applicant's leased area.

BNSF Railway Company (BNSF) or Union Pacific Railroad (UP) trains would transport coal on BNSF main line routes in Washington State, and the BNSF Spur and Reynolds Lead in Cowlitz County to the project area. Coal would be unloaded from rail cars, stockpiled, and loaded by conveyor onto ocean-going vessels for export at two new docks (Docks 2 and 3) located in the Columbia River.

Once construction is complete, the Proposed Action could have a maximum annual throughput capacity of up to 44 million metric tons of coal per year. The coal export terminal would consist of one operating rail track, eight rail tracks for storing up to eight unit trains, rail car unloading facilities, a stockpile area for coal storage, conveyor and reclaiming facilities, two new docks in the Columbia River (Docks 2 and 3), and shiploading facilities on the two docks. Dredging of the Columbia River would be required to provide access to and from the Columbia River navigation channel and for berthing at the two new docks.

Vehicles would access the project area from Industrial Way (State Route 432), and vessels would access the project area via the Columbia River. The Reynolds Lead and BNSF Spur track—both jointly owned by BNSF and UP and operated by Longview Switching Company (LVSW)—provide rail access to the project area from a point on the BNSF main line (Longview Junction) located to the east

in Kelso, Washington. Coal export terminal operations would occur 24 hours per day, 7 days per week. The coal export terminal would be designed for a minimum 30-year period of operation.

At full terminal operations, approximately 8 loaded unit trains each day would carry coal to the export terminal, 8 empty unit trains each day would leave the export terminal, and an average of 70 vessels per month or 840 vessels per year would be loaded, which would equate to 1,680 vessel transits in the Columbia River annually.

Figure 1. Project Vicinity

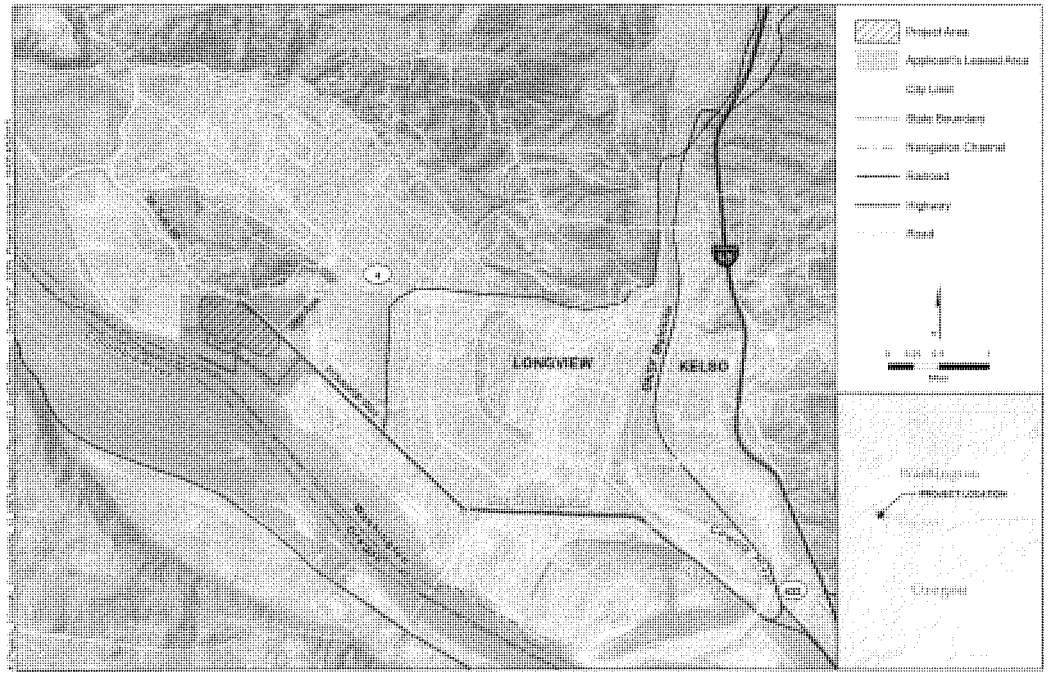
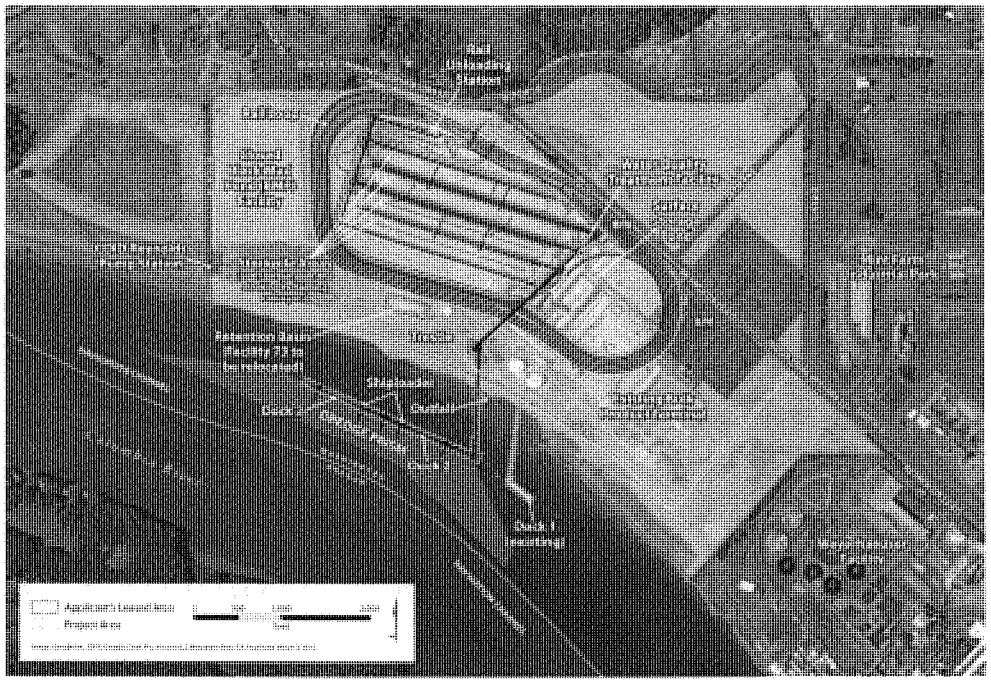


Figure 2. Proposed Action



1.1.2 No-Action Alternative

The Applicant plans to continue operating its existing bulk product terminal located adjacent to the project area. Ongoing operations would include storing and transporting alumina and small quantities of coal and continued use of Dock 1. Maintenance of the existing bulk product terminal would continue, including maintenance dredging at the existing dock every 2 to 3 years. The Applicant plans to expand operations at the existing bulk product terminal, which could include increased storage and upland transfer of bulk products utilizing new and existing buildings. The Applicant would likely need to undertake demolition, construction, and other related activities to develop expanded bulk product terminal facilities.

If the coal export terminal is not constructed, the Applicant would likely propose expansion of the bulk product terminal onto areas that would have been subject to construction and operation of the proposed coal export terminal. Additional bulk product transfer activities could involve products such as a calcined pet coke, coal tar pitch, cement, fly ash, and sand or gravel. Any new operations would be evaluated under applicable regulations. Upland areas of the project area are zoned Heavy Industrial and it is assumed future proposed industrial uses in these upland areas could be permitted. Any new construction would be limited to uses allowed under existing Cowlitz County development regulations.

1.2 Regulatory Setting

The jurisdictional authorities and corresponding regulations, statutes, and guidance for determining potential impacts on GHG emissions are summarized in Table 1.

Table 1. Regulations, Statutes, and Guidance for Greenhouse Gas Emissions

Regulation, Statute, Guideline	Description
Federal	
National Environmental Policy Act (42 USC 4321 *et seq.*)	Requires the consideration of potential environmental effects. NEPA implementation procedures are set forth in the President's Council on Environmental Quality Regulations for Implementing NEPA (49 CFR 1105).
Clean Air Act of 1963 (42 USC 7401) as amended	In 2007, the U.S. Supreme Court ruled that GHGs are air pollutants under the Clean Air Act.
Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units	In 2015, under the Clean Power Plan, EPA set state-specific target emission reductions to reduce CO_2 emissions in the power sector by 32% below 2005 levels by 2030 (80 FR 64661). The rate-based CO_2 emission goal for Washington state is 983 pounds of CO_2 per net MWh (80 FR 64962) and the mass-based CO_2 emission goal for Washington state for the 2 year block of 2030–2031 is 21,478,344 short tons of CO_2 (80 FR 64963) (or a final goal of 10,739,172 short tons of CO_2 (80 FR 64825).
United States Submittal to the United Nations Framework on Climate Change	United States and other nations submitted Intended Nationally Determined Contribution to the United Nations in 2015.

Regulation, Statute, Guideline	Description
State	
Washington State Environmental Policy Act (WAC 197-11, RCW 43.21C)	Requires state and local agencies in Washington to identify potential environmental impacts that could result from governmental decisions.
Limiting Greenhouse Gas Emissions (RCW 70.235)	Requires state to reduce overall GHG emissions as compared to a 1990 baseline and report emissions to the governor bi-annually. Specific goals include achieving 1990 GHG emissions levels by 2020; 25% below 1990 levels by 2035; and 50% below 1990 levels by 2050 or 70% below the state's expected emissions that year.
Washington Clean Air Act (RCW 70.94)	Establishes rules regarding preservation of air quality and penalties for violations. CO_2 mitigation fees are evaluated as part of the permit required by the Clean Air Act (RCW 70.94.892) to reflect requirements from RCW 80.70. RCW 70.94.151 states that the department will be responsible for adopting rules requiring reporting of emissions defined by 70.235.010 from facility, source, site, or fossil fuel supplier that meet or exceed 10,000 metric tons of CO_2e annually.
Washington Carbon Pollution and Clean Energy Action (Executive Order 14-04, 2014)	In April 2014, Governor Inslee established the Governor's Carbon Emissions Reduction Taskforce to provide recommendations to the 2015 legislative session on the design and implementation of a carbon emissions limits and market mechanisms program for Washington State. The task force delivered its findings in November 2014, noting that a harmonized, comprehensive emissions-based or price-based policy approach would add unique features to an overall carbon emission reduction policy framework.
Washington Clean Air Rule (WAC 173-442)	Establishes requirements to cap and reduce GHG emissions. Parties covered under the Clean Air Rule are required to reduce their covered GHG emissions along an emission reduction pathway by reducing their emissions or by obtaining emission reductions from other covered parties, in-state emission reduction projects, or out-of-state emissions market (cap & trade) programs. The Clean Air Rule covers two-thirds of Washington's GHG emissions.
Washington's Leadership on Climate Change (Executive Order 09-05, 2009)	In 2009, Governor Gregoire ordered the state to assess the effectiveness of various GHG reduction strategies by estimating emissions, quantifying necessary reductions, and identifying strategies and actions that could be used to meet the 2020 target. Assessments were done across multiple sectors and sources of emissions, including industrial facilities, the electricity sector, low-carbon fuel standards, vehicle miles traveled, coal plants, and forestry.
Path to a Low-Carbon Economy: An Interim Plan to Address Washington's Greenhouse Gas Emissions (2010)	The second Climate Comprehensive Plan report to the Governor and State Legislature outlines a plan to achieve emission reductions to 1990 levels by 2020, as required by RCW 70.235.

Local	
Cowlitz County SEPA Regulations (CCC 19.11)	Provides for the implementation of SEPA in Cowlitz County.

Notes:

[a] In 2009, EPA proposed the Endangerment Finding and the Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act. The Endangerment Findings determined that the current and projected concentrations for carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorinated chemicals, and sulfur hexafluoride posed a threat to the health and welfare of current and future generations (U.S. Environmental Protection Agency 2009). This sets the legal foundation for regulating GHG emissions from sources of these six well-known GHGs, such as vehicles, industrial facilities, and power plants.

[b] Light duty vehicles include passenger cars, light-duty trucks, and medium-duty passenger vehicles.

USC = United States Code; CFR = Code of Federal Regulations; EPA = U.S. Environmental Protection Agency; FR = *Federal Register*; CO_2 = carbon dioxide; MWh = megawatt per hour; CO_2e = carbon dioxide equivalent; GHG = greenhouse gas; WAC = Washington Administrative Code; RCW = Revised Code of Washington; SEPA = Washington State Environmental Policy Act; CCC = Cowlitz County Code

1.3 Study Area

GHG emissions contribute to the global greenhouse effect, which is the process by which the Earth retains heat (Section 2.1, *Greenhouse Effect*). GHGs emitted anywhere in the globe affect the global environment.[1] The study area for GHG emissions for Cowlitz County as a Washington State Environmental Policy Act (SEPA) co-lead agency is defined as Cowlitz County. GHG emissions for the Washington State Department of Ecology as a SEPA co-lead agency is based on the expected rail and vessel transportation routes and emissions from the combustion of coal. While the study areas for the co-lead agencies are different, the analysis used the same approach to calculate GHG emissions attributable to the Proposed Action.

[1] Some short-lived climate pollutants, such as black carbon, have only a local impact and are not considered in this analysis.

Chapter 2
Existing Conditions

This chapter introduces the greenhouse effect, which is the primary consequence of GHG emissions. The chapter then describes the sources of information and methods used to characterize the existing conditions and assess the potential impacts of the Proposed Action.

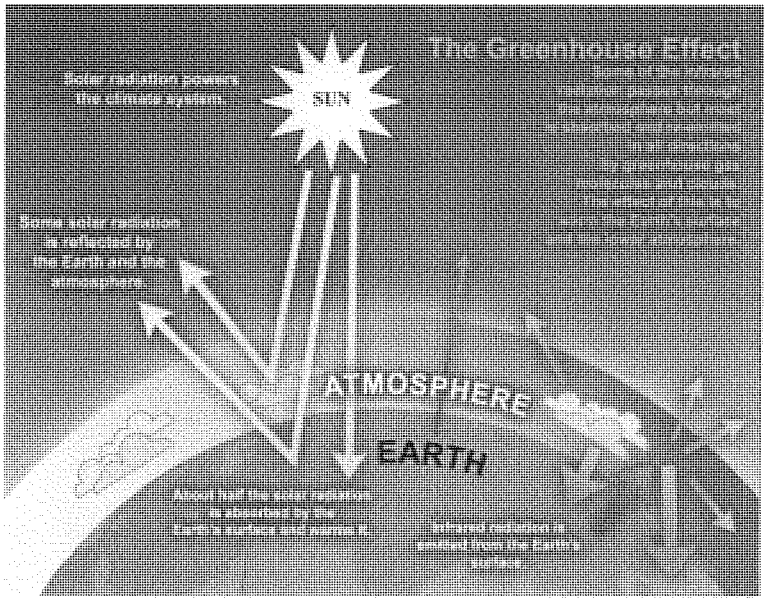
2.1 Greenhouse Effect

The Earth retains outgoing thermal energy and incoming solar energy in the atmosphere, thus maintaining heat temperature levels suitable for biological life. This retention of energy by the atmosphere is known as the greenhouse effect.[2] When solar radiation reaches the Earth, most of the solar radiation is absorbed by the Earth's surface, reflected by the Earth's surface and atmosphere, or — to a lesser degree — absorbed by the Earth's atmosphere. Simultaneously, the Earth radiates its own heat and energy out into the Earth's atmosphere and space. Factors such as the reflectivity of the Earth's surface, the abundance of water vapor, or the extent of cloud cover affects the degree to which solar radiation may be absorbed and reflected. Figure 3 shows the energy flows to and from Earth and the role that the greenhouse effect plays in maintaining heat in the atmosphere.

The composition of gases in the Earth's atmosphere determines the amount of energy absorbed and re-emitted by the atmosphere or simply reflected back into space. The predominant gases in the Earth's atmosphere, nitrogen and oxygen (which together account for nearly 90% of the atmosphere) exert little to no greenhouse effect. Some naturally occurring gases, such as carbon dioxide (CO_2), methane, and nitrous oxide, trap outgoing energy and contribute to the greenhouse effect. Additionally, manufactured pollutants, such as hydrofluorocarbons, can contribute to the greenhouse effect. Unlike most air pollutants (e.g., sulfur dioxide and particulate matter) that have only a local impact on air quality, GHGs affect the atmosphere equally regardless of where they are emitted, and thus they are truly global pollutants. Therefore, a ton of CO_2 emissions in Asia affects the global atmosphere to the same degree as a ton of CO_2 emissions in the United States.

[2] The Intergovernmental Panel on Climate Change (2013) defines the greenhouse effect as follows:
The infrared radiative effect of all infrared-absorbing constituents in the atmosphere. Greenhouse gases (GHGs), clouds, and (to a small extent) aerosols absorb terrestrial radiation emitted by the Earth's surface and elsewhere in the atmosphere. These substances emit infrared radiation in all directions, but, everything else being equal, the net amount emitted to space is normally less than would have been emitted in the absence of these absorbers because of the decline of temperature with altitude in the troposphere and the consequent weakening of emission. An increase in the concentration of GHGs increases the magnitude of this effect; the difference is sometimes called the enhanced greenhouse effect. The change in a GHG concentration because of anthropogenic emissions contributes to an instantaneous radiative forcing. Surface temperature and troposphere warm in response to this forcing, gradually restoring the radiative balance at the top of the atmosphere.

Figure 3. Model of the Natural Greenhouse Effect



Source: Intergovernmental Panel on Climate Change 2007

The extent to which a given GHG traps energy in the atmosphere and contributes to the overall greenhouse effect is characterized by its global warming potential (GWP). Some gases are more effective at trapping heat, while others may be longer-lived in the atmosphere. The reference gas against which others are compared is carbon dioxide, and GWP is thus expressed in terms of carbon dioxide-equivalent (CO_2e). The unit CO_2e represents both a gas's ability to trap heat and the rate at which it breaks down in the atmosphere. Most analyses use 100 years as the period of reference for GWPs, and this technical report conforms to that convention. For example, 1 unit of carbon dioxide has a 100-year GWP of 1, whereas an equivalent amount of methane has a GWP of 25 (Intergovernmental Panel on Climate Change 2007). For this analysis, a 100-year period is used.

Table 2 presents the 100-year GWPs from the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) for the GHGs included in the study.[3,4]

Table 2. Global Warming Potentials

Greenhouse Gas	IPCC AR4 100-Year Global Warming Potential
Carbon dioxide	1
Methane	25
Nitrous oxide	298

Source: Intergovernmental Panel on Climate Change 2007

GHG emissions occur from both natural as well as human-made (anthropogenic) sources. Examples of natural sources include decomposition of organic matter and aerobic respiration. Anthropogenic GHG emissions are predominantly from the combustion of fossil fuels, although other sources including industrial processes, land-use change, agriculture, and waste management are also contributors.

The increase of GHGs in the atmosphere has been determined to pose risks to human and natural systems (Intergovernmental Panel on Climate Change 2014). Atmospheric concentrations of GHGs have increased since the Industrial Revolution, but the natural processes that remove those GHGs from the atmosphere have not scaled proportionally. Additionally, concentrations of long-lived manufactured pollutants such as hydrofluorocarbons have increased in recent decades. As the atmospheric concentrations of GHGs increase, the atmosphere's ability to retain heat increases as well. Since the instrumental record began in 1895, the U.S. average temperature has risen by approximately 1.3 to 1.9 degrees Fahrenheit (°F) (U.S. Global Change Research Program 2014). Furthermore, U.S. average temperatures throughout the 21st century are expected to increase at a faster pace, by 2.5°F to 11°F above pre-industrial levels by 2100 (U.S. Global Change Research Program 2014).

The impacts of higher global surface temperatures include widespread changes in the Earth's climate system. This may affect weather patterns, biodiversity, human health, and infrastructure. A discussion of climate impacts as they relate to the Proposed Action is provided in the SEPA Climate Change Technical Report (ICF 2017a)

[3] While additional GHGs (HFCs, PFCs, SF_6) were considered for this analysis as per the Council on Environmental Quality (2016) guidance, carbon dioxide, methane, and nitrous oxide are the greenhouse gases emitted from the fossil fuel combustion and vegetation and wetland activities considered in the analysis.

[4] GWP values for methane have been revised over time from 21 in the IPCC Second Assessment Report (SAR) to 28 in the IPCC Fifth Assessment Report (AR5). GWP values for nitrous oxide have also been revised from 310 in the IPCC SAR report to 265 in the IPCC AR5 report (Intergovernmental Panel on Climate Change 2013; Intergovernmental Panel on Climate Change 1995). This range shows there is uncertainty associated with GWP values. The GWP values used for this report were selected to be consistent with standards developed for the U.S. GHG inventory. The United States and other developed countries of the UNFCCC have agreed to submit annual inventories in 2016, and future years to the UNFCCC using the 100-year GWP values from the IPCC AR4 report. EPA follows this guidance in generating the national greenhouse gas inventory (U.S. Environmental Protection Agency 2016b). Using the AR4 100-year GWPs in the EIS is consistent with the practice of the UNFCCC, and provides greenhouse gas data that are consistent with other corporate, national, and subnational reporting.

2.2 Methods

This section presents the data sources and methods used to estimate project related GHG emissions for the study area. First, the data sources that were used are summarized. Second, the methods used to estimate each source of GHG emissions are described.

2.2.1 Data Sources

The technical reports supporting the SEPA Draft Environmental Impact Statement (EIS) for the Millennium Bulk Terminals—Longview project provided activity data and emissions data to support the GHG analysis. The following sources of information were used to evaluate the GHG emissions from construction and operation of the Proposed Action, the combustion of coal from coal exported from the Proposed Action, domestic and international transport of the coal, and changes in the use of coal and natural gas in response to the operation of the Proposed Action.

- SEPA Air Quality Technical Report (ICF 2017b).
- SEPA Coal Market Assessment Technical Report (ICF 2017c).[5]
- SEPA Energy and Natural Resources Technical Report (ICF 2017d).
- SEPA Rail Transportation Technical Report (ICF and Hellerworx 2017).
- SEPA Vessel Transportation Technical Report (ICF 2017e).
- SEPA Vegetation Technical Report (ICF 2017f).
- SEPA Vehicle Transportation Technical Report (ICF and DKS Associates 2017).

To estimate the GHGs emitted as a result of the processes described in the above reports, ICF used those reports' estimates of fuel consumption and vehicle operation, referred to as activity data, and combined that data with GHG emission factors in order to estimate GHG emissions for the Proposed Action.[6] The GHG emission factors are drawn from the following sources.

- California Air Resources Board. 2011. Appendix D: Emissions Estimation Methodology for Ocean-Going Vessels.
- Clean Cargo Working Group, 2014. Global Maritime Trade Lane Emissions Factors.
- Energy Information Agency 1994. CO_2 Emission Factors for Coal Study for International Coals.
- Hansen 2009. The Viability of Creating Wetlands for the Sale of Carbon Offsets.
- Intergovernmental Panel on Climate Change 2006: Volume 4: Agriculture, Forestry, and Other Land Use.

[5] The SEPA Coal Market Assessment Technical Report (ICF 2017c), hereafter referred to as the coal market assessment, provides estimates on the net changes in international coal extraction and combustion, domestic substitution of natural gas for coal and resulting combustion, extraction of coal at U.S. coal mines, domestic transport of coal to the proposed project, and international transport of the coal to importing countries. The report provides estimates for several scenarios to cover a range of potential changes in net GHG emissions because of the Proposed Action.

[6] An activity is a practice or ensemble of practices that take place on a delineated area over a given period. Activity data are data on the magnitude of a human activity resulting in emissions or removals taking place during a given period of time (e.g., data on energy use, data on equipment used during construction of the Proposed Action) (Intergovernmental Panel on Climate Change 2006).

- Coal Mine Methane Country Profiles (Global Methane Initiative 2015).
- International Energy Statistics (Energy Information Agency 2017).
- IPCC Guidelines for National Greenhouse Gas Inventories (Intergovernmental Panel on Climate Change 2006).
- National Council for Air and Stream Improvement and U.S. Forest Service 2016. Carbon Online Estimator.
- Trettin and Jurgensen 2003. Carbon Cycling in Wetland Forest Soils.
- U.S. Environmental Protection Agency. 1996. AP-42, Section 3.4 Large Stationary Diesel and All Stationary Dual-fuel Engines.
- U.S. Environmental Protection Agency. 2009a. NONROAD Model (Non-road engines, equipment, and vehicles).
- U.S. Environmental Protection Agency. 2009b. Emission Factors for Locomotives.
- U.S. Environmental Protection Agency. 2014a. MOVES (Motor Vehicle Emission Simulator).
- U.S. Environmental Protection Agency. 2015c. U.S. Greenhouse Gas Inventory Report: 1990–2013.
- U.S. Greenhouse Gas Inventory Report: 1990–2014 (U.S. Environmental Protection Agency 2016b).

2.2.2 Impact Analysis

This section describes the methods used to evaluate the potential impacts of the Proposed Action on GHG emissions. The method for estimating the GHG emissions associated with each emission source is described, along with that source's activity data and the calculations used to estimate its associated GHG emissions. The GHG analysis addresses the same set of sources addressed in the SEPA Air Quality Technical Report (ICF 2017b), plus several additional sources (e.g., transportation emissions beyond a 5-mile radius, net emissions from changes in domestic and international coal use).

2.2.2.1 Scope of Analysis

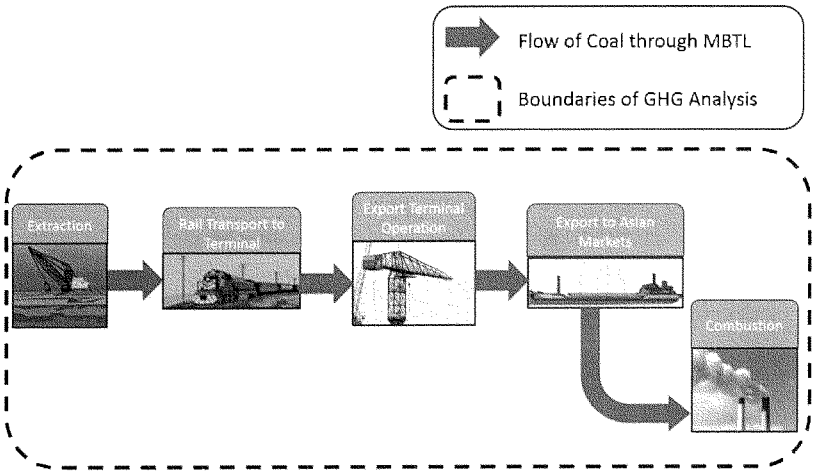
The Proposed Action would emit GHGs during construction and operation, both in the United States and abroad. The emissions would come predominantly from the combustion of fossil fuels for construction and operation, as well as changes in the combustion of coal, both domestically and internationally.

This analysis includes activity data from the technical reports described in Section 2.2.1, *Data Sources.* Additionally, the GHG analysis evaluates emissions scenarios based on the ultimate flow of coal to and through the coal export terminal (ICF 2017c). Figure 4 shows the pathway of coal from extraction to transport to terminal operation to export to its final combustion.

Geographically, the analysis of GHG emissions from the Proposed Action includes the extraction of Powder River Basin and Uinta Basin coals, the rail transport of the coal to Cowlitz County from their points of extraction, coal export terminal operation in Cowlitz County, vessel transport to Asia, and the substitution of coal for end-use combustion in China, Hong Kong, Japan, South Korea, and

Taiwan. Changes in coal combustion elsewhere in Asia (e.g., India) are included in this analysis where coal use would be affected by the import of coal from the coal export terminal (i.e., by induced demand for coal and substitution of international coals for U.S.-based coals). The substitution of natural gas for coal in the United States because of an increase in domestic coal prices is also evaluated.[7]

Figure 4. Coal Export Stages and GHG Analysis Boundaries



The scope of the GHG emissions analysis considers the following elements.

- **Analysis period.** To be consistent with activity data from the other technical reports prepared for the Proposed Action, this analysis considers construction, operation, coal extraction, rail and vessel transport, and fossil fuel combustion emissions from 2018 through 2038.
- **Direct sources of GHG emissions.** Direct emissions refer to GHG emissions from coal export terminal construction, operation, and transportation within Cowlitz County. The following processes are included.
  - Upland and wetland land-cover change
  - Coal export terminal construction
  - Dock dredging during coal export terminal construction and operations and subsequent release of sediment carbon
  - Rail transport of coal in Cowlitz County
  - Vehicle-crossing delay in Cowlitz County

[7] The proposed coal terminal could increase the demand for U.S. coal, resulting in a corresponding increase in coal prices.

- Equipment use during coal export terminal operation
- Vessel idling and tugboat use at the coal export terminal
- Vessel transport of coal in Cowlitz County
- Employee commuting to and from the coal export terminal

- **Indirect sources of GHG emissions.** Indirect emissions refer to GHG emissions that would result from the Proposed Action but are not concurrent with construction or operation on the project area, or that would occur outside of Cowlitz County. The following are indirect sources of GHG emissions.
  - Coal export terminal construction—embedded GHG emissions in materials for coal export terminal construction
  - Extraction of coal at the mining sites
  - Rail transport of coal from extraction sites to Washington State
  - Rail transport of coal within Washington State
  - Consumption of electricity used for coal export terminal operations
  - Helicopter and pilot boat trips for pilot transfers to vessels
  - Vessel transport of coal between the Cowlitz County border and international waters and return of vessels with only ballast water
  - Vessel transport of coal in international waters to markets in China, Hong Kong, Japan, South Korea, and Taiwan and return of vessels with only ballast water
  - Market effects on coal combustion in Asia and the United States
  - Induced natural gas combustion in the United States
- **Geographic scope.** The geographic scope includes GHG emissions that would occur within and outside of the project area. Emissions are evaluated outside of the area because greenhouse gases are a global pollutant as stated in Section 2.1, *Greenhouse Effect*, and there are market impacts from the Proposed Action at multiple geographic scales resulting in GHG emissions. Direct emissions that occur on the project area include those from mobile sources during construction and operation. Additional direct emissions would occur in Cowlitz County from rail and vessel transport of coal. The following indirect emissions would occur.
  - Rail and vessel transport of the coal beyond Cowlitz County and within Washington State
  - Net extraction of the coal in the United States and international coal markets
  - Rail transport of coal from extraction sites to Washington State
  - Transport of coal to Asian markets and the return of vessels with only ballast water in international waters

  GHG emissions are also estimated that would result from shifts in coal combustion and demand in Asian markets and from induced natural gas combustion due to the shift from coal as coal prices increase (relative to the no-action as defined in the coal market assessment) in the United States.

The international coal market is a global commodity market, such that changes in supply or demand in one country can affect coal prices and distribution patterns globally. The global nature of the coal market was demonstrated most recently in the fall of 2016 when China reduced production capacity and international coal prices shot up by 50% over a 2-month period. In addition, coal competes with other fuel sources, such as natural gas, for electric generation. To capture the dynamic changes in the international coal market and the competition among fuel types for electric generation in the United States and Canada, a comprehensive and integrated modeling platform is required. Without this type of modeling, assumptions would be required regarding the ultimate outcome of the exported coal and changes in coal consumption in the United States that would be difficult to make and justify without comprehensive modeling. The importance of modeling is best illustrated by examples.

- The model established that there are very large existing international coal markets, and there is at most a relatively small increase in coal consumption because of the introduction of a new coal supply.
- The model established that there are multiple suppliers and that, while U.S. exports are competitive, they are not significantly lower in cost than coal supplied from Australia, China, Indonesia, or Russia. The model showed outcomes where displacement—i.e., sale of U.S. coal rather than sale of competing coal produced in other countries—resulted in small changes in delivered coal price and small to no increases in coal used, except in the Upper Bound Scenario.
- The model established that the variation in coal emission rates had limited effects on total emissions, although differences in carbon content have somewhat greater effect on net emissions from the Proposed Action. Thus, depending on the scenario, the substitution of coal with different carbon contents in Asia can be one of the key drivers of net emissions compared to other sources such as international vessel transport.
- The U.S. power and fuel markets are highly integrated, diverse, and competitive, and, consequently, the increase in coal price in the United States results in substitution of gas and other sources for coal.

- **Induced demand for energy.** This analysis addresses coal combustion in Asia that would result from the increased supply of coal due to the operation of the Proposed Action. The addition of 44 million metric tons of coal to the supply of coal in Asia would increase supply and lower international coal prices. Asian coal markets would respond to lower prices by consuming more coal overall. This additional demand for coal that is a result of shifts due to the shift in the price of coal is referred to as induced demand.
- **Offset energy sources.** Operation of the Proposed Action could offset demand for other energy sources, nationally and internationally. Depending on the scenario, operations could affect production of coal from Australia, China, Indonesia, and Russia and its consumption throughout Asia. Additionally, this analysis considers the increased use of U.S. natural gas as a substitute for coal combustion. Consequently, changes in GHG emissions are estimated assuming that coal shipped through the coal export terminal would replace other sources of coal (e.g., coal imported from Australia, China, Indonesia, and Russia) and for the substitution of natural gas for U.S. coal. The GHG emissions associated with replacement of other sources of coal would include differences in the extraction and combustion of these coals compared to U.S. coal from Powder River and Uinta Basins.

- **Coal market assessment scenarios.** Each coal market assessment scenario represents a range of GHG emissions estimates, based on economic and policy projections through 2040. For each scenario, the GHG emissions from Asian coal combustion, U.S. coal combustion, and U.S. natural gas combustion are influenced by factors such as coal prices, transportation costs, demand for thermal coal, status of U.S. and international climate policies, and competing energy sources. Estimates of coal transport, coal consumption, and natural gas substitution are informed by projections in the coal market assessment, which considers four scenarios based on economic and policy projections through 2040.[8] The scenarios represent a range of GHG emissions estimates determined using a multi-dimensional model. Two model runs were conducted for each scenario: a no action model and an action model with the Proposed Action. The resulting net GHG emissions are influenced by the relative differences in coal combustion, distribution, and substitution for each of these model runs.

  The coal market assessment kept the throughput of exported coal constant at 44 million metric tons for the 6 years modeled (2016, 2018, 2020, 2025, 2030, and 2040) for the Proposed Action.[9] However, for the GHG analysis and as described in Section 2.2.2.2, *Method for Assembling an Emissions Time Series,* only years 2025, 2030, and 2040 from the coal market assessment results are used and adjusted to account for changes in quantities of exported coal from 2021 to 2028, the period when the coal export terminal would ramp up operations to reach full capacity in 2028.[10]

  All four scenarios use a common set of base assumptions, many of which were updated between the Draft EIS and Final EIS. Detailed descriptions of these assumptions are included in the coal market assessment. The set of base assumptions include, but are not limited to, the following. Assumptions.

  - Coal supply curves for U.S. and international coal supply regions. In the No Clean Power Plan scenario, the base coal supply curves result in Powder River Basin Wyoming 8800 British thermal units per pound (Btu/lb) of coal being priced at $12.6/ short ton, Uinta Basin 11,280 Btu/lb coal being priced at $39/ short ton, and Australian 10,800 Btu/lb (6,000 kilocalories per kilogram) coal being priced at $62.8/ short ton.[11] All prices are in 2012$ for the year 2018.
  - Coal transportation costs. The base rail transportation costs are $30 to $36 per short ton for coal transported from the Powder River Basin and Uinta Basin to the proposed terminal.
  - Natural gas supply curves
  - Air, waste, and water regulations
  - Renewable energy standards and regulations

[8] In some other studies, scenarios of economic and policy conditions are compared against a common baseline. For this GHG Analysis, the baseline is redefined for each scenario. This approach is used to capture the range of economic and policy conditions that could exist in the future (i.e., 2025, 2030, and 2040).

[9] As described in the coal market assessment, 44 million metric tons of coal is modeled for each year rather than a gradual increase as the coal export terminal reached full capacity.

[10] For purposes of the GHG analysis, the effect of the Proposed Action on net GHG emissions starts in 2021 when the proposed terminal initiates operations, and therefore net GHG emissions from emission sources affected by the coal market assessment are assumed to be 0 $MMTCO_2e$ for 2016, 2018, and 2020. See Section 6.1 of the *SEPA Coal Market Assessment Technical Report* (ICF 2017c) for further information.

[11] British thermal units (Btu) are a standardized measurement of the heat content of coal.

- Reserve margin targets for each U.S. electric demand region
- Firmly planned new generating capacity and retirements
- Electric transmission limits
- Electric demand
- Capital costs for new electric-generating capacity
- International coal demand. The base assumption for international coal demand is the Current Policies scenario from the International Energy Agency's 2015 World Energy Outlook. The Current Policies scenario includes only those GHG reduction policies for which implementing measures have been formally adopted as of mid-2015, and assumes that these policies remain unchanged going forward.
- Elasticity of coal demand for the Asian countries that can receive coal from the proposed terminal. The base elasticity of coal demand for China is -0.44 and is -0.11 for Hong Kong, India, Japan, South Korea, and Taiwan.

The four scenarios incorporate the base assumptions and are differentiated by the following six parameters:

- International coal curves
- International coal demand
- Coal demand elasticity
- Powder River Basin and Uinta Basin coal curves
- U.S. rail transportation costs
- U.S. and international climate policy. The U.S. climate policy is incorporated into the modeling by using an assumed version of the Clean Power Plan, or by not including the Clean Power Plan.[12] The international climate policies are incorporated into the modeling through the international coal demand used in each scenario.

The four scenarios and their key concepts are described below and summarized in Table 3.

- **2015 U.S. and International Energy Policy Scenario.** The 2015 U.S. and International Energy Policy scenario includes U.S. and international climate policies as the defining feature of this scenario. The U.S. climate policy is modeled using a representation of the Clean Power Plan. The international climate policy is modeled by using the international coal demand in the International Energy Agency's 2015 World Energy Outlook New Policies scenario.[13] The 2015 U.S. and International Energy Policy scenario uses the base set of assumptions except for three parameters. First, the international thermal coal demand is taken from the World Energy Outlook demand forecast for the New Policies scenario,

[12] Because implementation of the Clean Power Plan will occur at the state level and states have not determined how they will implement the Clean Power Plan, a version of the Clean Power Plan consistent with one of the alternatives under the EPA's proposed Federal Plan for the Clean Power Plan that features state specific mass standards for existing units is used.

[13] The 2015 World Energy Outlook New Policies Scenario incorporates the policies and measures that affect energy markets that had been adopted by non-U.S. countries as of mid-2015 and other relevant intentions that have been announced, even when the precise implementing measures have not been fully defined.

because it represents coal demand under current and proposed GHG reduction policies. Second, the elasticity of coal demand for China is -0.32. Third, this scenario includes the Clean Power Plan, which reduces coal consumption in the United States (U.S. Environmental Protection Agency 2015b). The final Clean Power Plan was released in August 2015.[14]

- **No Clean Power Plan Scenario.** The No Clean Power Plan scenario represents the state of the energy markets as of 2016. However, it does not include implementation of the Clean Power Plan. The No Clean Power Plan scenario uses the base set of assumptions and assumes that no additional national or international climate policies will be enacted beyond those implemented by mid- 2015.
- **Lower Bound Scenario.** Due to uncertainty over future coal consumption trends, the coal market assessment constructed the Upper and Lower Bound scenarios in a way that they produce illustrative results for a broad range of outcomes. The Lower Bound scenario represents a plausible low estimate of global CO_2 emissions from coal combustion. This scenario is designed to be a plausible and reasonable lower bound of global CO_2 emissions and does not attempt to model an absolute lowest bound of CO_2 emissions. The energy markets under the Lower Bound scenario could reflect a large component of renewable energy resulting in reduced demand for coal combustion. To achieve the low estimate of global CO_2 emissions from coal combustion, the Lower Bound scenario adjusts all six of the parameters used to define the scenarios beyond the base set of assumptions.

  First, the international coal supply curves are decreased by 10% to reduce the likelihood of induced demand. Second, international coal demand is assumed to be as estimated in the International Energy Agency's 2015 World Energy Outlook New Policies scenario, as this scenario includes both existing and proposed GHG reduction policies, which result in less coal consumption. Third, the coal demand elasticity is assumed to be -0.32, which would result in less induced demand than in the other scenarios, except the Energy Policy scenario, which uses the same value. Fourth, Powder River Basin coal supply curves are increased by 25% to reflect higher than expected stripping ratios and that would result in lower coal consumption. Fifth, U.S. rail costs are increased by 20% to reflect higher than expected diesel fuel prices, which would tend to decrease coal consumption in favor of other generation. Sixth, the Lower Bound scenario assumes the Clean Power Plan is implemented in the United States and that proposed international GHG reduction policies are implemented, which are the same assumptions as used in the 2015 U.S. and International Energy Policy scenario.

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[14] On August 3, 2015, EPA released the final Clean Power Plan, which regulates CO_2 emissions from existing fossil fuel generation sources under Section 111(d) of the Clean Air Act. "Existing" refers to units that commenced construction before January 8, 2014. EPA estimates that the plan will reduce power sector CO_2 emissions 32% below 2005 levels in 2030. States have flexibility to implement the program as a rate credit trading program or a mass allowance trading program. The plan specified initial state plans due September 2016, updated plans by September 2017, and final state plans by September 2018, with the initial implementation date set for 2022.
In February 2016, the Supreme Court granted petitioners a stay of the Clean Power Plan. The stay will not be lifted until all court proceedings, potentially including a hearing by the Supreme Court of the full case, have been settled. The D.C. Circuit heard arguments in the case in September 2016. In March 2017, an Executive Order was issued to review the Clean Power Plan.

- **Upper Bound Scenario.** The Upper Bound scenario represents a reasonable upper bound estimate of global CO_2 emissions from coal combustion and uses assumptions that could maximize the amount of induced demand from the Proposed Action. International coal plant construction and thus coal demand is assumed higher than in all the other scenarios. This higher demand causes both international coal consumption and prices to increase. This scenario does not attempt to model an absolute upper bound of global CO_2 emissions or CO_2 emissions that would result from the Proposed Action.[15] To achieve the high estimate of global CO_2 emissions from coal combustion, the Upper Bound scenario adjusts all six of the parameters used to define the scenarios beyond the base set of assumptions.

  First, the international coal supply curves are increased by 50% to reflect the higher international demand and increase the likelihood of induced demand. Second, international coal demand is assumed to be higher than all the other scenarios due to increased development of coal-fired generating assets. The international coal demand is estimated by assuming the historical coal consumption growth rates for each country during the 2000 to 2012 period, which was a time when coal consumption was increasing rapidly. Third, the coal demand elasticity is assumed to be -0.68, which would result in more induced demand than in the other scenarios. Fourth, Powder River Basin coal supply curves are decreased by 15% to reflect lower than expected stripping ratios and that would result in higher coal consumption. Fifth, U.S. rail costs are decreased by 20% to reflect lower than expected diesel fuel prices, which would tend to increase coal consumption. Sixth, the Upper Bound scenario does not assume the Clean Power Plan is implemented in the United States and assumes that the increased coal consumption does not violate existing international GHG reduction policies.

Table 3 summarizes the scenarios modeled for the coal market assessment, including the cumulative scenario.[16] Many factors would affect the future export and consumption of coal for the Proposed Action. Consequently, the scenarios reflect a range of potential outcomes. For each scenario, the table provides the following information.

- **Purpose:** the phenomena that the scenario is intended to represent.
- **U.S. coal markets:** the domestic coal market reaction to changes in supply and pricing.
- **Asian coal markets:** the international coal market reaction to changes in supply and pricing.
- **Coal prices:** the increases and decreases in coal production and transportation costs relative to the No Clean Power Plan scenario. Coal prices are modeled relative to the No Clean Power Plan scenario rather than the other scenarios because it uses the base set of assumptions without modifications.
- **Climate policy:** Two scenarios (2015 U.S. and International Energy Policy and Lower Bound scenarios) capture the effect of the Proposed Action when the Clean Power Plan and international GHG reduction commitments are implemented.

[15] Due to uncertainty over future coal consumption trends, the coal market assessment constructed the Upper and Lower Bound scenarios to illustrate a broad range of outcomes but not the extreme possibilities.

[16] Additional details on the modeling assumptions for each of the scenarios are provided in the SEPA Coal Market Assessment Technical Report (ICF 2017c).

Table 3. Scenarios in the Coal Market Assessment[a]

Scenario	Purpose	U.S. Coal Market Conditions (Relative to Base Assumptions)	Asian Coal Market Conditions (Relative to Base Assumptions)	Coal Prices Conditions (Relative to Base Assumptions)	Climate Policy
2015 U.S. and International Energy Policy	Represents impacts of an international climate policy on the coal market as proposed by mid-2015 and the Clean Power Plan	Coal consumption in the United States is lower due to implementation of the Clean Power Plan	Coal consumption is lower due to the implementation of GHG reduction policies	Both domestic and international coal prices are lower due to the lower overall coal demand	Climate policy resembling implementation of the Clean Power Plan and implementation of international GHG reduction policies announced as of mid-2015
No Clean Power Plan	Represents the assumed future state of energy markets in the absence of climate policies	No change from base assumptions	No change from base assumptions	No change from base assumptions	No climate policy implemented in the United States and only those international policies that have been fully implemented by mid-2015
Lower Bound	Represents energy markets where renewable penetration is high and international coal prices and demand are low, making domestic coal exports less attractive to international markets	Coal consumption in the United States is lower due to implementation of the Clean Power Plan and higher assumed Powder River Basin and Uinta Basin coal prices and rail transportation costs	• Lower assumed coal demand due to increased renewables • Lower coal prices due to lower demand	• Higher Powder River Basin and Uinta Basin coal prices due to assumed higher production costs • Lower international coal prices, due to assumed lower production costs	Climate policy resembling implementation of the Clean Power Plan and implementation of international GHG reduction policies proposed as of mid-2015
Upper Bound	Represents energy markets where coal consumption is high, leading to high international demand	Higher coal demand due to lower Powder River Basin and Uinta Basin coal prices	Higher coal demand resulting in higher coal prices	• Lower Powder River Basin and Uinta Basin coal prices due to assumed	No climate policy

Scenario	Purpose	U.S. Coal Market Conditions (Relative to Base Assumptions)	Asian Coal Market Conditions (Relative to Base Assumptions)	Coal Prices Conditions (Relative to Base Assumptions)	Climate Policy
	and prices, making domestic coal exports more attractive to international markets			lower production costs • Higher international coal prices due to increased demand and assumed higher production costs	
Cumulative[b]	Represents the impact of other planned export terminals in the Pacific Northwest	Coal consumption in the United States is lower because the higher amount of exports increases coal prices, which causes a reduction in demand	No change from base assumptions	Domestic coal prices are higher due to increased demand from exports, while international coal prices remain unchanged	No climate policy

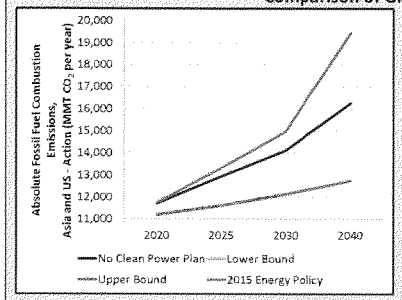
Notes:

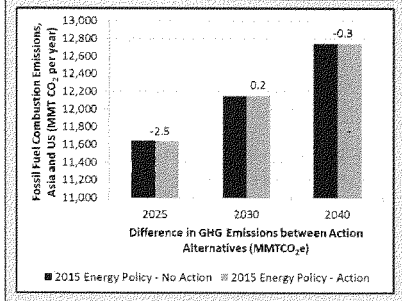
[a] Scenario conditions are defined relative to the No Clean Power Plan scenario.

[b] Further details on the Cumulative scenario can be found in Section 3.1.15, *Net Greenhouse Gas Emissions.*

GHG = greenhouse gases

Comparison of GHG Emissions Across Coal Market Assessment Scenarios





Each coal market assessment scenario represents a range of GHG emissions estimates, based on economic and policy projections from 2016 to 2040. For each scenario, the GHG emissions from Asian coal combustion, U.S. coal combustion, and U.S. natural gas combustion are influenced by a variety of factors, such as coal prices, transportation costs, and the penetration of competing energy sources.

The first chart on the left shows absolute emissions under each coal market scenario for the Proposed Action (noted as the Action Alternative). The scenarios display a significant variation in GHG emissions for coal and natural gas combustion. There is a difference of about 7,000 million metric tons of carbon dioxide equivalent (MMTCO_2e) between the 2040 GHG emissions in the Upper Bound and 2015 U.S. and International Energy Policy scenarios, while the Lower Bound and 2015 U.S. and International Energy Policy Scenarios follow nearly the same trajectory. The difference in emissions between the scenarios indicated in the first chart is almost entirely due to the underlying market conditions rather than the influence of the proposed coal export terminal.

To illustrate the influence of the proposed coal export terminal, the second chart on the left indicates the changes in fossil fuel combustion[a] emissions that would occur in Asia and the United States because of the Proposed Action under 2015 U.S. and International Energy Policy scenario conditions. For example in 2040, the no-action under the 2015 U.S. and International Energy Policy scenario would result in combustion emissions of 12,742.7 MMTCO_2e while the combustion emissions resulting from the Proposed Action under 2015 U.S. and International Energy Policy scenario conditions are 12,742.4 MMTCO_2e. The resulting net difference is 0.3 MMTCO_2e, or 0.002% of emissions. Likewise, changes in absolute emissions between the no-action and the Proposed Action for the other four coal market assessment scenarios are relatively small.

[a] Fossil fuel combustion emissions refer to coal combustion in Asia and the U.S., as well as U.S. natural gas combustion (ICF 2017c).

609

2.2.2.2 Method for Assembling an Emissions Time Series

Because GHGs accumulate in the atmosphere, a complete assessment of GHGs associated with the Proposed Action requires a characterization of the GHGs over a full analysis period (2018 through 2038). Construction of the coal export terminal would occur between 2018 and 2020. The coal export terminal would become operational in 2021, and reach full capacity by 2028. The GHG analysis estimates emissions for each year during this analysis period as well as for each scenario.

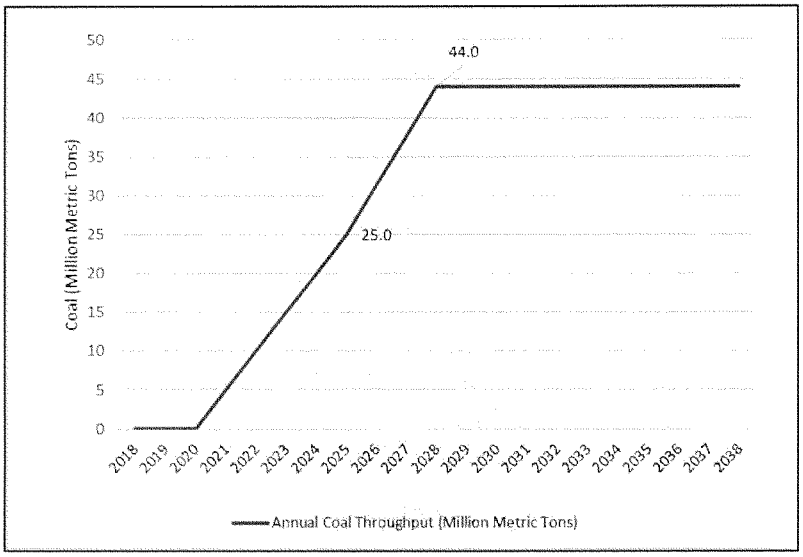
Assembling a complete emissions time series for the GHG analysis requires interpolation of estimates from the other technical reports prepared for the Proposed Action (i.e., coal market, air, and vessel) for the following reasons.

- The coal market assessment provides estimates only for 2025, 2030, and 2040Annual estimates are interpolated from these results.[17]
- The activity data that characterize coal export terminal operations represents conditions in 2028, when the facility is expected to be operational. These data do not reflect coal export terminal start-up, in which the coal throughput increases from zero immediately after construction in 2020 to its full capacity of 44 million metric tons by 2028.

In order to generate estimates of GHG emissions for the full analysis period, the expected coal throughput is increased linearly from zero in 2020 to 25 million metric tons (27.5 million short tons) in 2025. Between 2025 and 2028, the throughput is increased linearly at a slightly faster rate to reach full capacity at 44 million metric tons (48.4 million short tons) by 2028. For this approach, market-influenced emissions are assumed directly proportional to the amount of coal processed by the Proposed Action. The total coal exports for the analysis period add up to 627 million metric tons of coal, including 7 start-up years between 2021 and 2028 and 11 full years of operation from 2028 through 2038 (Figure 5).

[17] This analysis assumes the net impacts from the coal market assessment are 0 in 2020, and thus values are linearly interpolated from 0 in 2020 to the 2025 values in the coal market assessment.

Figure 5. Annual Coal Throughput, 2018-2038



The coal market assessment does not consider a start-up period, so the activity data and emissions estimates for 2025, which assume a full 44 million metric tons of coal throughput, are prorated by 57%; i.e., the ratio of the projected 25 million metric tons of the start-up period and the full 44 million metric ton throughput. This proration factor is applied to all data outputs from the coal market assessment in 2025, including coal extraction, rail transport, coal throughput, fossil fuel combustion emissions,[18] and ocean vessel traffic. Assuming that *net* emissions and activity from operation of the export terminal in the Proposed Action are zero in 2020, the analysis assumes a linear growth to the prorated 2025 data, reaching full operation in 2028, and linear interpolation between the 2030 and 2040 data outputs.

Activity data and emissions estimates are derived and presented in tables in this report only for 2028. Emission estimates for interpolated years from 2021 through 2038 are calculated by interpolating between the emissions values of the closest IPM model run years as well as the calculated value for 2028 (i.e., 2025, 2028, 2030, 2040).

2.2.2.3 Method for Impact Analysis

This section describes the method and approach for each emission source. The methods used for the following emission sources are described: upland and wetland land-cover change; dock dredging during terminal construction and operations—sediment carbon; coal extraction, rail transport, vehicle-crossing delay; coal export terminal construction; coal export terminal operation—equipment operation; coal export terminal operation—electricity consumption; employee

[18] Changes in domestic and international coal combustion are assessed separately.

commuting; vessel idling and tugboat use at coal export terminal; helicopter and pilot boat trips; vessel transport; coal combustion in Asia and the United States; induced natural gas consumption in the United States.

Upland and Wetland Land-Cover Change

The vegetation removal, soil disturbance, and wetland loss associated with construction of the Proposed Action would result in the loss of carbon stocks, the loss of ongoing carbon sequestration, and a reduction in annual emissions in the case of certain wetland vegetation cover types over the analysis period (2018 through 2038).

To estimate the loss of upland carbon stocks from the net change in upland vegetation cover types as a result of construction, estimates of vegetation cover (e.g., aboveground carbon, belowground carbon, understory carbon) and soil carbon stocks (i.e., soil organic carbon) in the project area are based on average carbon stock per area estimates for Cowlitz County taken from the Carbon Online Estimator (National Council for Air and Stream Improvement and U.S. Forest Service 2016). The upland land cover includes forested, scrub-shrub, herbaceous, and managed herbaceous vegetation cover types. The average forested carbon stock per area value may overestimate the actual forested carbon stocks in the project area because the average estimates for Cowlitz County likely include areas with higher carbon stocks (e.g., managed production forests) than the areas within the project area.

These estimates of the carbon stock per area for forested, scrub-shrub, and herbaceous[19] upland vegetation cover types are multiplied by the corresponding changes in area resulting from the construction to estimate the change in carbon stocks associated with construction (e.g., vegetation removal and surface soil disturbance) for the Proposed Action compared to the No Action Alternative. Given the potential high value of the forested carbon stock per area value, these emission estimates likely overestimate the actual construction emissions in the project area but are representative for average areas in Cowlitz County. That said, in the absence of detailed site-level carbon stock surveying, these average values are likely representative and conservative—i.e., they overestimate rather than underestimate emissions.

Loss of ongoing carbon sequestration for the forested, scrub-shrub, and herbaceous[20] upland vegetation cover types are then estimated based on IPCC guidelines (Intergovernmental Panel on Climate Change 2006: Volume 4). These estimates of the lost sequestration per area for forested, scrub-shrub, and herbaceous[21] upland vegetation cover types are multiplied by the corresponding changes in area resulting from construction over the analysis period (2018 through 2038) to estimate the lost sequestration.

Table 4 shows the emission factors (lost carbon stock and lost sequestration values) derived for the upland land cover type.

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[19] There is only one carbon stock per area factor available for herbaceous upland vegetation cover type. This carbon stock density is applied for both herbaceous and managed herbaceous vegetation cover types. The carbon in both of these systems predominantly resides in the soil, and is largely independent of management.

[20] The annual carbon sequestration for the forested and scrub-shrub vegetation types is based on the aboveground net biomass growth in natural temperate continental forests in North America. The annual carbon sequestration for the herbaceous vegetation type is assumed zero because the soil carbon gains and losses were assumed to have reached an equilibrium for an established herbaceous system.

[21] The same carbon stock density is applied for both herbaceous and managed herbaceous vegetation cover types since the carbon in both of these systems predominantly resides in the soil.

Table 4. Upland Emission Factors

Land Cover Category	Vegetation Cover Type	One-time Lost Carbon Stock (metric tons CO_2e/acre)[a]	Annual Lost Sequestration (metric tons CO_2e/acre/year)[b]
Upland	Forested	510.5	2.8
	Scrub-shrub	325.6	2.8
	Herbaceous	140.7	0
	Managed herbaceous	140.7	0

Notes:
[a] One-time lost carbon stock values derived from Carbon On-Line Estimator search result in information for Cowlitz County (National Council for Air and Stream Improvement and U.S. Forest Service 2016).
[b] Annual lost sequestration values are from IPCC (2006)
GHG = greenhouse gas; CO_2e = carbon dioxide equivalent

To estimate the loss of wetland carbon stocks, estimates of vegetation cover carbon stocks in the project area are also based on average carbon stock per area estimates for Cowlitz County taken from the Carbon Online Estimator, with the soil carbon stocks taken from a study by the U.S. Department of Agriculture Forest Service (Trettin and Jurgensen 2003). These estimates of the carbon stock per area for forested, scrub-shrub, and herbaceous wetland cover types are multiplied by the corresponding changes in wetland area resulting from construction to estimate the change in carbon stocks associated with construction.

To estimate the loss of ongoing carbon sequestration for the forested, scrub-shrub, and herbaceous wetland vegetation cover types, representative estimates of annual carbon sequestration for wetlands assumed similar to those in the project area are from a study by Hansen (2009). Based on values reported by Trettin and Jurgensen (2003), these annual carbon sequestration estimates are adjusted to include the reduction in annual carbon dioxide and methane emissions for wetlands.

These adjusted estimates of the lost sequestration and reduction in emissions per area for forested, scrub-shrub, and herbaceous wetland vegetation cover types are multiplied by the corresponding changes in area resulting from the construction over the analysis period (2018 through 2038) to estimate the lost sequestration and reduction in emissions.

Table 5 shows the emission factors (i.e., lost carbon stock and lost sequestration and reduction in emission values) derived for the wetland vegetation cover types.

Table 5. Wetland Emission Factors

Land Cover Category	Vegetation Cover Type	One-time Lost Carbon Stock ($MtCO_2e$/acre)[a]	Annual Lost Sequestration ($MtCO_2e$/acre/year)[b]
Wetland	Forested	451.43	-5.51
	Scrub-shrub	266.52	-2.12
	Herbaceous	81.61	1.26

Notes:

[a] One-time lost carbon stock values are derived from Carbon On-Line Estimator search result information for Cowlitz County (National Council for Air and Stream Improvement and U.S. Forest Service 2016), with the soil carbon stocks taken from a study by the Trettin and Jurgensen (2003)

[b] Annual lost sequestration values are from a study by Hansen (2009), adjusted to include the reduction in annual carbon dioxide and methane emissions taken from Trettin and Jurgensen (2003)

GHG = greenhouse gas; CO_2e = carbon dioxide equivalent; $MtCO_2e$ = metric tons of carbon dioxide equivalent

Dock Dredging During Terminal Construction and Operations—Sediment Carbon

To estimate the potential loss of sediment carbon associated with dock dredging during coal export terminal construction and operations, the volume of sediment removed during coal export terminal construction and operations is multiplied by the density of the sediment, the total solids percentage in the sediment, and the total organic carbon percentage in the sediment. The resulting sediment carbon mass is converted to CO_2 equivalents. The density of the sediment is based on engineering density information available online (Engineering ToolBox 2016). The total organic carbon percentage and the total solids percentage in the sediment are based on the chemical analysis results value reported for the existing bulk product terminal (Dredged Material Management Program 2016).

Dredged material disposal would be determined through the Dredged Material Management Program process and options could include flow lane disposal for beneficial use in the Columbia River, or upland use of dredged material for pre-loading stockpile areas (Grette Associates 2014). For these dredge disposal options, how much of the organic carbon contained in the sediment that will actually be exposed to the air, oxidized, and emitted as carbon dioxide is unknown. As a result, the estimates represent the potential loss of sediment carbon, and likely overestimate the actual sediment carbon emissions associated with dock dredging during terminal construction and operations.

Table 6 shows the sediment carbon assumptions.

Table 6. Sediment Carbon Assumptions

Dock Dredging Period	Sediment Removed (cubic yard)	Sediment Density (lbs/ft^3)[a]	Total Solids (%)[b]	Total Organic Carbon (%)[c]
Construction	500,000	80	78.84	0.271
Annual Operations	100,000	80	78.84	0.271

Notes:
1 cubic yard = 27 cubic feet; 1 pound = 0.00454 metric tons; 1 metric ton carbon = 44/12 metric tons CO_2e
[a] Sediment density value is based on engineering density information available online (Engineering ToolBox 2016).
[b] Total solids percentage value is from Dredged Material Management Program Suitability Determination for the existing bulk product terminal (Dredged Material Management Program 2016).
[c] Total organic carbon percentage value is from the Suitability Determination for the existing bulk product terminal (Dredged Material Management Program 2016).

Coal Extraction

The coal market assessment indicates that coal extraction in the United States would increase in all four scenarios under the Proposed Action, as the export of coal through the coal export terminal would cause additional coal to be mined in the United States beyond that which is extracted for domestic consumption under the no-action. While coal production may increase, decrease, or stay the same across the U.S coal regions depending on the year and the scenario, in general the net change in extracted coal would come primarily from the Powder River Basin in Montana and Wyoming and the Uinta Basin in Utah and Colorado. Some change in domestic coal extraction is also expected in other regions outside the Powder River Basin and Uinta Basin due to indirect effects on the domestic coal market by the Proposed Action.

The coal market assessment also indicates that coal extraction outside the United States would decrease in all four scenarios under the Proposed Action, as the export of coal through the terminal would reduce the demand for coal mining in other countries beyond what is currently extracted under the no-action. While coal extraction may increase, decrease, or stay the same across international coal regions depending on the year and the scenario, in general, the avoided extraction of competing coal (i.e., coal extraction in international markets that would no longer occur due to the substitution of U.S.-based coal) would occur primarily in Australia, Indonesia, Russia, India, and China. Some change in international coal extraction is expected in other regions, both within and outside Asia.

Coal extraction from regions assessed in the coal market assessment (i.e., the Powder River Basin, Uinta Basin, other U.S. regions, and non-U.S. regions) would result in GHG emissions from:

- Energy consumption (electricity and diesel fuel) for mining operations, including overburden removal, coal extraction, and reclamation.
- Methane from surface and underground mining.

Under this approach, the indirect coal extraction GHG emissions from the Proposed Action are calculated by applying the GHG emission factors for each source of indirect emissions to the volumes of U.S. coal extraction that would be induced by the Proposed Action, covering the Powder River Basin, the Uinta Basin, and other U.S. coal regions. These GHG estimates are offset by GHG emissions

from competing coal extraction outside the United States, primarily in Australia, Indonesia, Russia, and China. From these annual estimates of net GHG emissions, the total indirect GHG emissions are calculated for coal extraction that would result from the Proposed Action during operations from 2021 through 2038.

The following sections describe the methods for assessing the GHG emissions impacts from coal extraction for each of the coal extraction regions impacted by the Proposed Action.

Coal Extraction from U.S. Mines

For all scenarios under the Proposed Action, surface mining is expected to increase in the United States, with changes in coal extraction occurring primarily in the Powder River Basin and the Uinta Basin during the analysis period. Smaller changes in surface coal extraction occur in other U.S. regions.

Diesel fuel consumption needed for each ton of extracted at the surface mine as part of mine operation is estimated based on a recent life-cycle assessment study of coal exports from the Powder River Basin from the National Energy Technology Laboratory (Skone et al. 2016). The result is 0.351 gallon of diesel fuel per metric ton of coal mined. Based on estimates provided in Skone et al. (2016), the electricity consumption needed for mine operation (e.g., equipment, lighting) is estimated to be 11,500 megawatt-hours per million metric ton of coal mined.

The GHG emissions from diesel fuel combustion are estimated using emission factors from Argonne National Laboratory's Greenhouse gases, Regulated Emissions, and Energy use in Transportation (GREET) model (Argonne National Laboratory 2016). The GHG emissions from electricity production are based on EPA's eGRID annual combustion output emissions rate for states where surface coal extraction is expected to change: Colorado, Illinois, Indiana, Montana, Pennsylvania, Utah, Virginia, West Virginia, Wyoming, Alabama, Arizona, Arkansas, Kansas, Kentucky, Maryland, New Mexico, North Dakota, Oklahoma, Tennessee, Texas, and Mississippi (U.S. Environmental Protection Agency 2017).

Based on estimates provided in Spath et al. (1999), the electricity consumption needed for underground mine operation (e.g., equipment, lighting) is estimated to be 12,755 megawatt-hours per million metric ton of coal mined. The GHG emissions from electricity production use the same EPA eGRID emission factors as the surface mining assessment.

The surface mining methane emissions specific to each U.S. surface mining coal extraction basin are estimated per metric ton of coal mined based on data provided in EPA's 1990–2014 GHG Inventory. Underground mining emissions specific to each basin are unavailable. To estimate underground mining methane emissions, a U.S. average emission factor based on total 2014 U.S. underground mining emissions and production data from the EPA GHG Inventory was used for all underground basins (U.S. Environmental Protection Agency 2016b). For each basin a weighted average methane emission factor was calculated based on the share of basin underground and surface mining production (Mining Safety and Health Administration 2016) and underground and surface mining emission factors. Emission factors for surface and underground mining include both emissions directly from mining and from post-mining activities (e.g., handling, transportation). Table 7 presents a summary of the consumption and emission factors used to assess the GHG emissions from U.S. coal extraction.

Table 7. U.S. Mining Coal Extraction Factors[a]

Material Input/Process	Factor	Unit	Source
Surface Mining Electricity Consumption	11,500	MWh/Million Mt of Coal	Skone et al. 2016
Underground Mining Electricity Consumption	12,755	MWh/Million Mt of Coal	Spath et al. 1999
Electricity emissions – Colorado	0.723	MtCO2e/MWh	U.S. EPA 2017
Electricity emissions – Illinois	0.452	MtCO2e/MWh	U.S. EPA 2017
Electricity emissions – Indiana	0.900	MtCO2e/MWh	U.S. EPA 2017
Electricity emissions – Montana	0.591	MtCO2e/MWh	U.S. EPA 2017
Electricity emissions – Pennsylvania	0.452	MtCO2e/MWh	U.S. EPA 2017
Electricity emissions – Utah	0.809	MtCO2e/MWh	U.S. EPA 2017
Electricity emissions – Virginia	0.401	MtCO2e/MWh	U.S. EPA 2017
Electricity emissions – West Virginia	0.903	MtCO2e/MWh	U.S. EPA 2017
Electricity emissions – Wyoming	0.913	MtCO2e/MWh	U.S. EPA 2017
Electricity emissions – Alabama	0.481	MtCO2e/MWh	U.S. EPA 2017
Electricity emissions – Arizona	0.507	MtCO2e/MWh	U.S. EPA 2017
Electricity emissions – Arkansas	0.587	MtCO2e/MWh	U.S. EPA 2017
Electricity emissions – Kansas	0.644	MtCO2e/MWh	U.S. EPA 2017
Electricity emissions – Kentucky	0.946	MtCO2e/MWh	U.S. EPA 2017
Electricity emissions – Maryland	0.531	MtCO2e/MWh	U.S. EPA 2017
Electricity emissions – New Mexico	0.768	MtCO2e/MWh	U.S. EPA 2017
Electricity emissions – North Dakota	0.827	MtCO2e/MWh	U.S. EPA 2017
Electricity emissions – Oklahoma	0.618	MtCO2e/MWh	U.S. EPA 2017
Electricity emissions – Tennessee	0.487	MtCO2e/MWh	U.S. EPA 2017
Electricity emissions – Texas	0.540	MtCO2e/MWh	U.S. EPA 2017
Electricity emissions – Mississippi	0.450	MtCO2e/MWh	U.S. EPA 2017
Diesel consumption	0.351	Gallons/Mt of Coal	Skone et al. 2016
Diesel combustion emissions	0.011	MtCO2e/Gallon	Argonne National Laboratory 2016
Surface Mining Methane Emissions – Central Appalachia Basin – Virginia	0.025	MtCO2e/Mt of Coal	U.S. EPA 2016b
Surface Mining Methane Emissions – Central Appalachia Basin – West Virginia	0.025	MtCO2e/Mt of Coal	U.S. EPA 2016b
Surface Mining Methane Emissions – Central Appalachia Basin – East Kentucky	0.024	MtCO2e/Mt of Coal	U.S. EPA 2016b
Surface Mining Methane Emissions – Illinois Basin	0.035	MtCO2e/Mt of Coal	U.S. EPA 2016b
Surface Mining Methane Emissions – Northern Great Plains (Powder River Basin) – Wyoming and Montana	0.020	MtCO2e/Mt of Coal	U.S. EPA 2016b

Material Input/Process	Factor	Unit	Source
Surface Mining Methane Emissions – Northern Great Plains (Powder River Basin) – North Dakota	0.005	MtCO2e/Mt of Coal	U.S. EPA 2016b
Surface Mining Methane Emissions – Northern Appalachia Basin	0.061	MtCO2e/Mt of Coal	U.S. EPA 2016b
Surface Mining Methane Emissions – Rockies (Green River Basin)	0.034	MtCO2e/Mt of Coal	U.S. EPA 2016b
Surface Mining Methane Emissions – Rockies (Uinta Basin)	0.016	MtCO2e/Mt of Coal	U.S. EPA 2016b
Surface Mining Methane Emissions – Rockies (San Juan Basin)	0.007	MtCO2e/Mt of Coal	U.S. EPA 2016b
Surface Mining Methane Emissions – Rockies (Raton Basin)	0.032	MtCO2e/Mt of Coal	U.S. EPA 2016b
Surface Mining Methane Emissions – Warrior Basin	0.029	MtCO2e/Mt of Coal	U.S. EPA 2016b
Surface Mining Methane Emissions – West Interior (Arkoma Basin)	0.071	MtCO2e/Mt of Coal	U.S. EPA 2016b
Surface Mining Methane Emissions – West Interior (Forest City, Cherokee Basins)	0.033	MtCO2e/Mt of Coal	U.S. EPA 2016b
Surface Mining Methane Emissions – West Interior (Gulf Coast Basin)	0.011	MtCO2e/Mt of Coal	U.S. EPA 2016b
Underground Mining Methane Emissions – U.S. Average	0.171	MtCO2e/Mt of Coal	U.S. EPA 2016b

[a] Emission factors for surface and underground mining include both mining and post mining activities.
Sources: Argonne National Laboratory 2016, Skone et al. 2016, U.S. Environmental Protection Agency 2015b, U.S. Environmental Protection Agency 2016b
Mt = metric tons of material; MWh = megawatt-hour; CO_2e = carbon dioxide equivalent

Coal Extraction from International Mines

For all scenarios under the Proposed Action, with the exception of China in the Upper Bound scenario, coal mining is expected to decrease outside the United States, with changes in coal extraction occurring primarily at underground and surface coal mines in Australia, Indonesia, India, Russia, and China across the analysis period. Smaller changes in surface and underground coal extraction are expected to occur in Canada and South Africa.

For each of these international regions, coal extraction emissions were estimated using region-specific emission factors for coal mining methane emissions, electricity use, and diesel fuel use.

Indirect GHG emissions from methane released in coal mining were obtained from the latest United Nations Framework Convention on Climate Change (UNFCCC) GHG inventory data for methane emissions from underground and surface coal mining emissions (United Nations Framework Convention on Climate Change 2015). These emissions estimates include underground and surface mining and post-mining fugitive emissions but exclude abandoned mine emissions, as they are not directly related to ongoing coal extraction.

China, Indonesia, and India did not report coal mining methane emissions to UNFCCC; for these regions this analysis used average Tier 1 underground and surface mining, including mining and

post-mining, from IPCC GHG inventory guidelines (Intergovernmental Panel on Climate Change 2006). These IPCC emission factors were combined with Global Methane Initiative data for shares of surface mining and underground mining of total coal production. According to the Global Methane Initiative data, Indonesia produced coal from 100% surface mines, China produced coal from 10% surface and 90% underground mines, India produced coal from 90% surface and 10% underground mines, and South Africa produced coal from 51% underground and 49% surface mines. For China, the emission factor was adjusted to account for quantities of utilized methane based on Global Methane Initiative data (Global Methane Initiative 2015). Utilized methane represents coal-mining methane that is captured and consumed on site or off site. This method for China's emission factor follows IPCC guidelines (Intergovernmental Panel on Climate Change 2006).

For regions where UNFCCC methane emission data were used, a coal mining methane emission factor was derived by dividing the total methane emissions for the most recent available year (2014) by Energy Information Agency coal production data for the specific region and year (2017).

Electricity and diesel consumption from on-site mining activities came from an Ecoinvent report on environmental impact inventories from international energy systems (Dones et al. 2007 in International Energy Agency 2015). Region-specific electricity emission factors as indicated in the International Energy Agency were applied to calculate indirect CO_2 emission based on the Dones et al. consumption values (International Energy Agency 2015), and used diesel combustion emission factors from the Argonne National Laboratory's GREET model (Argonne National Laboratory 2016).

Table 8 presents a summary of the consumption and emission factors used to assess the GHG emissions from international coal extraction.

Table 8. International Underground and Surface Mining Coal Extraction Factors

Material Input/Process	Factor	Unit	Source
Australia – electricity consumption	17.9	kWh/Mt of Coal	Dones et al. 2007
Canada – electricity consumption	25.1	kWh/Mt of Coal	Dones et al. 2007
China – electricity emissions	12.9	kWh/Mt of Coal	Dones et al. 2007
India – electricity consumption	12.9	kWh/Mt of Coal	Dones et al. 2007
Indonesia – electricity consumption	12.9	kWh/Mt of Coal	Dones et al. 2007
Russia – electricity consumption	93.0	kWh/Mt of Coal	Dones et al. 2007
South Africa – electricity consumption	13.9	kWh/Mt of Coal	Dones et al. 2007
Australia – electricity emissions	798.38	g CO_2/kWh	IEA 2015b
Canada – electricity emissions	158.4	g CO_2/kWh	IEA 2015b
China – electricity emissions	711.9	g CO_2/kWh	IEA 2015b
India – electricity emissions	789.24	g CO_2/kWh	IEA 2015b
Indonesia – electricity emissions	761.21	g CO_2/kWh	IEA 2015b
Russia – electricity emissions	439.37	g CO_2/kWh	IEA 2015b
South Africa – electricity emissions	926.40	g CO_2/kWh	IEA 2015b
Australia – diesel consumption	65.5	MJ/Mt of Coal	Dones et al. 2007
Canada – diesel consumption	33.7	MJ/Mt of Coal	Dones et al. 2007
China – diesel emissions	24.2	MJ/Mt of Coal	Dones et al. 2007
India – diesel consumption	24.2	MJ/Mt of Coal	Dones et al. 2007
Indonesia – diesel consumption	24.2	MJ/Mt of Coal	Dones et al. 2007
Russia – diesel consumption	41.8	MJ/Mt of Coal	Dones et al. 2007
South Africa – diesel consumption	48.3	MJ/Mt of Coal	Dones et al. 2007
Diesel combustion emissions	0.011	MtCO2e/Gallon	Argonne National Laboratory 2016
Australia – Coal Mine Methane	0.04	Mt CO_2e/Mt of Coal	UNFCCC 2017, EIA 2016
Canada – Coal Mine Methane	0.02	Mt CO_2e/Mt of Coal	UNFCCC 2017, EIA 2016
China – Coal Mine Methane	0.30	Mt CO_2e/Mt of Coal	IPCC 2006, GMI 2015, EIA 2016
India – Coal Mine Methane	0.05	Mt CO_2e/Mt of Coal	IPCC 2006, GMI 2015
Indonesia – Coal Mine Methane	0.02	Mt CO_2e/Mt of Coal	IPCC 2006, GMI 2015
Russia – Coal Mine Methane	0.15	Mt CO_2e/Mt of Coal	UNFCCC 2017, EIA 2016
South Africa – Coal Mine Methane	0.19	Mt CO_2e/Mt of Coal	IPCC 2006, GMI 2015

Sources: Argonne National Laboratory 2016, Intergovernmental Panel on Climate Change 2016, Dones et al. 2007, Global Methane Initiative 2015, IEA 2015, UNFCCC 2017

Mt = metric tons of material; kWh = kilowatt-hour; g = grams of material; MJ = megajoule; CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalent; IPCC = Intergovernmental Panel on Climate Change; GMI = Global Methane Initiative

Uncertainty Associated with Methane Emissions from Coal Extraction

Methane emissions during coal extraction represent a major source of GHG emissions in the production of coal. In particular, methane concentrated in coal deposits is released during extraction processes. The amount of methane concentrated in coal deposits varies significantly between regions, but underground deposits have much higher concentrations than surface deposits (Intergovernmental Panel on Climate Change 2006).

Measurements and estimates of methane released during mining can be highly uncertain, even at the mine or basin level. As indicated in the adjacent table, the uncertainty for coal mine methane emissions can be well over 100%.[a] The majority of international emission factors used in the GHG analysis are from UNFCCC sources, where participating countries report both mining and post-mining methane for underground and surface activities.

Tier Methodology	Underground Mining		Surface Mining	
	Mining	Post-Mining	Mining	Post-Mining
Tier 3 - Mine Specific Factors	+/-2-30%		N/A	
Tier 2 - Basin Specific Factors	+/-50-75%	+/-50%	+/-200%	+/-50%
Tier 1 - Global Averages	+/-200%	+/-300%	+/-300%	+/-300%

Source: Intergovernmental Panel on Climate Change 2006

However, which Tier each country used and the associated uncertainty are not reported. For countries that do not report coal mining emissions (i.e., China, Indonesia, India, and South Africa for this assessment), IPCC (2006) Tier 1 emission factors are used as shown in the table to the left. These factors have uncertainty ranges from +/- 200 to 300 percent.

Source Category	IPCC Tier 1 Methane Emission Factors - Mining and Post-Mining ($Mt\ CO_2e/Mt\ coal$)		
	Low	Average	High
Underground Mining	0.18	0.34	0.49
Surface Mining	0.01	0.02	0.04

Source: Intergovernmental Panel on Climate Change 2006

In general, the uncertainty associated with the GHG emission estimates from coal mining are an order of magnitude higher than those associated with coal combustion. As an example, the table to the right contrasts the source uncertainties for emission measurements from coal methane and fossil fuel combustion from the latest U.S. Environmental Protection Agency GHG inventory estimates.[b] As indicated, coal mining methane emissions have a relatively higher uncertainty than those from fossil fuel combustion.

Source Category	Uncertainty Range for 2014 GHG Inventory	
	Low	High
Coal Mining Methane	-12%	15%
Fossil Fuel Combustion	-2%	5%

Source: U.S. EPA 2016b

Coal methane emissions from extraction are key contributors to net GHG emissions in the GHG analysis. Because of this contribution, the net GHG estimates are estimated for both with and without coal extraction emissions for each of the coal market assessment scenarios.

[a]IPCC uncertainties for coal mine methane emissions reflect ranges of percent deviations from the reported emission factors and are based on expert judgement (IPCC 2006).
[b]These values reflect the 95% confidence interval in percent deviations above and below the reported 2014 value for each source category (U.S. EPA 2016b).

Coal methane emissions from extraction are key contributors to net GHG emissions in the GHG analysis. Because of this contribution, the net GHG estimates are estimated both with and without coal extraction emissions. The uncertainties of these estimates are detailed in the text box above.

China, a major driver of this assessment's extraction emissions, currently produces large amounts of coal from methane-intensive underground mines. China has greatly expanded coal mine methane recovery and utilization over the past decade (Global Methane Initiative 2015). Based on its recently developed Intended Nationally Determined Contributions, China plans to continue to enhance vented methane recovery and utilization (United Nations Framework Convention on Climate Change 2015), but this is not reflected in this analysis due to data restrictions. Coal mine methane utilization values were taken into account in the emission factor for China based on data reported as of 2013 (Global Methane Initiative 2015). Increases in coal mine methane utilization in China would result in a decrease in the emission factor for China and an increase in the resulting net GHG estimates for each scenario (i.e., the offsetting of underground mined coal in China would result in offsetting a smaller quantity of methane from the estimate of net GHG emissions).

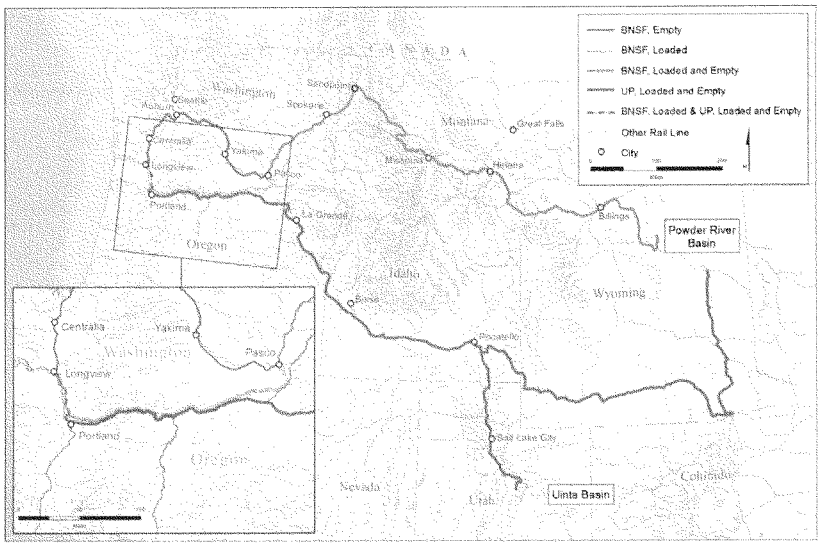
Rail Transport

Rail Transport to Washington State

Indirect sources of GHG emissions from coal transport from the Uinta and Powder River Basins to Washington State include diesel combustion emissions from locomotive operation of empty and loaded Proposed Action-related trains. The Uinta Basin is located in Colorado and Utah, whereas the Powder River Basin is located in Montana and Wyoming. The distances from six coal extraction sites (one each in Colorado and Utah; two in Montana; two in Wyoming) to Washington State range from 627 miles to 946 miles by rail. For this analysis, each train is assumed to consist of four locomotives and 125 rail cars, each loaded with 121 metric tons of coal[22] (ICF and Hellerworx 2017). For the return trip, this analysis assumes that the train would make a return trip to the coal basins with four locomotives and empty rail cars. Figure 6 provides an illustration of coal train routes from the Powder River Basin and the Uinta Basin to the project area.

[22] The approximate amount of coal that would be required to transport 44 million metric tons of coal in 8 loaded unit trains, 125 rail cars per day, 365 days per year.

Figure 6. Rail Transport of Coal to the Project Area



To calculate emissions, the gross mass of the loaded and empty coal trains is derived from BNSF data to determine the gross ton-miles of rail traffic associated with each scenario.[23] Table 9 provides an overview of the mass associated with the locomotives, the loaded coal, and the rail cars.

Table 9. Mass of Coal Train Components

Train Component	Mass (Metric Tons)
Locomotive (one)	196
Rail car (one)	19
Coal per car	121
Gross train mass (full)	18,222
Gross train mass (empty)	3,154

Source: ICF and Hellerworx 2017

The mass of the trains is multiplied by the total distance traveled to bring coal from mines in Colorado, Montana, Utah, and Wyoming to Washington State. The relative amount of train traffic from each extraction site is dependent on the coal market assessment scenario and year. For example, as the coal throughput at the coal export terminal remains constant, the relative shares of coal coming from the Uinta and Powder River Basins shifts. Table 10 provides estimates of rail

[23] Gross-ton miles refer to ton-miles travelled that include the mass of the railcars and locomotives in addition to the mass of the cargo.

distances from coal extraction sites to Washington State for the coal supply regions modeled that could export from the project area.

Table 10. Coal Supply Regions and Distances to Washington State

Coal Type	Rail Distance to Washington State (Miles)
Montana Powder River Basin Coal	797
Montana Signal Peak	760
Wyoming Powder River Basin Coal (8,400 Btu/lb)	946
Wyoming Powder River Basin Coal (8,800 Btu/lb)	946
Colorado Uinta Basin Coal	839
Utah Uinta Basin Coal	1,013

Source: Distances estimated via geographic information system mapping.
Btu/lb = British thermal units per pound

The fuel consumption for transport to Washington State is estimated by multiplying the ton-miles travelled for each data year by a fuel consumption per ton-mile factor for average locomotive diesel consumption.[24] The GHG emissions are estimated by multiplying the total fuel consumption by a rail diesel-specific combustion factor, as shown in Table 11.

Table 11. Emission Factors from Rail Diesel Fuel

Greenhouse Gas	Emission Factor ($MtCO_2e$/1,000 gallons)
Carbon dioxide	10.26
Methane	0.01
Nitrous oxide	0.02
Total	**10.29**

Source: U.S. Environmental Protection Agency 2015a
$MtCO_2e$ = metric tons of carbon dioxide equivalent

Rail Transport in Washington State beyond Cowlitz County

Indirect sources of GHG emissions from rail transport of coal in Washington State include diesel combustion emissions from locomotives. GHG emissions from rail transport of coal within Washington State to the border of Cowlitz County are estimated using the same approach as for transport to Washington State. Powder River and Uinta Basin coal would be transported through Washington State to Cowlitz County via Pasco and through the Columbia River Gorge, entering Cowlitz County near Woodland. Empty trains returning to the Powder River Basin would take a longer northern route (via Stampede Pass) whereas empty trains returning to the Uinta Basin return along the southern route. Therefore, returns to Powder River Basin are longer (Table 12).

[24] An estimate of 833 gross-short ton miles per gallon of diesel is used (BNSF Railway Company 2013).

Table 12. Coal Types and Distances within Washington State beyond Cowlitz County

Coal Type	Loaded Train Distance (Miles)	Empty Train Distance (Miles)
Powder River Basin coal	401	488
Uinta Basin Coal	18	18

Note: Estimate does not include distance travelled within Cowlitz County
Source: ICF and Hellerworx 2017

Rail Transport in Cowlitz County

Direct sources of GHG emissions from rail transport of coal in Cowlitz County include diesel combustion emissions from the operation of locomotives in Cowlitz County. Emissions include round-trip emissions from loaded and empty trains on the BNSF main line as well as the Reynolds Lead and BNSF Spur leading to the project area from the BNSF main line. Loaded trains travel to the project area from near Woodland, whereas empty trains travel along the BNSF main line to near Vader. GHG emissions from rail transport of coal from the border of Cowlitz County to the project area are estimated using the same approach as for the transport outside the county. Emissions are estimated from the project area to the county border; a distance of 25.1 miles for loaded trains entering Cowlitz County and 28.5 miles for empty trains leaving the county (Table 13).

Table 13. Rail Distances Traveled within Cowlitz County

Rail Route	Loaded Train Distance (Miles)	Empty Train Distance (Miles)
Cowlitz County Border to Longview Junction	17.9	-
Longview Junction to project area	7.1	7.1
Longview Junction to Cowlitz County Border	-	21.4
Total	**25.1**	**28.5**

Source: ICF and Hellerworx 2017

Locomotive Operation in the Project Area

Direct GHG emissions at the project area for the Proposed Action include emissions from the movement of coal trains around the 1.65- mile loop, the on-site idling of coal trains, and the operation of a switch locomotive to move cars and assemble trains for departure. The analysis assumes that it takes 1.85 hours to unload a 125-car unit train, each train has a 5-hour idle period prior to departing the facility, and the switch locomotive operates for 8 hours a day. This emission source includes the sum of these three activities. Emission factors for line-haul locomotives are based on projected changes in the locomotive fleet over the next 30 years (U.S. Environmental Protection Agency 2009b). These emission factors are based on engine load and associated fuel consumption during transport to and from the facility, time to unload coal from the train cars, and total annual coal throughput. The power demand is proportional to engine load, which varies in intensity depending on whether the locomotive is hauling freight or idling. The fuel consumption is estimated based on the power demand, which is estimated based on the engine load and duration of the activity. The fuel consumption is then multiplied by fuel combustion emission factors for locomotives as provided in Table 14.

Table 14. Emission Factors for Locomotives

Greenhouse Gas	Emission Factor ($MtCO_2e$/ 1,000 gallons)
Carbon dioxide	10.23
Methane	<0.1
Nitrous oxide	0.1
Total	**10.31**

Source: U.S. Environmental Protection Agency. 2009b. *Emission Factors for Locomotives.*
$MtCO_2e$ = metric tons of carbon dioxide equivalent

Vehicle-Crossing Delay

Direct sources of GHG emissions from vehicle-crossing delay include the incremental fuel emissions caused by vehicle delay at grade crossings in Cowlitz County due to train traffic to the project area. This emission source is based on existing rail infrastructure. GHG emissions are determined by estimating the gate downtime per day at grade crossings along the BNSF Spur and Reynolds Lead (between the BNSF main line and the project area) and at public at-grade crossings along the BNSF main line in Cowlitz County, and then estimating the average delay per vehicle for each crossing. The emission estimate does not consider any track improvements to the Reynolds Lead and BNSF Spur. Emissions are estimated based on the average volume of vehicle traffic for each crossing. The fleet mix, or relative shares of vehicle types delayed at the crossing, is assumed representative of Cowlitz County as a whole, and is derived from the MOtor Vehicle Emission Simulator (MOVES) model (U.S. Environmental Protection Agency 2014a). The MOVES model provides emission factors for each vehicle type in grams per mile travelled, which are converted into vehicle delay emissions by multiplying by the assumed average vehicle speed of 2.5 miles per hour.[25] The mix of vehicles and their contribution to the weighted average Cowlitz County vehicle traffic emission factor is shown in Table 15.

[25] The MOVES emission factor for vehicle idling is based on a slow operation speed of 2.5 miles per hour.

Table 15. Weighted Vehicle Fleet Mix for Cowlitz County, 2028

Vehicle Type	Vehicle Speed (mph)	Emission Factor (g/mi)[a]	Fraction of Each Vehicle (%)[b]	Weighted Emission Factor (g CO_2e/ vehicle-hour)
Combination long-haul truck	2.5	1,866	1.13	52.71
Combination short-haul truck	2.5	1,821	0.82	37.33
Intercity bus	2.5	1,909	0.01	0.48
Light commercial truck	2.5	375	8.07	75.57
Motor home	2.5	1,259	0.88	27.70
Motorcycle	2.5	443	3.22	35.67
Passenger car	2.5	273	48.12	328.01
Passenger truck	2.5	367	33.14	304.23
Refuse truck	2.5	1,839	0.15	6.90
School bus	2.5	1,253	0.36	11.28
Single unit long-haul truck	2.5	1,108	0.16	4.43
Single unit short-haul truck	2.5	1,153	3.92	112.99
Transit bus	2.5	1,648	0.04	1.65
Total			**100.00**	**998.95**

Notes: MOVES assumes a vehicle speed of 2.5 miles per hour to simulate idling emissions.
Sources:
[a] U.S. Environmental Protection Agency 2014a
[b] ICF 2017b

The delay is estimated for each road segment in the county and described as the total minutes of delays (in vehicle-hours) as well as the total vehicles affected. The emissions are estimated by multiplying the above fleet mix by vehicle-specific emission factors (in grams per vehicle-hour of delay) and then by the total amount of delay over the period of a year (Table 16).

Table 16. Activity Data for Vehicle Delay in Cowlitz County, 2028

Street	Daily Trains	Avg. Train Length (feet)	Train Speed (mph)	Avg. Daily Traffic in Both Directions (veh/day)	Number of Lanes in Both Directions	Total Delay (min /day)	Vehicles Delayed per Day (veh/day)
Study Crossings along the Reynolds Lead and BNSF Spur							
Industrial Way (SR 432)	16	5,944	10	12,100	2	4,315	975
Oregon Way (SR 433)	16	5,944	10	18,770	4	6,379	1,513
California Way	16	5,946	8	4,800	2	2,401	477
3rd Avenue (SR 432)	16	5,946	8	20,720	4	10,893	2,060
Dike Road	16	6,301	10	1,100	2	371	94
Project access (opposite 38th Avenue)	16	5,944	5	1,340	2	1,522	209
Weyerhaeuser Access (opposite Washington Way)	16	5,944	8	3,900	4	1,840	388
Weyerhaeuser Norpac Access	16	5,944	10	800	2	240	64
Public At-Grade Crossings along the BNSF Main Line in Cowlitz County							
Taylor Crane Road in Castle Rock	8	5,546	50	50	2	0.4	0.5
Cowlitz Street in Castle Rock	8	5,546	50	1,450	2	13	14
Cowlitz Gardens Road in Kelso	8	5,546	62	850	2	6	7
Mill Street in Kelso	8	5,546	40	3,000	2	39	35
S River Road/ Yew Street in Kelso	8	5,546	40	2,200	2	28	25
Toteff Road/ Port Road in Kalama	8	5,546	62	1,450	2	10	12
W Scott Avenue in Woodland	8	5,546	62	3,100	2	21	26
Davidson Avenue in Woodland	8	5,546	62	2,350	2	16	20
Whalen Road in Woodland	8	5,546	62	1,800	2	12	15

Source: ICF and DKS Associates 2017.

Coal Export Terminal Construction

Direct sources of GHG emissions from construction include operation of the construction equipment itself as well as the vehicles to bring employees and construction materials to the project area. Fossil fuels are combusted for the operation of mobile combustion equipment used for demolition and earthwork to prepare the site. In addition, indirect GHG emissions result from production of the materials required for construction of the Proposed Action, such as conveyors, roadways, docks, and berms. Table 17 summarizes the required equipment and duration of use.

Table 17. Major Construction Activities and Typical Equipment Fleets[a]

Construction Equipment Type	Rail Infrastructure and Rotary Car Dump Station		Conveyors, Transfer Stations and Surge Bins		Shiploader, Dock, and Trestles	
	Max Qty. per Month	Duration (months)	Max Qty. per Month	Duration (months)	Max Qty. per Month	Duration (months)
Mobile cranes (25–50 ton)	2	18	2	18	2	18
Mobile cranes (50–150 ton)	2	18	2	18	2	18
Mobile cranes (150–300 ton)	1	18	1	18	1	18
Water trucks	1	12	1	12	0	0
Dump trucks	3	12	1	12	0	0
Dozers	1	5	0	0	0	0
Excavators	1	9	2	12	1	3
Rollers	2	9	2	12	1	3
Graders	2	9	0	0	1	3
Compactors	2	9	2	12	1	3
Track laying machine	1	2	0	0	0	0
Drill rigs	1	2	2	6	0	0
Impact piling rigs	2	6	2	6	2	6
Loaders	1	12	1	12	1	9
River barge	0	0	0	0	2	18
Generator	2	18	2	18	2	18
Air compressor	2	18	2	18	2	18

Notes:
[a] Typical construction fleet may be modified with equivalent items as construction activities demand.
Sources: URS Corporation 2014b, ICF 2017b

Combustion emissions estimates are obtained from the NONROAD emissions model (U.S. Environmental Protection Agency 2009a) for the nonroad equipment. Construction activity is assumed to occur 8 hours per day, 5 days a week, 52 weeks per year, with the exception of the track-laying machine, which operates 4 hours per day. Emission factors are applied to the maximum numbers of equipment operated, duration of use, and horsepower, to obtain annual emissions.

Table 18 provides information on the emission factors for construction equipment.

Table 18. Construction Equipment Activity Data and Emission Factors

Equipment Type	Engine Size	Fuel Type	Number of Equipment Units	Emission Factor ($MtCO_2e$/year per Unit)[c]
Crane, 50-ton	165	Diesel	2	109.3
Crane, 150-ton	280	Diesel	2	183.0
Crane, 300-ton	450	Diesel	1	195.4
Water trucks	350	Diesel	1	98.8
Dump trucks	350	Diesel	4	98.8
Dozers	185	Diesel	0.4	396.5
Excavators	230	Diesel	2	886.6
Rollers	350	Diesel	3.8	100.3
Graders	185	Diesel	1.8	132.7
Compactors	25	Diesel	3.8	0.2
Track laying machine	[a]	Diesel	0.5	416.8
Drill Rigs	(NONROAD Default)[b]	Diesel	1.2	57.1
Impact Piling Rigs	(NONROAD Default)[b]	Diesel	3	57.1
Loaders	140	Diesel	1	416.8
Generator	30	Diesel	6	108.8
Air Compressor	25	Diesel	6	0.3

Notes:

[a] Assumes track-laying machine uses one diesel locomotive and one front end loader engine. Assumes full-time locomotive used 4 hours/day, 5 days/week.

[b] Horsepower and weight estimates are based on capacity ratings and industry specifications, or average ratings per equipment type. Where horsepower could not be assumed, an average horsepower rate in NONROAD for the equipment type is used.

[c] To calculate annual emissions, this emission factor is multiplied by 1.5 years to estimate the emissions for 18 months of construction.

Source: ICF 2017b

$MtCO_2e$ = metric tons of carbon dioxide equivalent

The impact of construction employee commuting is calculated using the MOVES model (U.S. Environmental Protection Agency 2014a), assuming that construction workers would use single-occupant vehicles with a mean round-trip travel time of 48.2 minutes. The analysis assumes that the 200 workers would be commuting during construction. At an estimated speed of 35 miles per hour, this amounts to 1,462,067 miles per year travelled. This distance is multiplied by emission factors for typical commuting vehicles provided by the MOVES model to calculate annual emissions.[26]

For the construction barges (operating under their own power or pushed/towed by another vessel), emissions are calculated using the EPA's AP-42 method for large diesel engines (U.S. Environmental Protection Agency 1996). The analysis assumes that the construction barges would have a positioning time of 1 hour with 1 round trip per day, 5 days per week, 52 weeks per year. Summaries of the barge activity and emission factors are available in Table 19 and Table 20, respectively.

[26] The analysis assumes a 50/50 mix of gasoline and E-85 for construction employee commuting vehicles.

Table 19. Barge Activity and Energy Use for Coal Export Terminal Construction

Barge Activity	Energy Consumption Variables
Barges used	2
Engine size (propulsion)	3,500 hp
Positioning time	1 hour
Total power per trip	7,000 hp
Construction trips	260 trips per year
Annual power	1,820,000 MMBtu per year

Source: ICF 2017b
hp = horsepower; MMBtu= million British thermal units per year

Table 20. Emission Factors for Construction Barges

Greenhouse Gas	$kgCO_2e$ per MMBtu	Emission Factor ($MtCO_2e$/ 1,000 gallons)
Carbon dioxide	74.8	10.23
Methane	0.1	0.1
Nitrous oxide	0.1	0.1
Total	75.0	10.25

Source: U.S. Environmental Protection Agency 1996
$kgCO_2e$ = kilograms of carbon dioxide equivalent; MMBtu = million British thermal units; $MtCO_2e$ = metric tons of carbon dioxide equivalent

The project area does not have an existing barge dock. Therefore, the material from incoming barges would be off-loaded at an existing dock elsewhere on the Columbia River and transported to the project area by truck. Emissions from trucks hauling construction material to the project area are estimated by determining the annual miles traveled by trucks going to and from the construction site and then multiplying those miles traveled by a per-mile emission factor from EPA's MOVES model. The peak annual trips for the Proposed Action are assumed 56,000 round trips (88,000 throughout the entire construction period) (URS Corporation 2015). Short-haul combination tractor-trailer trucks are assumed to move construction material with 47 roundtrip miles of travel in the county. The GHG emission factor is from a MOVES model run for Cowlitz County for the year 2018 (i.e., 1,561 to 1,930 grams of CO_2e per mile, depending on operating conditions).

The GHG emission assessment of the Proposed Action also includes an analysis of the emissions associated with the production of materials used in the initial construction of the coal export terminal. Production of materials, for the purpose of this analysis, includes raw materials extraction and processing, and product manufacturing. Transportation requirements are included for all supply chain elements up to the point of product manufacturing. The transportation of products from the manufacturer to the project area is modeled separately, as described in the previous paragraph.

The GHG emissions associated with construction materials for the Proposed Action are estimated using primary data from coal export terminal facility designs from the Applicant for total estimated material mass. Table 21 presents the estimated material masses for the coal export terminal by general type of material (e.g., concrete, steel, aggregate, and asphalt). The material masses are applied to the most recent and relevant emission factors for manufacturing of each material type. Table 21 summarizes these emission factors, modeling sources, and specific assessment notes or assumptions.

Table 21. Terminal Material Mass and Emission Factors

Facility Material/ Application	Mass (Mt)[a]	Emission Factor Material(s) Assumed	Emission Factor (kg CO_2e/Mt)	Emission Factor Source
Concrete	410,000	Concrete	180.3	UC Berkeley 2016
Berm Import Material	730,000	Primarily aggregates, assumed to be limestone gravel	3.9	Wernet et al. 2016
Transfer towers, galleries, etc.				
Structural Steel	9,500	Low-alloy steel	799.8	Wernet et al. 2016
Steel Piles	6,900	Low-alloy steel	799.8	Wernet et al. 2016
Rebar	9,300	Reinforcing steel	2,361.2	Wernet et al. 2016
Miscellaneous Steel	1,900	Low-alloy steel	799.8	Wernet et al. 2016
Rail System				
Rail	1,600	Steel	3,100.0	Hill et al. 2011
Gravel Ballast	57,600	Aggregate	8.0	Hill et al. 2011
Concrete Ties	9,800	Concrete	180.3	UC Berkeley 2016
Conveyors				
Idlers, belts, drives, take-up, stringers	8,300	Low-alloy steel	799.8	Wernet et al. 2016
Bridge Structures[b]				
Concrete	8,190	Concrete	180.3	UC Berkeley 2016
Rebar	910	Reinforcing steel	2,361.2	Wernet et al. 2016
Roadways[c]				
Asphalt	18,050	Asphalt	91.1	EIO-LCA: 2002 Purchaser (CMU GDI 2008)
Aggregate	11,950	Limestone gravel	3.9	Wernet et al. 2016
Buildings (Administration & Maintenance)	200	Assumed to be made up of low-alloy steel (33.3% of mass) and reinforced concrete (66.6%)	532.2	Wernet et al. 2016 , UC Berkeley 2016
Piping/Utilities	500	Ethylene pipeline	1,509.2	Wernet et al. 2016
Miscellaneous pumps, precast concrete, etc.	250	Assumed to be made up of low-alloy steel (33.3% of mass) and reinforced concrete (66.6%)	532.2	Wernet et al. 2016, UC Berkeley 2016
Electrical				
Substation	100	Low-alloy steel	799.8	Wernet et al. 2016
MCC Buildings	125	Assumed to be made up of steel (33.3% of mass) and reinforced concrete (66.6%)	799.8	Wernet et al. 2016, UC Berkeley 2016
Conduit, cable tray, cable, etc.	700	General cable	4,923.8	Wernet et al. 2016

Facility Material/ Application	Mass (Mt)[a]	Emission Factor Material(s) Assumed	Emission Factor (kg CO_2e/Mt)	Emission Factor Source
Major Equipment				
Tandem Rotary Dumper	500	Low-alloy steel	799.8	Wernet et al. 2016
Stackers	1,875	Low-alloy steel	799.8	Wernet et al. 2016
Reclaimers	3,300	Low-alloy steel	799.8	Wernet et al. 2016
Trestle/Dock/ Shiploaders				
Concrete	36,300	Concrete	180.3	UC Berkeley 2016
Rebar	900	Reinforcing steel	2,361.2	Wernet et al. 2016
Steel Piles	20,000	Low-alloy steel	799.8	Wernet et al. 2016
Shiploaders	3,300	Low-alloy steel	799.8	Wernet et al. 2016
10% Miscellaneous	135,200	Estimated material type, mass, and emission factor based on distribution of known materials	121.8	Emission factor based on distribution of known materials

Notes:
[a] Source: Millennium Bulk Terminals-Longview 2016, Hill et al. 2011, Wernet et al. 2016, UC Berkeley 2016
[b] Structures made of reinforced concrete. Assumed 90% of mass from concrete, 10% steel rebar.
[c] Roadways are designed with 3" of pavement (asphalt), 3" of subgrade (aggregate). Assumed a road width of 32" based on Cowlitz County (2007) standards.
Mt = metric tons of material; kgCO_2e/Mt = kilograms of carbon dioxide equivalent per metric ton of material

Construction of the coal export terminal would require dredging a 48-acre area (an estimated 500,000 cubic yards of sediment) of the river bottom to provide berthing at Docks 2 and 3. Emissions from equipment use for dock dredging were estimated by first determining the equipment necessary for typical dredging operations. Assumptions on the number of tugboats were based on a similar dredging analysis for the Port of Long Beach (Port of Long Beach 2012), while the dredge was assumed to be a diesel clamshell dredge with a capacity of 1,800 cubic yards per hour (Gaines pers. comm.). Horsepower assumptions were used from a similar dredging analysis performed for the Puget Sound Maritime Air Forum (Puget Sound Maritime Air Forum 2012) for tugboat engines, and Ellicott Dredges 2016 for the diesel dredge engines to estimate annual exhaust emissions from dredging equipment use (Table 22). The estimated 500,000 cubic yards of sediment were used to determine the number of tugboat trips required to transport dredged sediment, where 1 hour per round trip was assumed for transporting dredged material for a maximum distance of 3 miles back and forth along the Columbia River (Millennium Bulk Terminal—Longview 2014). The number of trips along the Columbia River was determined by the barge capacity of 2,250 cubic yards (Gaines pers. comm.). Based on these activities and the emission factor for diesel use of 692 g CO_2e/kWh (California Air Resources Board 2011), an annual emission factor for equipment was calculated as provided in Table 22.

Table 22. Coal Export Terminal Equipment and Emission Factors – Dredging Equipment

Equipment Type	Engine Size	Fuel Type	Emission Factor ($MtCO_2e$/year)[a]	Data Sources
Tugboat (Propulsion)	1,506 hp	Diesel	42.8	Puget Sound Maritime Air Forum 2012
Tugboat (Auxiliary)	125 hp	Diesel	3.1	Puget Sound Maritime Air Forum 2012
Tugboat aux at berth	125 hp	Diesel	1.0	Puget Sound Maritime Air Forum 2012
Diesel hydraulic dredge	2,680 hp	Diesel	98.0	Ellicott Dredges 2016, California Air Resources Board 2016
Auxiliary engine for hydraulic dredge	1,410 hp	Diesel	43.5	Ellicott Dredges 2016, California Air Resources Board 2016

$MtCO_2e$ = metric tons of carbon dioxide equivalent; hp = horsepower

[a] Calculated based on duration of 2 years for dredging activities to remove a total of 500,000 cubic yards of sediment, and engine horsepower and load factors as provided in Puget Sound Maritime Air Forum 2012, Ellicott Dredges 2016, California Air Resources Board 2016, and a diesel emission factor from California Air Resources Board 2011.

Coal Export Terminal Operation—Equipment Operation

Direct sources of GHG emissions from equipment operation at the terminal include fossil fuel emissions from mobile equipment on land, mobile equipment for maintenance dock dredging, and emergency equipment. Examples of equipment used for coal export terminal operation include loaders, maintenance vehicles, cranes, and emergency water pump and generator equipment. This equipment uses diesel, gasoline, and propane fuels. Emissions from mobile combustion sources and emergency equipment are estimated by first determining the equipment necessary for typical operation and maintenance and then using the NONROAD model (U.S. Environmental Protection Agency 2009a) to estimate annual exhaust emissions from that mobile and emergency equipment (Table 23). In addition to removing 500,000 cubic yards during construction, annual maintenance dredging of up to 100,000 cubic yards would occur during operation of the coal export terminal. Greenhouse gas emissions are estimated using the same method used during construction and the resulting emission factors are presented in Table 24.

Table 23. Coal Export Terminal Equipment and Emission Factors – Mobile Combustion and Emergency Equipment

Equipment Type	Engine Size	Fuel Type	Number of Equipment Units[a]	Emission Factor ($MtCO_2e$/year per Unit)[b]
Loader	300 hp	Diesel	1	671.7
Bobcat	50 hp	Diesel	2	16.6
10-Ton Truck	300 hp	Diesel	2	98.8
Crane	50 hp	Diesel	1	0.0
Forklift	40 hp	Propane	1	0.1
Maintenance Trucks	300 hp	Gasoline	4	0.2
Fire Water Pump	200 hp	Diesel	1	3.5
Emergency Generators	30 hp	Diesel	2	0.5

Source: U.S. Environmental Protection Agency 2009a, U.S. Environmental Protection Agency 2016c

[a] An equipment unit represents the number of equipment types are that are used in a year for annual operations. Hours of operation are based on those specified in the SEPA Air Quality Technical Report (ICF 2017b).

[b] Calculated based on horsepower and hours of operation assumptions used in the SEPA Air Quality Technical Report (ICF 2017b).

$MtCO_2e$ = metric tons of carbon dioxide equivalent; hp = horsepower

Table 24. Coal Export Terminal Equipment and Emission Factors – Maintenance Dredging

Equipment Type	Engine Size	Fuel Type	Emission Factor ($MtCO_2e$/year)[b]	Data Source
Tugboat (Propulsion)	1,506 hp	Diesel	17.1	Puget Sound Maritime Air Forum 2012
Tugboat (Auxiliary)	125 hp	Diesel	1.2	Puget Sound Maritime Air Forum 2012
Tugboat aux at berth	125 hp	Diesel	0.4	Puget Sound Maritime Air Forum 2012
Diesel hydraulic dredge	2,680 hp	Diesel	39.2	Ellicott Dredges 2016, California Air Resources Board, 2016
Auxiliary engine for hydraulic dredge	1,410 hp	Diesel	17.4	Ellicott Dredges 2016, California Air Resources Board, 2016

$MtCO_2e$ = metric tons of carbon dioxide equivalent; hp = horsepower

[b] –Calculated based on engine size, emission factor for diesel, and equipment use for one year of operation dredging 100,000 cubic yards of sediment.

Coal Export Terminal Operation—Electricity Consumption

Indirect sources of GHG emissions for electrical consumption include fuel combustion emissions at off-site power plants to produce electricity consumed at the coal export terminal. The local energy grid would provide electricity for operation of coal export terminal facilities. The additional electricity consumption that would be required for the coal export terminal is assumed similar to the annual energy use for the existing bulk product terminal (Chany pers. comm.). To estimate net

annual increase in GHG emissions from electricity consumption, the monthly electricity demand for the existing bulk product terminal is annualized in kilowatt-hours, as shown in Table 25.

Table 25. Monthly and Annual Electricity Demand for Coal Export Terminal

Time Period	Usage
Monthly	552,000 kWh
Annual	6,624 MWh

Notes:
Additional demand is assumed to occur throughout the entire analysis period, including construction.
Source: Chany pers. comm.
kWh = kilowatt hour; MWh = megawatt hour

To derive additional GHG emissions from electricity consumption for coal export terminal operations, the electricity fuel mix for an average water year is obtained from the Cowlitz Public Utility District. Emission factors for each fuel type are then derived from individual plant data for each fuel in the Western Electricity Coordinating Council Northwest subregion as provided in the Emissions & Generation Resource Integrated Database (eGRID). These individual fuel emission factors are combined using the Cowlitz Public Utility District fuel mix to obtain a weighted average emission factor to apply to electricity consumption from the Proposed Action. Table 26 provides the fuel mix and emission factors used to derive GHG emissions from electricity consumption for coal export terminal operations.

Table 26. Average Fuel Mix and Fuel-Specific Emission Factor for the Cowlitz Public Utilities District Region

Fuel Source	Share of Electricity Fuel Mix (%)	Carbon Dioxide (kg CO_2e/MWh)	Methane (kg CO_2e/MWh)	Nitrous Oxide (kg CO_2e/MWh)	Total (kg CO_2e/MWh)
Hydro	84.64%	0	0	0	0
Nuclear	9.70%	0	0	0	0
Wind	2.66%	0	0	0	0
Coal	2.08%	1,095.8	0.3	5.5	1,101.5
Natural Gas	0.79%	436.8	0.2	0.3	437.3
Other[a]	0.13%	302.0	0.1	1.4	303.5
Weighted Average	**100%**	**26.6**	**0.01**	**0.1**	**26.8**

[a] Other is made up of biomass, cogeneration, geothermal, landfill gas, petroleum, solar, and waste incineration.
Source: Cowlitz Public Utility District 2015, U.S. Environmental Protection Agency 2015b

Employee Commuting

Direct sources of GHG emissions from employee commuting include the emissions from fossil fuel combustion associated with the daily commuting traffic for employees to and from the site. The GHG emissions from employees commuting to the project area are calculated using the MOVES model (U.S. Environmental Protection Agency 2014a), assuming that employees would use single-occupant vehicles with a mean round-trip travel time of 48.2 minutes. The analysis assumes that there are 135 employees, with 25 commuting 5 days per week and 110 commuting 7 days per week. At an

estimated speed of 35 miles per hour, this amounts to 1,092,051 miles per year travelled. This distance is multiplied by emission factors for typical commuting vehicles provided by the MOVES model to calculate annual emissions.[27]

Vessel Idling and Tugboat Use at Coal Export Terminal

Direct sources of GHG emissions from vessel idling and tugboat use at the coal export terminal include current vessel operations at the coal export terminal, as vessels use main and auxiliary motors to maneuver in and out of the loading area. Additionally, this source includes fossil fuel combustion emissions from tugboats that are used to assist in vessel maneuvering at the project area.

GHG emissions from vessel idling and tugboat use are calculated by estimating the power consumed by idling vessels, converting the power demand into fuel consumption, and multiplying that fuel consumption by a fuel combustion emission factor. An average of 13 hours would be needed to load each vessel with coal, and during this period, the vessel would be hoteling using auxiliary engines. For each vessel, the typical main and auxiliary engine size is based on Lloyd's Register of Ships Sea-web, which has a database of ship characteristics for ships over 100 gross tons (Sea-web 2015). Each vessel receiving coal is assumed to need three tugs to maneuver the ship. These tugs would operate for 3 hours to assist with docking and departing. The time spent operating the vessels in each mode, multiplied by the estimated engine load and size provided power demand for both the idling vessels and tugboats. The power demand is then multiplied by the emission factors provided in Table 27.

Table 27. Emission Factors for Idling Vessels and Tugboats

Greenhouse Gas	Main Engine Emission Factor ($g\ CO_2e$ per kWh)	Auxiliary Engine Emission Factor ($g\ CO_2e$ per kWh)
Carbon dioxide	588	690
Methane	1.75	2.25
Nitrous oxide	0.12	0.12
Total	**590**	**692**

Source: California Air Resources Board 2011. *Appendix D: Emissions Estimation Methodology for Ocean-Going Vessels.*
gCO_2e = grams of carbon dioxide equivalent; kWh = kilowatt-hour

Helicopter and Pilot Boat Trips

Indirect sources of GHG emissions for helicopter and pilot boat transfers include fossil fuels burned to pilot vessels along the Columbia River. GHG emissions from helicopter and pilot boat trips that transfer pilots to vessels are calculated as described in the SEPA Vessel Transportation Technical Report (ICF 2017e). The trips for both vehicle types are multiplied by the distance for each trip to derive the total mileage and fuel consumption for each trip. Assuming that at full capacity, the Proposed Action would service 840 vessels annually and each vessel would require piloting in and out of the Columbia River Bar, this use equates to 1,680 pilot transfers per year. Incoming and outgoing vessels are piloted 15 nautical miles (17 standard miles) from the mouth of the Columbia River, for an average distance of 30 nautical miles (34 standard miles) per trip. The bar pilot to river

[27] The analysis assumes a 50/50 mix of gasoline and E-85 for employee commuting vehicles.

pilot changeover takes place at Tongue Point near Astoria for both outbound and inbound vessels, therefore only one pilot transfer is needed for each incoming and outgoing vessel (Ellenwood pers. comm.). Helicopters are used for offshore transfer of Columbia River Bar pilots 70% of the time, with the remaining 30% of the offshore transfers conducted using a pilot boat due to more challenging weather conditions (Table 28).

Table 28. Annual Helicopter and Pilot Boat Transfers per Vessel, 2028

Project Year	Total Number of Vessels Traveling to the Coal Export Terminal	Number of Pilot Transfers		Total Number of Pilot Transfers
		Helicopter	Pilot Boat	All
2028	840	1,176	504	1,680

Source: ICF 2017e, Ellenwood pers. comm.

The trips are multiplied by the distance to estimate the total nautical miles travelled per mode of transport, as shown in Table 29.

Table 29. Helicopter and Pilot Boat Trips and Nautical Miles Travelled

Project Year	Helicopter		Pilot Boat	
	Trips	Total Miles	Trips	Total Miles
2028	1,176	40,600	504	17,400

Source: ICF 2017e

GHG emissions from each mode of transport are based on the time of travel from shore to the vessels. The average trip time for helicopters is assumed 18 minutes (Ellenwood pers. comm.). For pilot boats, an average speed of 14 miles per hour is assumed (Columbia River Bar Pilots 2015), resulting in a roundtrip travel time of 2.5 hours. For helicopters, the fuel consumption rate of 1 gallon per minute was obtained directly from Brim Aviation (Ellenwood pers. comm.). Fuel consumption and aviation gasoline emission factors are presented in Table 30 and Table 31, respectively. The emissions are calculated by first estimating the amount of fuel consumed per helicopter trip, multiplying that by the emission factor for aviation gasoline, and then by the number of helicopter trips.

Table 30. Helicopter Fuel Consumption

Aircraft	Average Fuel Consumption Rate (Gallons per Minute)	Average Trip Time (Minutes)
Sikorsky S-76 "Seahawk"	1	18

Source: Ellenwood pers. comm.

Table 31. Combustion Emissions for Aviation Gasoline

Greenhouse Gas	Emission Factor ($MTCO_2e$/1,000 gallons)
Carbon dioxide	8.31
Methane	0.18
Nitrous oxide	0.03
Total	**8.52**

Source: U.S. Environmental Protection Agency 2015a
$MTCO_2e$ = metric tons of carbon dioxide equivalent

GHG emissions from pilot boats are based on the energy required for the pilot boat to make one trip based on the estimated round-trip duration of 2.5 hours. Energy is converted into gallons of residual fuel and multiplied by an emission factor for residual fuel combustion in order to calculate the GHG emissions for a single pilot boat trip. This value is then multiplied by the total number of annual pilot boat trips to estimate the total annual GHG emissions. The factors used to estimate the energy consumption and the emissions for pilot boats are shown in Table 32 and Table 33, respectively.

Table 32. Factors for Pilot Boat Fuel Consumption

Factor	Magnitude
Trip duration	2.5 hours
Horsepower of engines[a]	1,800 hp
Average engine load over trip[b]	45%
Energy consumed, kWh	1,511 kWh
Energy consumed, MMBtu[c]	5.2 MMBtu
Energy in residual fuel[d]	0.15 MMBtu per gallon
Gallons of residual fuel consumed	34.4 gallons per trip

Notes:
[a] Brusco Tug and Barge Undated
[b] California Air Resources Board 2011
[c] Estimated by converting kWh to MMBtu
[d] U.S. Environmental Protection Agency 2015a
hp = horsepower; MMBtu = million British thermal units

Table 33. Combustion Emissions for Residual Fuel

Greenhouse Gas	Emission Factor ($MtCO_2e$/1,000 gallons)
Carbon dioxide	11.24
Methane	0.003
Nitrous oxide	0.17
Total	**11.41**

Source: U.S. Environmental Protection Agency 2015a
$MTCO_2e$ = metric tons of carbon dioxide equivalent

Vessel Transport

Vessel transport is calculated in three phases: the transport of coal between the project area and the border of Cowlitz County, the transport of coal down the Columbia River through Washington State, and lastly, the transport of coal to markets in Asia. Both incoming and outgoing vessel traffic are accounted for within Cowlitz County and Washington State, while only a share of the returning vessels from Asia are accounted for since only a share of these vessels return with ballast water only.

Vessel Transport in Cowlitz County

Direct sources of GHG emissions from vessel transport in Cowlitz County include fossil fuel combustion associated with current vessel transport from the coal export terminal down the Columbia River to the border of Cowlitz County, a 9.87 nautical mile (11.35 mile) distance. This distance is repeated to account for empty vessels returning to the coal export terminal. GHG emissions from vessel transport are calculated using the same method as for air emissions and summarized in the SEPA Air Quality Technical Report (2017b). This analysis assumes that the coal export terminal would be serviced by a mix of Panamax (80%) and Handymax (20%) vessels. To incorporate this assumption, the engine size is considered a weighted average of Panamax and Handymax vessels. For each vessel, the typical main and auxiliary engine size is based on Lloyd's Register of Ships Sea-web, which has a database of ship characteristics for ships over 100 gross tons (Sea-web 2015).

GHG emissions from vessel idling and tugboat use are calculated by estimating the energy consumed by vessels exiting Cowlitz County, which is a factor of the duration to enter or exit the county, the engine size, and engine load for loaded ships in transit. The annual energy demand is multiplied by an emission factor for main engine vessel use for loaded transit. The one-way transit time within Cowlitz County is assumed 0.9 hour. The annual energy demand is then multiplied by the emission factors provided in Table 34.

Table 34. Emission Factors for Vessels in Transit

Greenhouse Gas	Main Engine Emission Factor ($g\ CO_2e$ per kWh)	Auxiliary Engine Emission Factor ($g\ CO_2e$ per kWh)
Carbon dioxide	588	690
Methane	1.75	2.25
Nitrous oxide	0.12	0.12
Total	**590**	**692**

Source: California Air Resources Board 2011. *Appendix D: Emissions Estimation Methodology for Ocean-Going Vessels.*
$kgCO_2e$ = kilograms of carbon dioxide equivalent; kWh = kilowatt-hours

Vessel Transport in Washington State beyond Cowlitz County

As previously mentioned, the coal export terminal would be serviced by a mix of Panamax (80%) and Handymax (20%) bulk carrier vessels. To incorporate this assumption for vessel transport outside of Cowlitz County through Washington State and overseas to Asian markets, IHS Sea-Web data (Sea-web 2015), a database of ship characteristics for ships over 100 gross tons, is used to determine average service speed and total propulsion power for the two vessels. Four vessels for each size are used with the same approximate deadweight tons of the two vessels to determine the averages. Ship characteristics for the two vessels are shown in Table 35.

Table 35. Average Vessel Characteristics

Vessel Size	Main Engine Propulsion Power (kW)	Average Vessel Service Speed (knots)
HandyMax	7,789	14.40
PanaMax	9,473	14.39

Source: Sea-web 2015

Emissions are estimated depending upon operating mode. Three operating modes are defined here, namely, open-ocean, transit down the Columbia and hoteling at berth. Movement in the open-ocean between the mouth of the Columbia River and Asia occurs at service speed. Transit down the Columbia River occurs at 8.4 knots (average between 6.5 knots up and 12 knots down the Columbia River due to currents) (Breen pers. comm.).

Propulsion engine load factors are determined using the propeller law, which is the cube of the actual vessel speed divided by the maximum vessel speed. Service speed is typically 93.5% of maximum speed (ICF 2009). Auxiliary engine and boiler loads are from the 2014 Port of Los Angeles Emissions Inventory Document and are listed in Table 36 (Starcrest Consulting Group 2015). When the propulsion engines are operating at 20% load or more, exhaust economizers supply steam so boilers are shut off.

Table 36. Auxiliary Engine and Boiler loads

	Loads (kW)	
Operation	**Auxiliary**	**Boiler**
Moving	225	132

Source: Starcrest Consulting Group 2015
kW = kilowatt

Emission factors in grams per kilowatt-hour from the California Air Resources Board are used to develop overall ship emission factors in terms of kilograms per nautical mile. Table 37 presents emission factors in grams per kilowatt-hour for each greenhouse gas.

Table 38 presents the overall ship emission factors in kg per nautical mile based on the various speed and load assumptions for the two ships.

Table 37. Vessel Emission Factors by Equipment Type

Greenhouse Gas	Main Engine Emission Factor (g CO_2e per kWh)	Auxiliary Engine Emission Factor (g CO_2e per kWh)	Boiler Emission Factor (g CO_2e per kWh)
Carbon dioxide	588	690	970
Methane	1.75	2.25	0.75
Nitrous oxide	0.12	0.12	0.12
Total	590	692	971

Source: California Air Resources Board 2011. *Appendix D: Emissions Estimation Methodology for Ocean-Going Vessels.*
$kgCO_2e$ = kilograms of carbon dioxide equivalent; kWh = kilowatt-hours

Table 38. Emission Factors by Vessel Type

	CO_2e emission factors (kg/nm)	
Ship	**At Sea**	**Columbia**
HandyMax	277.69	124.28
PanaMax	335.59	144.14

Source: Calculated.
kg/nm = kilograms per nautical mile

Indirect sources of GHG emissions from vessel transport outside of Cowlitz County but within Washington State include fossil fuel combustion. This analysis assumes a distance of 47.78 nautical miles (54.94 miles), which takes the vessels from the border of Cowlitz County to 3 nautical miles past the mouth of the Columbia River. This distance is repeated for vessels returning to the state to pick up coal. Emissions are calculated by multiplying this distance by the Columbia River emission factor.

Vessel Transport to Asian Markets

Indirect sources of GHG emissions from vessel transport to Asian markets include fossil fuel combustion. GHG emissions are based on nautical miles of shipping from the coal market assessment, which provides yearly total nautical miles of coal shipped throughout the Pacific Basin

for both the action and no-action models for each scenario. The difference in ship traffic between these scenarios is used to estimate the change in nautical miles attributable to the Proposed Action. Table 39 summarizes the distances to Asian markets from the United States.

For changes in coal shipments within the Pacific Basin, GHG emissions are based on an estimate in the coal market assessment of the total net change in nautical miles traveled within the Pacific Basin. This estimate considers the total change in Pacific Basin coal traffic because of the Proposed Action, including the new coal coming from the United States, and shifts in coal shipments from producers primarily in Indonesia, Australia, Russia, and China.

Table 39. Net Change in Nautical Miles Traveled by Proposed Action-Related Vessels

Scenario	2020	2025	2030	2040
2015 U.S. and International Energy Policy	0	2,722,792	2,525,104	3,145,596
Lower Bound	0	3,459,178	2,524,928	3,176,780
Upper Bound	0	3,324,926	2,555,506	3,721,348
No Clean Power Plan	0	2,086,181	2,591,077	2,311,512
Cumulative	0	5,805,597	7,365,846	8,235,972

Notes: 1 nautical mile is equivalent to 1.15078 miles. The net change in nautical miles includes vessels departing from the terminal, and vessels that would be substituted by vessels departing from the terminal. The distances provided in this table are one-way distances.
Source: ICF 2017c

The total change in nautical miles traveled in the Pacific Basin from the Proposed Action is multiplied by the At Sea emission factor as provided in Table 38. The net impact of this emission source is the sum of the new emissions (delivery of coal from the Proposed Action) to Asian markets and the emissions offset from changes in Pacific Basin coal transport. In addition to the five Asian markets importing coal as identified in the coal market assessment, the effect of the Proposed Action on coal markets could cause shifts in additional Asian markets as Australian and Indonesian coals find new markets. The additional countries include India and other smaller consumers in the Pacific Basin that are grouped into the "Asia Other" demand region.[28] For example, for some scenarios, the coal market analysis indicates that Hong Kong substitutes some of its consumption of Indonesian coal with coal exported from the Proposed Action; however, the Asia Other demand region increases its purchases of the Indonesian coal displaced from Japan.

With few exceptions, dry bulk vessels "do not travel repetitive routes" and "dry bulk carriers seldom operate on round-trip voyages; the norm is multi-leg or triangular service to avoid excessive ballasting (traveling without paying cargo)" (Coal Age 2015). To estimate the share of trips that return empty and filled with ballast water, an analysis of data from the Automatic Identified System (AIS) from 2016 was performed.[29] The dataset was filtered to account for vessels that had the vessel type description of Handymax/Panamax. The percent of similar vessels that leave Asia in ballast is based on an evaluation of Automatic Identified System data to determine vessels of a similar size and class that transit near the mouth of the Columbia River and travel to/from Asia, and to conduct comparative data analysis of scantling and design draft of the individual vessels with the actual reported draft for each voyage. Based on this method, a conservative estimate of 40% of trips returning from Asia empty filled with ballast water was used. The same 40% is added onto

[28] This category includes Malaysia, the Philippines, Thailand, and Vietnam, as well as smaller importers of coal.
[29] An overview of the Automated Identified System is available from U.S. Department of Homeland Security, 2014.

international vessel transport from non-U.S. coal exports (e.g., Australia, Indonesia, Russia, and China) being substituted by the Proposed Action.

Coal Combustion in Asia and the United States

Indirect sources of GHG emissions from coal combustion include the change in both U.S. and Asia coal consumption that would result from a new coal export terminal. The coal market assessment estimates net coal combustion in Asia and the United States. These estimates are presented in the GHG analysis for each scenario relative to the no-action model results.

GHG emissions from coal combustion include those associated with market effects, which dictate the total amount of coal produced and combusted in the United States and Asia in response to coal supply and price. Emissions also reflect coal substitution, which is driven by the difference in carbon content between Powder River Basin coal, Uinta Basin coal, and coals produced in Asia. Table 40 summarizes the differences in carbon and heat contents among some of the coals assessed in the coal market assessment. [30]

Table 40. Heat Content and Carbon Coefficients for U.S. and Asian Reference Coals

Source	Coal Type	Heat Content (MMBtu per ton)[a]	CO_2 Emission Factor (pounds per MMBtu)
Powder River Basin—WY	Subbituminous	17.6	209.4
Powder River Basin—MT	Subbituminous	18.64 / 17.08	213.8
Uinta—CO	Bituminous	22.22	208.4
Uinta—UT	Bituminous	22.56 / 24.06	205.6
Australia	Bituminous	21.6	206.0
Indonesia	Bituminous	23.43 / 20.33	203.7
Indonesia	Subbituminous	18.05 / 17.19 / 15.12	214.8
China	Bituminous	23.85	212.2
China	Lignite	14.04	218.5

[a] For some coal types, more than one heat content value is indicated, because multiple coal types are modeled that have the same CO_2 emissions factor.
Source: ICF 2017c
MMBtu = million metric British thermal units; CO_2 = carbon dioxide

Induced Natural Gas Consumption in the United States

Indirect sources of GHG emissions from induced natural gas consumption would result from changes in consumption as a function of changes in the coal market. As coal prices increase due to the increased demand by the project for coal to export, the United States' natural gas consumption is expected to increase.

The Proposed Action could result in supply and price shifts in the coal markets, which affect the consumption of natural gas in the United States. The coal market assessment describes the substitution of natural gas for coal and estimates the GHG emissions from induced natural gas

[30] See the SEPA Coal Market Assessment Technical Report, Section 4.2.13 for the carbon and heat content of all of the coal types modeled.

consumption in the United States. Depending on the scenario, natural gas consumption changes based on coal prices and U.S. coal consumption.

2.3 Existing Conditions

The existing environmental conditions related to GHG emissions in the study area are described in the sections that follow.

2.3.1 Applicant's Leased Area

The existing bulk product terminal in the Applicant's leased area draws electricity from the regional electricity grid, amounting to 552,000 kilowatt hours of electricity demand per month, or 6,624 megawatt hours of electricity annually (Chany pers. comm.). The emissions from this source are already occurring and would continue whether or not the coal export terminal is constructed. Electricity usage results in indirect emissions of approximately 177 metric tons of CO_2e annually, as estimated in Section 3.1.8, *Coal Export Terminal Operation—Electricity Consumption.*

The current vessel traffic at Dock 1 is six ships per year. Using the method described in Section 2.2.2.3, *Method for Impact Analysis,* under *Vessel Transport in Cowlitz County,* and assuming that the vessels are docking for approximately 13 hours per trip, maneuvering for 1 hour, and transiting within Cowlitz County for 0.9 hour each way, their operation emissions total 95 metric tons of CO_2e annually. Table 41 describes the current vessel transport activity at the project area. The current emissions from the project area for the Proposed Action are relatively small compared to the scale of emissions from the Proposed Action and are thus not taken into account when estimating the net emissions associated with the Proposed Action.

Table 41. Current Vessel Transport Activities in the Project Area

Transport Type	Transport Activity	Facility Activity
Handymax Class Vessel	6 ships per year	Ships currently deliver alumina over Dock 1; the cargo is temporarily stored and then shipped to Chelan County by train

Source: ICF and Hellerworx 2017, and ICF 2017e

2.3.2 Cowlitz County

Approximately 7 trains per day consisting of approximately 78 cars typically pass between the BNSF Spur and main line (ICF and Hellerworx 2017). Using the method described in Section 2.2.2.3, *Method for Impact Analysis,* under *Rail Transport of Coal in Cowlitz County,* and assuming that the trains haul 122.1 metric tons of material per rail car, use two locomotives, and travel 20.0 miles through Cowlitz County to and from the north on the main line and BNSF Spur, the annual emissions from those trains are currently 2,206 metric tons of CO_2e. Baseline traffic on the Reynolds Lead at the project area in Cowlitz County is about two trains per day. Assuming that the trains traveling on the Reynolds Lead also haul 122.1 metric tons of material per rail car, use one locomotive, and travel the approximately 5-mile length of the Reynolds Lead, the annual emissions from those trains are currently 79 metric tons of CO_2e. These totals include trains delivering grain as well as trains connecting to other port facilities.

2.3.3 Washington State

Washington State's total GHG emissions were 92.0 $MMTCO_2e$ in 2012, the most recent year for which a GHG Inventory was conducted. Of that total, 42.5 $MMTCO_2e$ (46.2%) are attributable to the transportation sector, and 12.1 $MMTCO_2e$ (13.2%) are attributable to coal combustion in the electricity sector (Washington State Department of Ecology 2016).

Rail traffic in Washington is busy in areas, with some route segments seeing as many as 70 trains per day (ICF and Hellerworx 2017). Existing rail capacity provides passenger service as well as transport for a variety of goods. The rail network accommodates empty and full coal trains as well as intermodal, grain, and general manifest trains from both BNSF and UP. Similarly, existing vessel traffic along the Columbia River is heavy due to the amount of bulk cargo transported in the region. The gross tonnage of vessel traffic in a 1-year period (averaged from 2010 to 2014) is approximately 91 million gross short tons (ICF 2017e).

Chapter 3
Impacts

This chapter describes the potential GHG emissions that would result from construction and operation of the Proposed Action relative to the No-Action Alternative.

3.1 Proposed Action

The GHG emissions are presented in terms of the 2028 emissions and total net emissions over the 2018 through 2038 analysis period. The total net emissions are the sum of emissions for the entire analysis period, including construction beginning in 2018 and operation through 2038.

The results are presented by emission sources, which are described in Section 2.2.2.3, *Method for Impact Analysis*. The source emissions are then combined into an estimate of total net GHG emissions.

3.1.1 Upland and Wetland Land-Cover Change

The vegetation removal, soil disturbance, and wetland loss associated with construction of the coal export terminal would result in the loss of accumulated carbon stocks during construction, as well as the loss of ongoing carbon sequestration from the removed vegetation (resulting in net increases in emissions) and a reduction in carbon dioxide and methane emissions from permanently filled wetlands over the analysis period (2018 through 2038). Table 42 presents the estimated emissions associated with construction of the coal export terminal.

Table 42. Vegetation Removal, Soil Disturbance, and Wetland Loss Emissions ($MtCO_2e$)

Emission Source	2015 Energy Policy	Lower Bound	Upper Bound	No Clean Power Plan
Emissions During 12-Months of Construction Period ($MtCO_2e$)	11,771	11,771	11,771	11,771
Annual Emissions, 2028 ($MtCO_2e$)	17	17	17	17
Total Emissions, 2018–2038 ($MtCO_2e$)	12,121	12,121	12,121	12,121

Notes:
Vegetation Removal, Soil Disturbance, and Wetland Loss emissions represent the total emissions resulting from the proposed project emission sources, including: (1) loss of accumulated carbon stocks during construction; (2) lost sequestration from removed vegetation that results in net increases in emissions; and (3) reduction in carbon dioxide and methane emissions from permanently filled wetlands.
$MtCO_2e$ = metric tons of carbon dioxide equivalent

For construction of the Proposed Action, carbon stock losses are estimated to be 11,771 metric tons of CO_2e and total (2018 through 2038) emissions are estimated to be 12,121 metric tons of CO_2e (which includes GHG emissions of 350 metric tons of CO_2e from lost sequestration/wetland emission reductions).

3.1.2 Dock Dredging During Terminal Construction and Operations—Sediment Carbon

Dock dredging during terminal construction and operations associated with the Proposed Action would result in the potential loss of sediment carbon. Table 43 presents the estimated emissions associated with the potential loss of sediment carbon from dock dredging during coal export terminal construction and operations associated with the Proposed Action.

Table 43. Potential Loss of Sediment Carbon from Dock Dredging ($MtCO_2e$)

Emission Source	2015 Energy Policy	Lower Bound	Upper Bound	No Clean Power Plan
Emissions During 12-Months of Construction Period[a] ($MtCO_2e$)	1,919	1,919	1,919	1,919
Annual Emissions, 2028 ($MtCO_2e$)	768	768	768	768
Total Emissions, 2018–2038 ($MtCO_2e$)	17,654	17,654	17,654	17,654

Notes:

[a] Dredging during the construction period is expected to occur over two annual approved work periods to coincide with fish protection during the construction phase (Millennium Bulk Terminal—Longview 2014). One of the approved work periods is assumed to coincide with the first 12 months of construction period, while the second dredging event is assumed to occur within the following year. Therefore, emissions during the 12 months of construction period shown above are assumed to be half of the total emissions of 3,838 $MMTCO_2e$ during the entire construction period from 2018-2020.

$MtCO_2e$ = metric tons of carbon dioxide equivalent

For dock dredging during terminal construction associated with the Proposed Action from 2018 through 2020, the potential loss of sediment carbon is estimated to be 3,838 metric tons of CO_2e and total (2018 through 2038) potential losses are estimated to be 17,654 metric tons of CO_2e. The 768 metric tons of CO_2e in 2028 is the potential loss of sediment carbon during annual maintenance dredging.

3.1.3 Coal Extraction

Coal extraction emissions are assumed to occur throughout the analysis period based on the coal extraction scenarios described in the coal market assessment. Under the approach described in Section 2.2.2.3, *Method for Impact Analysis,* the net indirect coal extraction GHG emissions from the Proposed Action are calculated by applying the GHG emission factors for each source of indirect emissions to the mass of U.S. coal extraction that would be induced by the Proposed Action, covering the Powder River Basin, the Uinta Basin, and other U.S. coal regions. These GHG estimates are offset by changes in GHG emissions from competing coal extraction outside the United States, primarily in Australia, China, and Russia. From these annual estimates of net GHG emissions, the net indirect GHG emissions are calculated for coal extraction that would result from the Proposed Action from 2018 through 2038.

The net emissions from coal extraction vary across the four scenarios depending on the magnitude of the increase in coal extraction in the United States, the different U.S. extraction regions impacted by the Proposed Action, the magnitude of the decrease in international coal extraction, and the different international extraction regions impacted by the Proposed Action throughout the analysis period. Coal extraction emissions vary for coal extracted in regions within the United States and regions outside the United States due to differences in the energy needed for coal extraction by

region and mine type, grid electricity emission factors, grid electricity production mix, and methane emitted from different mining basins and mine types (i.e., underground or surface mining). Table 44 below presents estimates based on the coal extraction results provided in the coal market assessment.

Table 44. Emissions from Coal Extraction ($MMTCO_2e$)

	Scenario			
Emission Source	**2015 Energy Policy**	**Lower Bound**	**Upper Bound**	**No Clean Power Plan**
Powder River Basin ($MMTCO_2e$)				
Annual Emissions, 2028	1.37	1.22	1.46	1.31
Total Emissions, 2018-2038	17.97	17.60	21.91	18.65
Uinta Basin ($MMTCO_2e$)				
Annual Emissions, 2028	-0.04	0.02	0.22	<0.005
Total Emissions, 2018-2038	3.40	0.59	9.94	<0.005
Other U.S. Coals ($MMTCO_2e$)				
Annual Emissions, 2028	0.09	0.27	<0.005	<0.005
Total Emissions, 2018-2038	2.27	3.67	0.78	<0.005
Australia ($MMTCO_2e$)				
Annual Emissions, 2028	-0.39	-0.40	0	-1.22
Total Emissions, 2018-2038	-4.86	-4.89	0	-15.26
Canada ($MMTCO_2e$)				
Annual Emissions, 2028	0	<0.005	0	0
Total Emissions, 2018-2038	0	-0.01	0	0
China ($MMTCO_2e$)				
Annual Emissions, 2028	-2.56	-2.17	1.87	-2.74
Total Emissions, 2018-2038	-69.38	-60.63	23.09	-44.85
India ($MMTCO_2e$)				
Annual Emissions, 2028	0	-0.50	0	-0.28
Total Emissions, 2018-2038	0	-4.09	-4.64	-2.31
Indonesia ($MMTCO_2e$)				
Annual Emissions, 2028	-0.28	-0.04	-0.41	-0.27
Total Emissions, 2018-2038	-2.27	-0.31	-4.53	-3.17
Russia ($MMTCO_2e$)				
Annual Emissions, 2028	-3.15	-3.08	-1.65	<0.005
Total Emissions, 2018-2038	-33.33	-32.66	-20.39	-9.56
South Africa ($MMTCO_2e$)				
Annual Emissions, 2028	0.04	0	-0.41	<0.005
Total Emissions, 2018-2038	0.30	0	-5.09	<0.005
Net Emissions ($MMTCO_2e$)				
Annual Emissions, 2028	-4.91	-4.68	1.08	-3.21
Total Emissions, 2018-2038	-85.90	-80.74	21.07	-56.50

Notes: "Other U.S. Coals" includes the following basins: Central Appalachia (VA, WV, East KY), Illinois, Northern Appalachia, Rockies (Green River, San Juan, Raton), Warrior, North Great Plains (Non-Powder River Basin – WY, MT, ND), West Interior (Arkoma, Gulf Coast, Forest City, Cherokee)$MMTCO_2e$ = million metric tons of carbon dioxide equivalent

Figure 7 presents the net GHG emissions from changes in coal extraction in each country between 2021-2038 for the 2015 U.S. and International Energy Policy scenario. Reduced GHG emissions in China have the largest impact on the net GHG emissions, as production is increasingly offset by greater PRB and Uinta coal production. The black bars in the Figure 7 indicate the resulting net GHG emissions from coal extraction. Figure 8 details net GHG emissions by country over time for each of the four scenarios.

Figure 7. Net GHG Emissions from Coal Extraction by Country and U.S. Coal Basin for 2015 U.S. and International Energy Policy Scenario

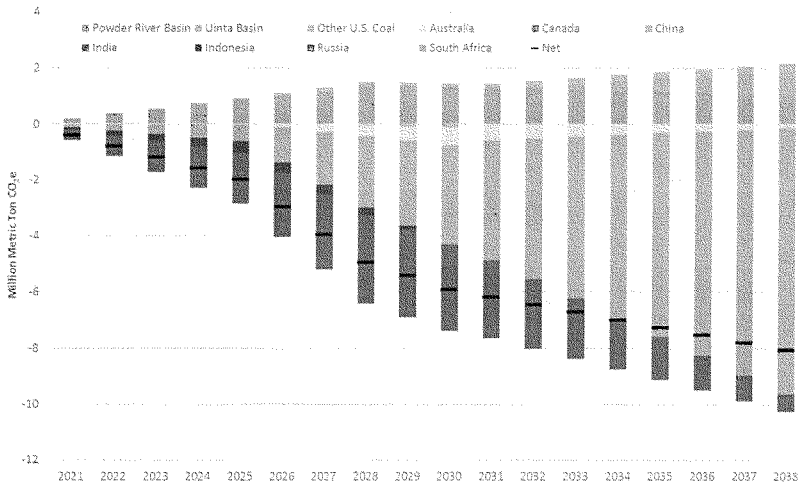
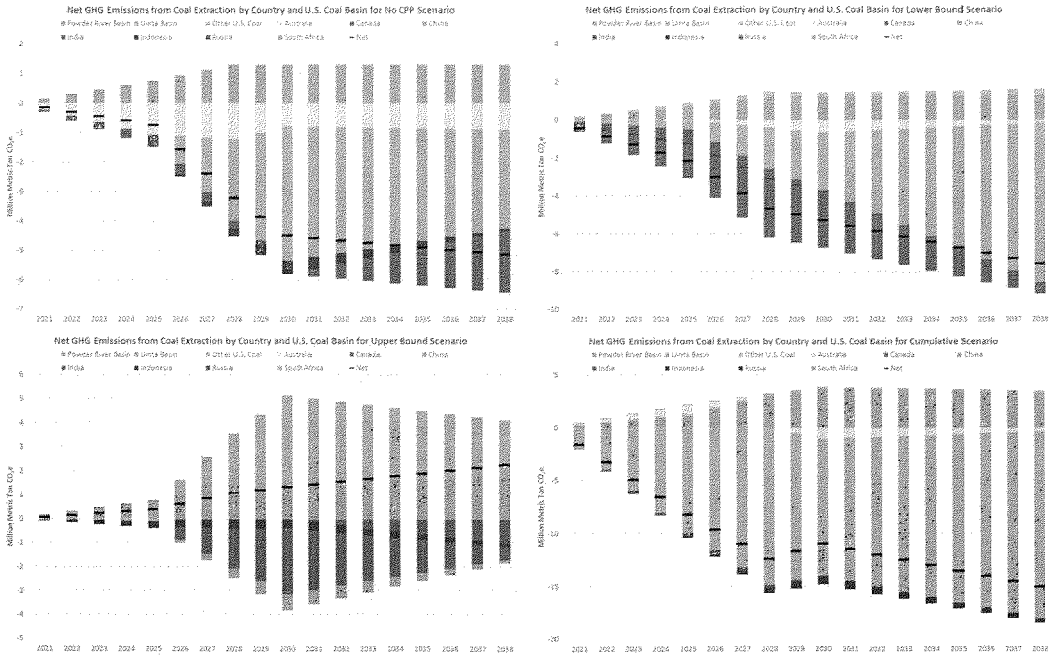


Figure 8. Net GHG Emissions from Coal Extraction by Country and U.S. Coal Basin for No Clean Power Plan, Lower Bound, Upper Bound, and Cumulative Scenarios



As previously mentioned in Section 2.2.2.3, *Method for Impact Analysis,* the uncertainty of the estimates for coal extraction is relatively high. To illustrate this uncertainty, the methane emissions from coal extraction are estimated for a range of emission factors for non-U.S. countries to reflect the -/+ uncertainty of 200% for underground mining and -/+300% for surface mining emission factors. However, use of these uncertainty values resulted in emission factors that are outside the range provided by IPCC for Tier 1 default values, except for in the case of Canadian underground mining. Consequently, the emission factor range for non-U.S. countries is the lower and upper bound as provided by IPCC.[31] The proportion of underground and surface mining relative to total production are from GMI (2015) and were applied to the high and low Tier 1 emission factors following the same method described in Section 2.2.2.3 for countries that did not report to UNFCCC. As part of this uncertainty, a range of emission factors is used for U.S. coal mines based on the uncertainty values provided in the U.S. GHG Inventory (U.S. Environmental Protection Agency 2016b). The uncertainty values for the U.S. estimates are approximately 10% (e.g., an order of magnitude less than the uncertainty estimates used for other countries). Table 45 shows the emission factors used for U.S. basins and non-U.S. countries evaluating the range of net GHG emissions from coal extraction.

Table 45. Range of Coal Mine Methane Emission Factors for Coal Extraction

	Emission Factors (MT CO_2e/MT Coal)		
Coal Basin	**Low**	**Modeled**	**High**
All U.S. Coal - Underground	0.15	0.17	0.20
PRB - Surface	0.02	0.02	0.02
Uinta - Surface	0.01	0.02	0.02
Other U.S. - Surface	0.03	0.03	0.03
Australia	0.04	0.04	0.13
Canada	0.01	0.02	0.04
China	0.16	0.30	0.44
India	0.02	0.05	0.08
Indonesia	0.01	0.02	0.04
Russia	0.05	0.15	0.16
South Africa	0.1	0.19	0.27

Figure 9 and Figure 10 reflect the resulting net GHG emissions for coal extraction. The upper range is based on using the high estimate for the emission factor for countries and basins where coal extraction is increasing, and using the low estimate for the emission factor for countries where coal is being displaced. Alternatively, the lower range is based on using the low estimate for the emission factor for countries and basins where coal extraction is increasing, and using the high estimate for the emission factor for countries where coal is being displaced.

[31] The Canadian upper bound underground emission factor was derived using IPCC's +200% uncertainty value for underground mining.

Figure 9. Range of Net GHG Emissions from Coal Extraction for the 2015 Energy Policy Scenario

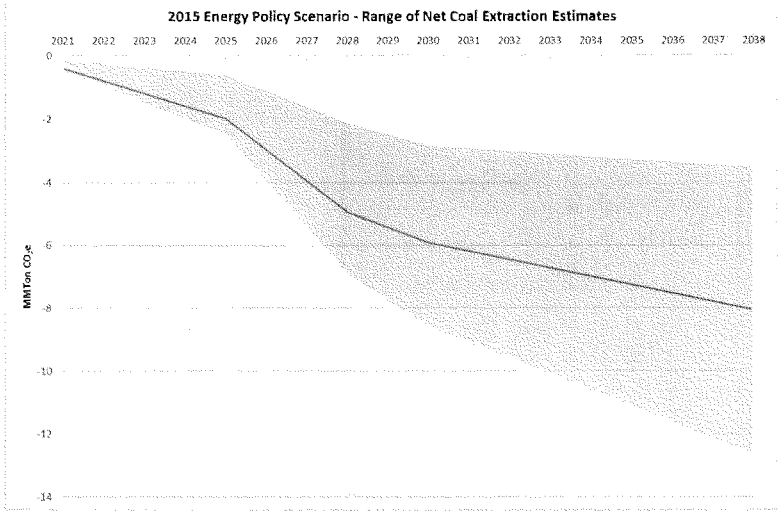
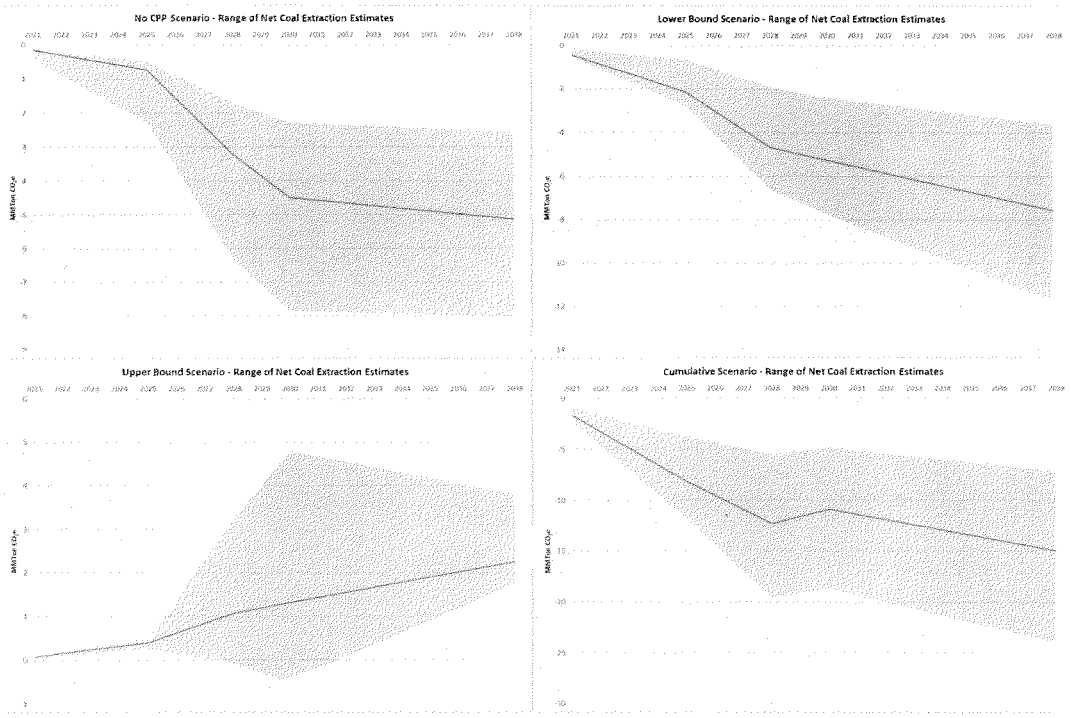


Figure 10. Range of Net GHG Emissions from Coal Extraction for the No CPP, Lower Bound, Upper Bound, and Cumulative Scenarios



3.1.4 Rail Transport

Model results indicate that rail transport across the four scenarios is relatively constant, with slight fluctuations occurring depending on the share of Uinta Basin coal exported via the Proposed Action relative to the Powder River Basin coal. Although the distance from the Uinta Basin to Washington State is shorter than the distance from the Powder River Basin, the majority of the transport emissions occur from the transport of Powder River Basin coal, as its lower price results in higher demand despite the longer distances. The largest source of rail transport emissions is from transport to Washington State. The second largest source of emissions from rail transport is from transport within Washington, which is approximately half the distance as the distance outside Washington State. Once the return trip is taken into account, the difference in emissions between the two routes taken from the different coal basins increases, as empty and loaded Uinta Basin trains return along the same route. Empty Powder River Basin coal trains, however, travel a longer northern route to the Powder River Basin (ICF and Hellerworx 2017).

Emissions from transport of coal within Cowlitz County also vary slightly for Powder River Basin and Uinta Basin coal due to the different directions travelled for empty Powder River Basin and Uinta Basin coal trains. However, due to the small distances involved, this difference does not have a large impact on emissions. The coal market assessment captures changes in the transportation routes from extraction sites to the project area due to shifts in coal demand and prices. Consequently, the emissions change across the scenarios. In Table 47 and Table 48, the Lower Bound scenario has slightly higher total emissions than the No Clean Power Plan and the Upper Bound scenarios because less coal from the Uinta Basin is transported under this scenario. In the Lower Bound scenario, less coal is transported from the Uinta Basin because the higher coal prices assumed under this scenario make the Powder River Basin coal more economical to export than the Uinta Basin coal. Thus, total emissions are higher under the Lower Bound scenario because the total ton-miles of coal transported is greater than in the No Clean Power Plan or Upper Bound scenarios, as the distance from the Powder River Basin is greater than from the Uinta Basin. The on-site emissions are equal across all scenarios, as those emissions are proportional solely to coal throughput for the Proposed Action. Table 46, Table 47, and Table 48 summarize rail emissions for each scenario.

Table 46. Locomotive Emissions from Extraction Sites to Washington State ($MMTCO_2e$)

Period	2015 Energy Policy	Lower Bound	Upper Bound	No Clean Power Plan
Annual Emissions, 2028 ($MMTCO_2e$)	0.67	0.74	0.63	0.63
Total Emissions, 2018–2038 ($MMTCO_2e$)	9.50	10.63	9.29	8.96

$MMTCO_2e$ = million metric tons of carbon dioxide equivalent

Table 47. Locomotive Emissions within Washington State (Excluding Cowlitz County) ($MMTCO_2e$)[32]

Period	2015 Energy Policy	Lower Bound	Upper Bound	No Clean Power Plan
Annual Emissions, 2028 ($MMTCO_2e$)	0.32	0.32	0.31	0.32
Total Emissions, 2018–2038 ($MMTCO_2e$)	4.42	4.62	4.12	4.62

$MMTCO_2e$ = million metric tons of carbon dioxide equivalent

Table 48. Locomotive Operation Emissions within Cowlitz County ($MMTCO_2e$)

Emission Source	2015 Energy Policy	Lower Bound	Upper Bound	No Clean Power Plan
Locomotive Operation, BNSF Main Line & Spur ($MMTCO_2e$)				
Annual Emissions, 2028	0.02	0.02	0.02	0.02
Total Emissions, 2018–2038	0.29	0.29	0.29	0.29
Locomotive Operation, at Terminal Loop ($MMTCO_2e$)				
Annual Emissions, 2028	<0.005	<0.005	<0.005	<0.005
Total Emissions, 2018–2038	0.03	0.03	0.03	0.03
Subtotal ($MMTCO_2e$)				
Annual Emissions, 2028	0.02	0.02	0.02	0.02
Total Emissions, 2018–2038	0.31	0.31	0.31	0.31

$MMTCO_2e$ = million metric tons of carbon dioxide equivalent

3.1.5 Vehicle-Crossing Delay

The GHG emissions from vehicle-crossing delays are consistent across all four scenarios, as they are directly proportional to the throughput of the Proposed Action. After the start-up period, emissions from this source remain constant throughout the analysis period (Table 49).

[32] Locomotive operation within Cowlitz County is not included in this table, thus results from Table 46, Table 47, and Table 48 are additive.

Table 49. Vehicle-Crossing Delay Emissions from Fossil Fuel Combustion from Vehicles Idling within Cowlitz County ($MtCO_2e$)

Track Section/Period	2015 Energy Policy	Lower Bound	Upper Bound	No Clean Power Plan
Study Crossings along the Reynolds Lead and BNSF Spur ($MtCO_2e$)				
Annual Emissions, 2028	170	170	170	170
Total Emissions, 2018–2038	2,427	2,427	2,427	2,427
Public At-Grade Crossings along the BNSF Main Line in Cowlitz County ($MtCO_2e$)				
Annual Emissions, 2028	1	1	1	1
Total Emissions, 2018–2038	13	13	13	13
All Vehicle Crossings ($MtCO_2e$)				
Annual Emissions, 2028	171	171	171	171
Total Emissions, 2018–2038	2,439	2,439	2,439	2,439

$MtCO_2e$ = metric tons of carbon dioxide equivalent

3.1.6 Coal Export Terminal Construction

Coal export terminal construction emissions are assumed to occur in an 18-month period prior to the operation of the Proposed Action. Because construction dates are unknown, the GHG analysis assumes that the 18-month construction period would occur at some point between the years 2018 and 2020. For the purposes of estimating emissions associated with coal export terminal operation, the GHG analysis assumes that construction would be completed before the end of 2020. As the construction would be structurally similar across the four scenarios, construction GHG emissions are equal across all four scenarios (Table 50). The emissions from the operation of construction equipment would exceed those of the barges used for bringing construction materials to the project area.

Table 50. Coal Export Terminal Construction Emissions ($MtCO_2e$)

Emission Source	Scenario: 2015 Energy Policy	Lower Bound	Upper Bound	No Clean Power Plan
Construction Equipment ($MtCO_2e$)				
Emissions During 12 Months of Construction Period	5,349	5,349	5,349	5,349
Total Emissions, 2018–2038[a]	8,024	8,024	8,024	8,024
Employee Commuting ($MtCO_2e$)				
Emissions During 12 Months of Construction Period	465	465	465	465
Total Emissions, 2018–2038[a]	698	698	698	698
Construction Trucks Carrying Materials to Project Area ($MtCO_2e$)				
Emissions During 12 Months of Construction Period	1,081	1,081	1,081	1,081
Total Emissions, 2018–2038[a]	1,621	1,621	1,621	1,621
Construction Barges Carrying Materials to Project Area ($MtCO_2e$)				
Emissions During 12 Months of Construction Period	955	955	955	955
Total Emissions, 2018–2038[a]	1,433	1,433	1,433	1,433
Subtotal ($MtCO_2e$)				
Emissions During 12 Months of Construction Period	7,851	7,851	7,851	7,851
Total Emissions, 2018–2038	11,776	11,776	11,776	11,776

Notes:

[a] Construction emissions occur over an 18-month period prior to the operation of the coal export terminal; therefore, emissions from 2021 through 2038 are zero. Given the 18-month period for construction, total construction emissions are those for the 12-month period multiplied by 1.5.

$MtCO_2e$ = metric tons of carbon dioxide equivalent

The GHG emissions resulting from the production of materials used to construct the coal export terminal occur upstream of the project area. Table 51 summarizes the GHG emissions by general material type. The "Other" category includes plastics and cable wiring, but is mostly composed of the "10% Miscellaneous" materials expected to be used in the construction process. These emissions are assumed to occur once, and have been prorated over the 18-month construction period.

While aggregates compose the majority of total materials mass from berms and roadways (material masses can be found in Table 21, the associated emissions are a minimal portion of the total estimated emissions. In contrast to this distribution of materials, steel materials represent less than 5% of total material mass, but almost 30% of total GHG emissions. This distribution of emission occurs because steel manufacturing emission factors are an order of magnitude higher than any other material due to the energy-intensive nature of the production process.

Table 51. Embedded Emissions in Construction Materials ($MtCO_2e$)

Emission Sources	Scenario: 2015 Energy Policy	Lower Bound	Upper Bound	No Clean Power Plan
Concrete Production and Supply ($MtCO_2e$)				
Emissions During 12 Months of Construction Period	55,818	55,818	55,818	55,818
Total 2018-2038[a]	83,727	83,727	83,727	83,727
Rebar Production and Supply ($MtCO_2e$)				
Emissions During 12 Months of Construction Period	17,489	17,489	17,489	17,489
Total 2018-2038[a]	26,233	26,233	26,233	26,233
Steel Production and Supply ($MtCO_2e$)				
Emissions During 12 Months of Construction Period	33,059	33,059	33,059	33,059
Total 2018-2038[a]	49,588	49,588	49,588	49,588
Aggregates Production and Supply ($MtCO_2e$)				
Emissions During 12 Months of Construction Period	2,225	2,225	2,225	2,225
Total 2018-2038[a]	3,338	3,338	3,338	3,338
Asphalt Production and Supply ($MtCO_2e$)				
Emissions During 12 Months of Construction Period	1,096	1,096	1,096	1,096
Total 2018-2038[a]	1,644	1,644	1,644	1,644
Reinforced Concrete Production and Supply ($MtCO_2e$)				
Emissions During 12 Months of Construction Period	160	160	160	160
Total 2018-2038[a]	239	239	239	239
Other Materials Production and Supply ($MtCO_2e$)				
Emissions During 12 Months of Construction Period	13,781	13,781	13,781	13,781
Total 2018-2038[a]	20,672	20,672	20,672	20,672
Subtotal ($MtCO_2e$)				
Emissions During 12 Months of Construction Period	123,627	123,627	123,627	123,627
Total Emissions, 2018–2038[a]	185,441	185,441	185,441	185,441

Notes:
[a] Construction emissions occur over an 18-month period prior to the operation of the coal export terminal; therefore, embedded emissions in construction materials from 2021 through 2038 are zero. Given the 18-month period for construction, total construction emissions are those for the 12-month period multiplied by 1.5.
$MtCO_2e$ = metric tons of carbon dioxide equivalent

GHG emissions from fuel use occur from initial dock dredging of 500,000 cubic yards of sediment during the construction period. These emissions result from the operation of tugboats and dredging equipment (Table 52).

Table 52. Emissions from Dredging during Construction – Fuel Use ($MtCO_2e$)

	Scenario			
Emission Source	**2015 Energy Policy**	**Lower Bound**	**Upper Bound**	**No Clean Power Plan**
Emissions from Dredging Operations ($MtCO_2e$)				
Emissions During 12 Months of Construction Period[a]	188	188	188	188
Total Emissions, 2018–2038[a]	377	377	377	377

Notes:

[a] Construction emissions occur over an 18-month period prior to the operation of the coal export terminal; therefore, emissions from 2021 through 2038 are zero. Emissions from maintenance dredging occur during the operational phase; however, these are presented in Section 3.1.7, *Coal Export Terminal Operation—Equipment Operation*. Dredging is expected to occur over two annual approved work periods to coincide with fish protection during the construction phase (Millennium Bulk Terminal—Longview 2014). One of the approved work periods is assumed to coincide with the 12 months of construction period, while the second dredging event is assumed to occur within the following year. Therefore, emissions during the 12 months of construction period shown above are assumed to be half of the total emissions during the entire construction period from 2018-2020.

$MtCO_2e$ = metric tons of carbon dioxide equivalent

3.1.7 Coal Export Terminal Operation—Equipment Operation

GHG emissions from mobile equipment used for routine operation of the coal export terminal are consistent across all four scenarios, as they are directly proportional to the throughput of the Proposed Action (Table 53). After the start-up period, emissions from this source would remain constant throughout the analysis period.

Table 53. Coal Export Terminal Operation Emissions from Mobile Combustion ($MtCO_2e$)

	Scenario			
Period	**2015 Energy Policy**	**Lower Bound**	**Upper Bound**	**No Clean Power Plan**
Annual Emissions, 2028 ($MtCO_2e$)	908	908	908	908
Total Emissions, 2018–2038 ($MtCO_2e$)	12,977	12,977	12,977	12,977

$MtCO_2e$ = metric tons of carbon dioxide equivalent

GHG emissions from fuel use occur from maintenance dock dredging of an estimated 100,000 cubic yards per year of sediment during the operations period. These emissions result from the operation of tugboats and dredging equipment (Table 54).

Table 54. Dredging Emissions during Operations – Fuel Use ($MtCO_2e$)

Period	Scenario			
	2015 Energy Policy	Lower Bound	Upper Bound	No Clean Power Plan
Annual Emissions, 2028 ($MtCO_2e$)	75	75	75	75
Total Emissions, 2018–2038 ($MtCO_2e$)	1,355	1,355	1,355	1,355

$MtCO_2e$ = metric tons of carbon dioxide equivalent

3.1.8 Coal Export Terminal Operation—Electricity Consumption

Electricity consumption emissions for operation of the new coal export terminal are assumed constant across all years of the analysis period and for all scenarios (Table 55).

Table 55. Coal Export Terminal Operation—Indirect Emissions from Electricity Consumption ($MtCO_2e$)

Period	Scenario			
	2015 Energy Policy	Lower Bound	Upper Bound	No Clean Power Plan
Annual Emissions, 2028 ($MtCO_2e$)	177	177	177	177
Total Emissions, 2018–2038 ($MtCO_2e$)	3,191	3,191	3,191	3,191

$MtCO_2e$ = metric tons of carbon dioxide equivalent

3.1.9 Employee Commuting

GHG emissions from employee commuting are consistent across all four scenarios, as they are directly proportional to the throughput of the Proposed Action (Table 56). After the start-up period, emissions from this source would remain constant throughout the analysis period.

Table 56. Employee Commuting ($MtCO_2e$)

Period	Scenario			
	2015 Energy Policy	Lower Bound	Upper Bound	No Clean Power Plan
Annual Emissions, 2028 ($MtCO_2e$)	275	275	275	275
Total Emissions, 2018–2038 ($MtCO_2e$)	3,922	3,922	3,922	3,922

$MtCO_2e$ = metric tons of carbon dioxide equivalent

3.1.10 Vessel Idling and Tugboat Use at Coal Export Terminal

GHG emissions from idling vessels and tugboats are consistent across all four scenarios, as they are directly proportional to the throughput of the Proposed Action (Table 57). Tugboats emit approximately twice as many emissions as idling vessels. After the start-up period, emissions from this source remain constant throughout the analysis period.

Table 57. Emissions from Vessel Idling and Tugboat Use at Coal Export Terminal ($MtCO_2e$)

	Scenario			
Emission Source	**2015 Energy Policy**	**Lower Bound**	**Upper Bound**	**No Clean Power Plan**
Vessel Idling at Terminal ($MtCO_2e$)				
Annual Emissions, 2028	2,498	2,498	2,498	2,498
Total Emissions, 2018–2038	35,660	35,660	35,660	35,660
Tugboat Operation ($MtCO_2e$)				
Annual Emissions, 2028	4,840	4,840	4,840	4,840
Total Emissions, 2018–2038	69,081	69,081	69,081	69,081
Subtotal ($MtCO_2e$)				
Annual Emissions, 2028	7,338	7,338	7,338	7,338
Total Emissions, 2018–2038	104,740	104,740	104,740	104,740

$MtCO_2e$ = metric tons of carbon dioxide equivalent

3.1.11 Helicopter and Pilot Boat Trips

GHG emissions from pilot transfers are consistent across all four scenarios, as they are directly proportional to the throughput of the Proposed Action (Table 58). Helicopters emit about the same GHGs as pilot boats and are assumed responsible for 70% of the pilot transfers. After the start-up period, emissions from this source would remain constant throughout the analysis period.

Table 58. Emissions from Helicopter and Pilot Boat Trips for Pilot Transfers to Vessels ($MtCO_2e$)

	Scenario			
Emission Source	**2015 Energy Policy**	**Lower Bound**	**Upper Bound**	**No Clean Power Plan**
Helicopter Operation ($MtCO_2e$)				
Annual Emissions, 2028	180	180	180	180
Total Emissions, 2018–2038	2,575	2,575	2,575	2,575
Pilot Boat Operation ($MtCO_2e$)				
Annual Emissions, 2028	198	198	198	198
Total Emissions, 2018–2038	2,827	2,827	2,827	2,827
Subtotal ($MtCO_2e$)				
Annual Emissions, 2028	378	378	378	378
Total Emissions, 2018–2038	5,402	5,402	5,402	5,402

$MtCO_2e$ = metric tons of carbon dioxide equivalent

3.1.12 Vessel Transport

Vessel transport GHG emissions are equivalent across all scenarios within Cowlitz County and Washington State but diverge for international transport (Table 59 and Table 60). The differences in international transport emissions result from different destinations for the exported coal and the extent to which demand for existing sources of Asian coal is substituted, primarily by coal from Indonesia, China, Russia, Australia, and India Consequently, the net emissions from international transport of coal include both transport to the Asian market and the adjustment for the substituted vessel transport from other international coal production sources to the Asian market (Table 61). In all of the scenarios, the addition of 44 million metric tons of coal would displace less than 44 million metric tons of coal traffic within the Pacific Basin because of differences in the heat content of the coals. In the Upper Bound scenario, displacement of international coal is less than in other scenarios because coal demand increases due to induced demand, and thus the amount of coal displaced by the proposed coal export terminal is even less than in other scenarios.

Table 59. Emissions from Vessel Transport within Cowlitz County ($MMTCO_2e$)

	Scenario			
Period	**2015 Energy Policy**	**Lower Bound**	**Upper Bound**	**No Clean Power Plan**
Annual Emissions, 2028 ($MMTCO_2e$)	0.01	0.01	0.01	0.01
Total Emissions, 2018–2038 ($MMTCO_2e$)	0.12	0.12	0.12	0.12

$MMTCO_2e$ = million metric tons of carbon dioxide equivalent

Table 60. Emissions from Vessel Transport within Washington State (Excluding Transport within Cowlitz County) ($MMTCO_2e$)[33]

	Scenario			
Period	**2015 Energy Policy**	**Lower Bound**	**Upper Bound**	**No Clean Power Plan**
Annual Emissions, 2028 ($MMTCO_2e$)	0.01	0.01	0.01	0.01
Total Emissions, 2018-2038 ($MMTCO_2e$)	0.15	0.15	0.15	0.15

$MMTCO_2e$ = million metric tons of carbon dioxide equivalent

[33] This table does not include emissions generated from vessel transport within Cowlitz County so that the results in Table 59, Table 60, and Table 61 are additive.

Table 61. Net Emissions from Changes in International Vessel Transport to Asian Markets ($MMTCO_2e$)[a]

Period	Scenario			
	2015 Energy Policy	Lower Bound	Upper Bound	No Clean Power Plan
Net Annual Emissions, 2028 ($MMTCO_2e$)	1.01	1.13	1.12	0.93
Net Total Emissions, 2018–2038 ($MMTCO_2e$)	15.16	16.17	16.87	13.32

[a] Net GHG emissions represent the difference between the Proposed Action and the no-action.
$MMTCO_2e$ = metric tons of carbon dioxide equivalent

3.1.13 Coal Combustion

Coal combustion in the United States and Asia is one of the largest and most variable sources of GHG emissions associated with the Proposed Action. Model results indicate that this source of emissions varies significantly throughout the analysis period and between scenarios, indicating that it is sensitive to policy and market factors. For most scenarios, the coal combustion emissions in the United States decrease while coal combustion emissions in Asia increase, to varying degrees. The key factor behind this shift is U.S. and Asian markets' reactions to price and supply shifts for coal. As the Proposed Action exports U.S. coal, prices in the United States go up in response to supply decreasing, thus reducing coal combustion. Likewise, the increased supply of coal in Asia decreases prices and facilitates additional coal combustion.

Coal combustion emissions in Asia are separated in Table 62 into two subcategories: emissions from induced coal demand and emissions from coal substitution. Induced demand emissions would occur because of lowered coal prices in response to an increase in coal supply caused by the Proposed Action. Coal substitution emissions are a result of one of two processes. In the first process, lower-heat-content coal displaces higher-heat-content coal, which results in a net increase in emissions to generate the same amount of energy. In the second process, coal with a higher CO_2 emissions rate displaces coal with a lower CO_2 emissions rate, which also results in a net increase in emissions. Both of these processes may occur in reverse as well, which would result in lower net emissions.

The differences between scenarios are driven by the following factors.

- Coal combustion emissions in the United States are less than the no-action for all scenarios, except for the Upper Bound scenario. Thus the net emissions from coal combustion are negative in the United States except for the Upper Bound scenario. Domestic coal prices increase in every scenario in response to the export of Powder River Basin and Uinta Basin coal. The higher prices then reduce the U.S. demand for coal, except in the Upper Bound scenario. In the Upper Bound scenario, changes in solar and combined cycle builds in the North and South Carolina electric demand region result in increases in coal consumption by an average of 0.40 million metric tons per year over the 2025 through 2040 period.[34]
- In the Upper Bound scenario, the additional coal exported to Asia from the Proposed Action reduces the delivered Asia coal prices, inducing demand. This increases overall coal

[34] A solar build of 29 megawatts is delayed in the Proposed Action from coming online in 2020 to coming online in 2030. Also, there is 4 megawatts less combined cycle builds. Both actions result in greater coal consumption.

consumption even as some Asian coals from Indonesia and Australia are substituted by Powder River Basin and Uinta Basin coals.

- There is a secondary driver of emissions in Asia, as lower-heat-content coal from the United States is a substitute for higher-heat-content coal, or higher-CO_2-content coal is a substitute for lower-CO_2-content coal. This substitution of higher-heat-content coal results in additional low-heat-content coal being combusted in order to meet electricity demands (i.e., Btu demands), therefore raising emissions in Asia.[35] There is an increase in CO_2 combustion emissions due to this driver in all but the Lower Bound scenario.
- In the 2015, U.S. and International Energy Policy scenario, the increase in Asian CO_2 emission is driven by the mix of coal consumed. U.S. coal consumption decreases slightly relative to the no-action because U.S. coal prices are already low due to a decrease in consumption from the enactment of EPA's Clean Power Plan in 2022, as modeled.

The coal market assessment provides a thorough discussion of the market.

Table 62. Net Emissions from Coal Combustion ($MMTCO_2e$)[a]

	Scenario			
Emission Source	**2015 Energy Policy**	**Lower Bound**	**Upper Bound**	**No Clean Power Plan**
Coal Combustion, United States ($MMTCO_2e$)				
Net Annual Emissions, 2028	-1.25	-7.94	0.03	<0.005
Net Total Emissions, 2018–2038	-14.02	-93.59	0.77	-0.04
Coal Combustion from Induced Demand, Asia ($MMTCO_2e$)				
Net Annual Emissions, 2028	0	<0.005	52.48	0
Net Total Emissions, 2018–2038	0	<0.005	747.07	0
Coal Combustion from Coal Substitution, Asia ($MMTCO_2e$)				
Net Annual Emissions, 2028	0.32	-0.54	0.41	1.84
Net Total Emissions, 2018–2038	5.47	-7.86	1.62	23.95
Subtotal ($MMTCO_2e$)				
Net Annual Emissions, 2028	-0.93	-8.48	52.92	1.83
Net Total Emissions, 2018–2038	-8.55	-101.44	749.46	23.91

Notes:
[a] Net GHG emissions represent the difference between the Proposed Action and the no-action.
$MMTCO_2e$ = million metric tons of carbon dioxide equivalent

3.1.14 Induced Natural Gas Consumption

Natural gas consumption in the United States is a large and highly variable source of emissions. Higher coal prices or lower natural gas prices in the United States induce electricity generators to switch to natural gas. Relative to the no-action, natural gas emissions increase for all scenarios except for the Upper Bound scenario, although the results display significant variation depending on

[35] For example, for the No Clean Power Plan scenario, coal consumption in Taiwan increases by 1.7 million metric tons in 2025 over the no-action; however, there is no induced demand in this scenario. Thus the full 1.7 million metric tons of the increase in coal consumption in Taiwan in 2025 is due to changes in the mix of coal consumed.

the extent to which coal is displaced (Table 63). The differences among scenarios are driven by the following two factors.

- The inclusion of the Clean Power Plan, which generally reduces coal consumption and prices and increases natural gas consumption and prices. One of the components of compliance with the Clean Power Plan is increased energy efficiency. Thus in the scenarios without the Clean Power Plan the increased energy efficiency is removed, which results in overall electric demand being higher. This results in higher coal and natural gas consumption in the scenarios without the Clean Power Plan in 2025 and later when the Clean Power Plan implementation is ramped up.
- The assumed Powder River Basin coal production costs. Higher Powder River Basin coal production costs, as in the Lower Bound scenario, result in a greater increase in natural gas consumption under the Proposed Action, because there is a greater increase in coal prices. The greater increase in coal prices results in a larger decrease in coal consumption and a subsequent larger increase in natural gas consumption.

Table 63. Net Emissions from Natural Gas Substitution in the United States ($MMTCO_2e$)[a]

	Scenario			
Period	**2015 Energy Policy**	**Lower Bound**	**Upper Bound**	**No Clean Power Plan**
Net Annual Emissions, 2028 ($MMTCO_2e$)	0.07	2.42	-0.02	<0.005
Net Total Emissions, 2018–2038 ($MMTCO_2e$)	0.89	27.78	-0.24	<0.005

Notes:
[a] Net GHG emissions represent the difference between the Proposed Action and the no-action.
$MMTCO_2e$ = million metric tons of carbon dioxide equivalent

3.1.15 Net Greenhouse Gas Emissions

This section presents the aggregated results of each of the emission sources described previously.

Model results indicate that the direct GHG emissions from the Proposed Action (Table 64) are the same for each of the four scenarios, as they are emitted in proportion to the throughput of the Proposed Action and are not influenced by outside economic factors. The largest contributors to the direct emissions are transportation-related emissions, including locomotive operation and vessel transport within Cowlitz County. Together, these two sources contribute about 72% of direct emissions. For the 2015 U.S. and International Energy Policy scenario, the total direct emissions contributed an increase of approximately 0.60 $MMTCO_2e$ (0.9%) (Table 64). This value is compared to a total net increase in emissions of 22.36 $MMTCO_2e$ excluding coal extraction (Table 66) and a net decrease in emissions of 63.54 $MMTCO_2e$ including coal extraction (Table 67) throughout the 2018 through 2038 analysis period once market-influenced and indirect sources of emissions are considered.

Table 64. Direct Emissions (Generated in Cowlitz County) for the Proposed Action ($MMTCO_2e$)[36]

Period	Scenario			
	2015 Energy Policy	Lower Bound	Upper Bound	No Clean Power Plan
Annual Emissions, 2028 ($MMTCO_2e$)	0.04	0.04	0.04	0.04
Total Emissions, 2018–2038 ($MMTCO_2e$)	0.60	0.60	0.60	0.60

$MMTCO_2e$ = million metric tons of carbon dioxide equivalent

Statewide, emissions are about 9 times as high as the county emissions, largely driven by the greater distances traveled by locomotives and vessels outside of Cowlitz County. Locomotive transport constitutes about 97% of emissions generated within Washington State and outside of Cowlitz County (Table 65).

Table 65. Emissions Generated within Washington State, Excluding Cowlitz County ($MMTCO_2e$)

Period	Scenario				
	2015 Energy Policy	Lower Bound	Upper Bound	No Clean Power Plan	Cumulative
Annual Emissions, 2028 ($MMTCO_2e$)	0.33	0.33	0.32	0.33	0.33
Total Emissions, 2018–2038 ($MMTCO_2e$)	4.57	4.77	4.27	4.77	4.77

Notes:
The Cumulative scenario is provided here for comparison and is addressed in Section 3.1.15, *Net Greenhouse Gas Emissions*, under *Cumulative Scenario*.
$MMTCO_2e$ = million metric tons of carbon dioxide equivalent

The total net indirect emissions from activities outside the project area and Cowlitz County attributed to the operation of the Proposed Action come from a variety of sources, including:

- Extraction of coal at the mining sites
- Rail Transport
- Coal export terminal construction—embedded GHG emissions in materials for coal export terminal construction
- Coal Export Terminal Operation—Electricity Consumption
- Helicopter and Pilot Boat Trips
- Vessel Transport
- Coal Combustion in Asia and the United States
- Induced Natural Gas Consumption in the United States

Net indirect emissions over the 2018 through 2038 analysis period excluding coal extraction vary depending on the scenario, from a decrease of 41.904 $MMTCO_2e$ in the Lower Bound scenario to an increase of 779.83 $MMTCO_2e$ in the Upper Bound scenario (Table 66). The total net impacts (i.e., direct and indirect emissions) excluding coal extraction range from a decrease in emissions of 41.31 $MMTCO_2e$ in the Lower Bound scenario relative to the no-action to an increase in emissions of 780.42 $MMTCO_2e$ in the Upper Bound scenario relative to the no-action. The No Clean Power Plan

[36] By definition, direct emissions are equivalent to emissions generated in Cowlitz County.

scenario, which depicts a "business as usual" projection of market conditions in the absence of climate policy, indicates a net increase of 51.75 $MMTCO_2e$ across the entire analysis period studied. Table 66 summarizes direct emissions, indirect emissions, and total net emissions excluding coal extraction.

Table 66. Net (Direct and Indirect) Emissions for the Proposed Action Excluding Coal Extraction ($MMTCO_2e$)

	Scenario				
Period	**2015 Energy Policy**	**Lower Bound**	**Upper Bound**	**No Clean Power Plan**	**Cumulative**
Direct emissions (generated in Cowlitz County) excluding coal extraction ($MMTCO_2e$)					
Annual Emissions, 2028	0.04	0.04	0.04	0.04	0.04
Total Emissions, 2018–2038	0.60	0.60	0.60	0.60	0.60
Net indirect emissions excluding coal extraction ($MMTCO_2e$)					
Annual Emissions, 2028	1.15	-3.84	54.97	3.72	19.45
Total Emissions, 2018–2038	21.76	-41.90	779.83	51.16	350.64
Net emissions (direct + indirect) excluding coal extraction ($MMTCO_2e$)					
Annual Emissions, 2028	1.19	-3.80	55.01	3.76	19.49
Total Emissions, 2018–2038	22.36	-41.31	780.42	51.75	351.24

Notes:
The Cumulative scenario is provided here for comparison and is addressed in Section 3.1.15, *Net Greenhouse Gas Emissions*, under *Cumulative Scenario*
$MMTCO_2e$ = million metric tons of carbon dioxide equivalent

Net indirect emissions over the 2018 through 2038 analysis period including coal extraction vary depending on the scenario, from a decrease of 122.64 $MMTCO_2e$ in the Lower Bound scenario to an increase of 800.90 $MMTCO_2e$ in the Upper Bound scenario (Table 67). The total net impacts (i.e., direct and indirect emissions) including coal extraction range from a decrease in emissions of 122.04 $MMTCO_2e$ in the Lower Bound scenario relative to the no-action to an increase in emissions of 801.49 $MMTCO_2e$ in the Upper Bound scenario relative to the no-action. The No Clean Power Plan scenario, which depicts a "business as usual" projection of market conditions in the absence of climate policy, indicates a net decrease of 4.75 $MMTCO_2e$ across the entire analysis period studied. Table 67 summarizes direct emissions, indirect emissions, and total net emissions including coal extraction.

Table 67. Net Emissions (Direct + Indirect) for the Proposed Action Including Coal Extraction ($MMTCO_2e$)[a]

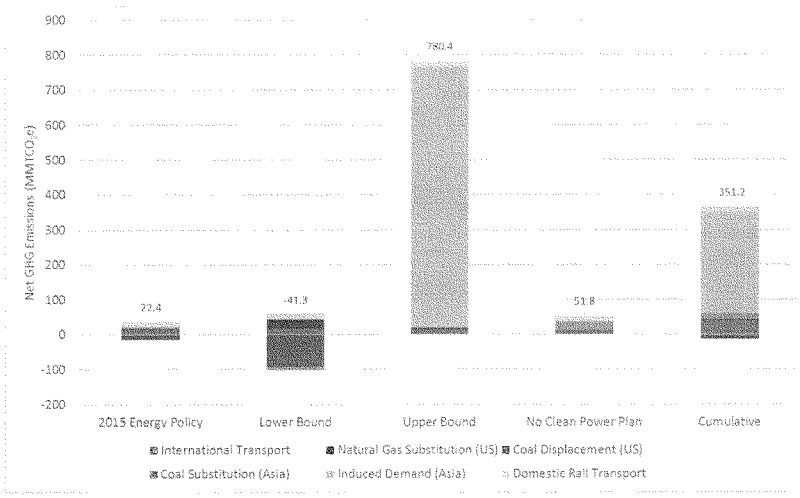
Period	Scenario				
	2015 Energy Policy	Lower Bound	Upper Bound	No Clean Power Plan	Cumulative
Direct emissions (generated in Cowlitz County) including coal extraction ($MMTCO_2e$)					
Annual Emissions, 2028	0.04	0.04	0.04	0.04	0.04
Total Emissions, 2018–2038	0.60	0.60	0.60	0.60	0.60
Net indirect emissions including coal extraction ($MMTCO_2e$)					
Annual Emissions, 2028	-3.77	-8.52	56.05	0.51	7.11
Total Emissions, 2018–2038	-64.14	-122.64	800.90	-5.34	164.83
Net emissions (direct + indirect) including coal extraction ($MMTCO_2e$)					
Annual Emissions, 2028	-3.73	-8.48	56.09	0.55	7.15
Total Emissions, 2018–2038	-63.54	-122.04	801.49	-4.75	165.43

Notes:
[a] Net GHG emissions represent the difference between the Proposed Action and the no-action.
$MMTCO_2e$ = million metric tons of carbon dioxide equivalent

Figure 11 depicts the range of net total emissions from the operation of the Proposed Action excluding coal extraction across the different scenarios studied.[37] This figure, which identifies the major sources of emissions, shows that the largest contributors to net emissions vary across scenarios. In the 2015 U.S. and International Energy Policy scenario, international vessel transportation is the largest contributor to net emissions. In the Lower Bound scenario, coal displacement in the United States is the largest contributor to net emissions. In the No Clean Power Plan scenario, coal substitution in Asia is the largest contributor to net emissions, while in the Upper Bound and Cumulative scenarios, induced demand in Asia is the largest contributor to net emissions.

[37] The bars in this figure do not include some of the smaller sources of emissions (for instance on-site emissions are not included). However, the number for each bar denotes the total net emissions for each scenario modeled and includes all emission sources.

Figure 11. Total Net Emissions for Each Scenario, Excluding Coal Extraction 2018-2038 ($MMTCO_2e$)[a]

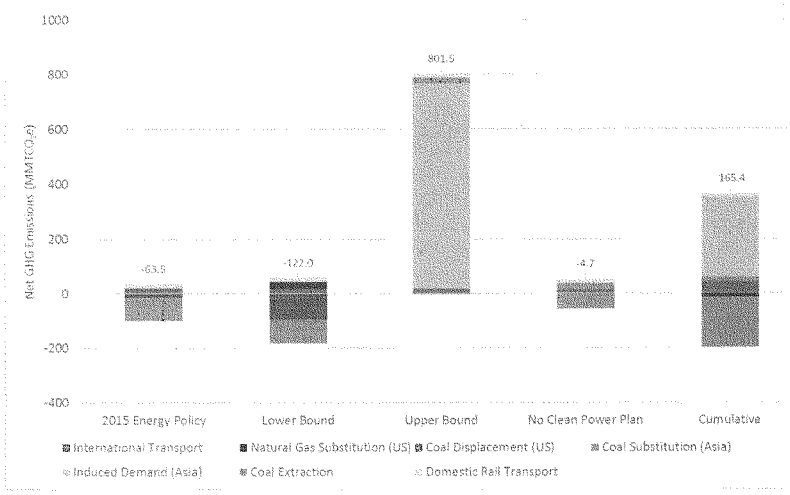


Notes: [a] Net GHG emissions represent the difference between the proposed action and the no-action. The bars in this figure do not include some of the smaller sources of emissions (for instance on-site emissions are not included). However, the number for each bar denotes the total net emissions for each scenario modeled and includes all emission sources apart from coal extraction. The Cumulative scenario is provided here for comparison and is addressed in Section 3.1.15, *Net Greenhouse Gas Emissions*, under *Cumulative Scenario*

Figure 12 depicts the range of net total emissions from the operation of the Proposed Action, including coal extraction across the different scenarios studied.[38] Similar to Figure 11, this figure also shows that the largest contributors to net emissions vary across scenarios. In the 2015 U.S. and International Energy Policy and No Clean Power Plan scenarios, coal extraction is the largest contributor to net emissions, In the Lower Bound scenario, coal displacement in the United States is the largest contributor to net emissions, while in the Upper Bound and Cumulative scenario, induced demand in Asia is the largest contributor to net emissions.

[38] The bars in this figure do not include some of the smaller sources of emissions (for instance on-site emissions are not included). However, the number for each bar denotes the total net emissions for each scenario modeled and includes all emission sources.

Figure 12. Total Net Emissions for Each Scenario, Including Coal Extraction 2018-2038 ($MMTCO_2e$)[a]

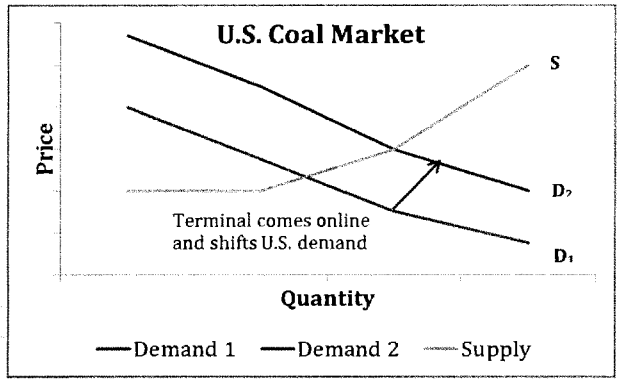


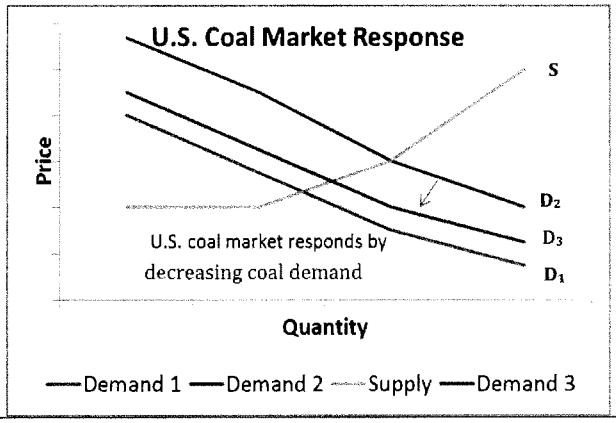
Notes: [a] Net GHG emissions represent the difference between the Proposed Action and the no-action. The bars in this figure do not include some of the smaller sources of emissions (for instance on-site emissions are not included). However, the number for each bar denotes the total net emissions for each scenario modeled and includes all emission sources. The Cumulative scenario is provided here for comparison and is addressed in Section 3.1.15, *Net Greenhouse Gas Emissions*, under *Cumulative Scenario*

The shift in coal prices both domestically and internationally have a major impact on the resulting net GHG emissions for each scenario compared to the no-action. The textboxes that follow illustrate key concepts on the shift in coal prices. These shifts are mentioned as they influence the net change in GHG emissions as described below. For additional details, see the SEPA Coal Market Assessment Technical Report (ICF 2017c).

Impact of the Proposed Action on Domestic Coal Supply and Demand, Assuming Coal Export Terminal Operates at Full Capacity

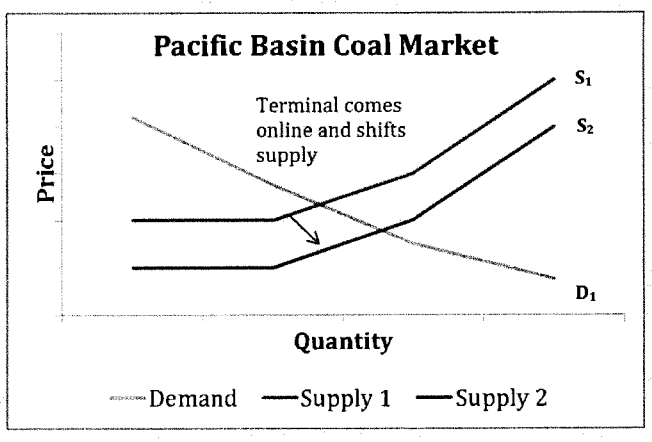
The operation of the Proposed Action would have the effect of improving integration of the U.S. and Asian coal markets. However, to the extent that Asian coal prices are higher than U.S. coal prices, operation of the Proposed Action would cause Asian coal prices to decline, while U.S. coal prices would increase. These changes in price would cause Asian coal demand to increase and U.S. coal demand to decrease. Increase in demand for U.S. coal as coal is exported from the Proposed Action (D_1 shifts to D_2) would result in higher U.S. coal prices and a subsequent decrease in domestic coal demand compared to the no-action. The international "demand" from the coal export terminal is inelastic (i.e., for a 1% change in coal price, there is no change in demand for coal from the export terminal) while the domestic demand from coal plants is elastic and decreases with an increase in coal prices (e.g., for a 1% increase in coal price, the demand for coal will decrease 0.3%).

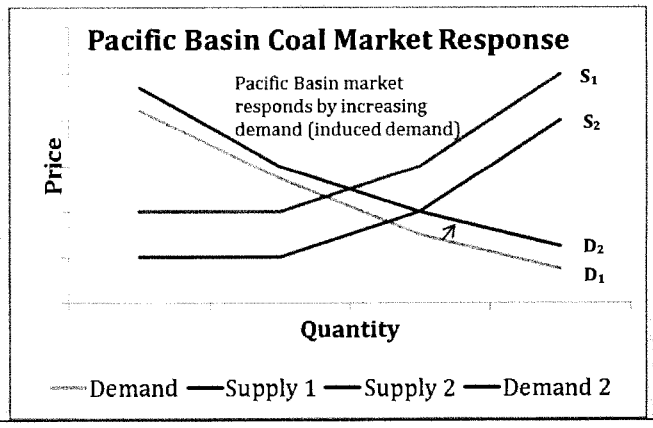




Impact of the Proposed Action on International Coal Supply and Demand, Assuming Coal Export Terminal Operates at Full Capacity

1. Increase in coal supplied to international market from the Proposed Action.
2. This increase in the coal supply in Asia would result in lower international coal prices and a subsequent increase in international coal demand compared to the no-action.





The diagrams above explain the general impact of the Proposed Action on coal markets regardless of the scenario. What makes each scenario different, however, is that the supply and demand curves for coal each have different slopes. The slopes of the supply and demand curves vary based on economic and policy conditions dictated by each scenario. For example, the Lower Bound scenario has a lower slope for coal demand than the No Clean Power Plan scenario, indicating a lower elasticity of demand in response to supply changes. Likewise, the slope of the demand curves in the Upper Bound Scenario is higher than the No Clean Power Plan Scenario, which results in greater elasticity of demand and thus greater induced demand. In effect, the differences in supply and demand curves differentiate the emissions between each scenario.

3.1.15.1 No Clean Power Plan Scenario

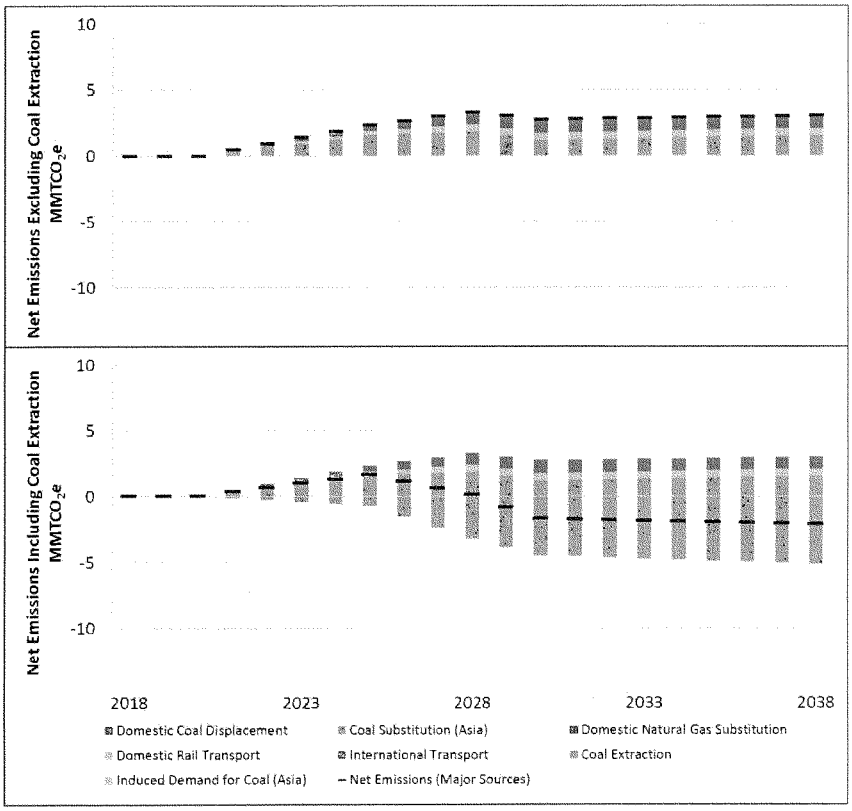
Emissions estimated in the coal market assessment are assumed zero from 2018 through 2020 because the proposed terminal is not operating yet. Emissions start to ramp up when the coal export terminal would begin operating in 2021 and continue through 2038. As shown in Figure 13, there is significant variation from year to year, as well as a ramp-up period where the coal export terminal would increase exports from zero to 44 million metric tons of coal per year. In the No Clean Power Plan Scenario, U.S. coal consumption and thus emissions do not change under the Proposed Action because domestic coal prices do not increase enough to cause a change in demand. The coal exported through the proposed terminal replaces coal produced primarily from Indonesia, China, Russia, Australia, and India, resulting in a net decrease in annual GHG emissions of 3.21 million metric tons from coal extraction when the terminal reaches full capacity in 2028 (Table 44).

Impacts on Coal and Natural Gas Combustion Relative to the No Clean Power Plan Scenario

The table below compares how coal and natural gas combustion change in response to market and policy conditions. The No Clean Power Plan scenario row compares the emissions relative to the no-action, whereas the other rows indicate whether emissions have increased or decreased relative to the no-action and then indicate whether the magnitude of this increase or decrease is greater than or less than the increase or decrease from the No Clean Power Plan scenario.

Scenario	U.S. Coal Combustion	Asian Coal Combustion	U.S. Natural Gas Combustion
No Clean Power Plan	Decrease in domestic coal emissions compared to the no-action due to slight decrease in coal consumption.	Increase in Asian coal emissions compared to the no-action due to the change in the mix of coal consumed.	Increase in domestic natural gas emissions compared to the no-action due to the slight decrease in coal consumption.
2015 U.S. and International Energy Policy	Decrease in domestic coal emissions compared to the no-action.	Increase in Asian coal emissions compared to the no-action.	Increase in domestic natural gas emissions compared to the no-action.
	Magnitude of decrease is greater than of the No Clean Power Plan due to greater sensitivity to coal price changes due to overall lower electric demand.	Magnitude of increase is less than that of the No Clean Power Plan due to a different mix of coals consumed.	Magnitude of increase is greater than that of the No Clean Power Plan due to the greater decrease in coal consumption.
Lower Bound	Decrease in domestic coal emissions compared to the no-action.	Decrease in Asian coal emissions compared to the no-action.	Increase in domestic natural gas emissions compared to the no-action.
	Magnitude of the decrease is greater than that of the No Clean Power Plan due to the higher assumed production costs in the Powder River Basin that result in higher coal prices in the Proposed Action that results in greater reduction of domestic coal consumption.	Magnitude of the decrease is less than in the No Clean Power Plan. In both scenarios the changes in Asian coal combustion emissions are due only to changes in the mix of coal consumed.	Magnitude of the increase in natural gas emissions is greater than in the No Clean Power Plan due to the greater reduction in coal consumption.
Upper Bound	Increase in domestic coal emissions compared to the no-action.	Increase in Asian coal emissions compared to the no-action.	Decrease in domestic natural gas emissions compared to the no-action.
	Magnitude of the decrease is greater than in the No Clean Power Plan scenario due to the higher overall demand for coal.	Magnitude of the increase is greater than in the No Clean Power Plan scenario because the higher assumed production costs of international coal producers results in greater induced demand.	Magnitude of decrease is greater than in the No Clean Power Plan scenario because of the greater change in domestic coal consumption.

Figure 13. No Clean Power Plan—Net Annual Emissions Excluding and Including Coal Extraction, 2018–2038



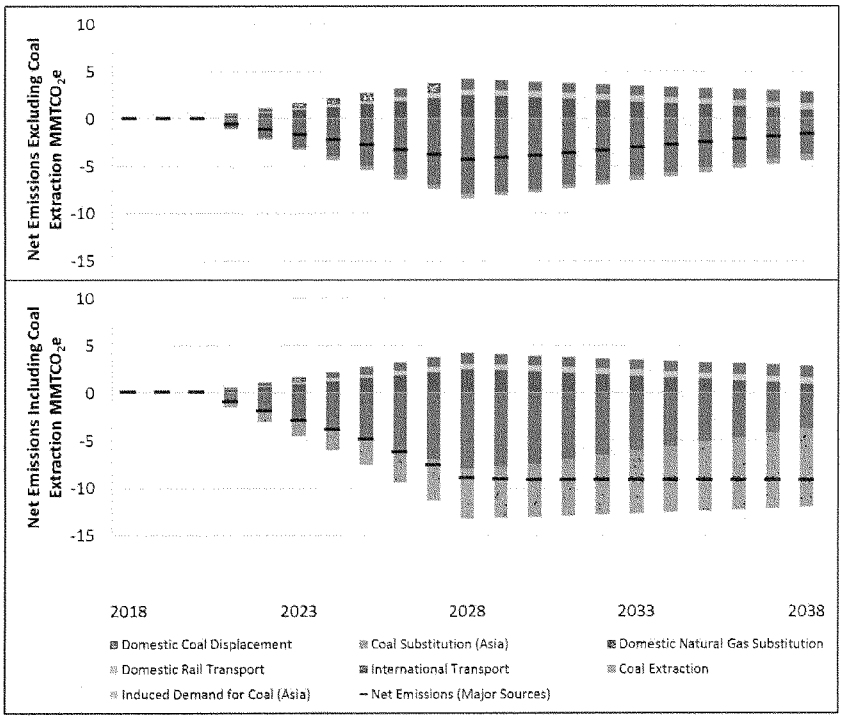
Note: Net GHG emissions represent the difference between the Proposed Action and the no-action.

3.1.15.3 Lower Bound Scenario

In the Lower Bound scenario (Figure 14), coal displacement in the United States results in a reduction of GHG emissions. The displacement of U.S. coal is highest in the Lower Bound Scenario because the PRB and Uinta Basin coal supply curves are assumed higher than the base assumption coal curves, which results in higher coal prices in both the No Action and Proposed Action alternatives. Thus the domestic coal demand is more sensitive to the coal price increase that occurs in the Proposed Action (i.e., for a percent increase in price, coal demand would decrease by 1.6 million metric tons on average). Induced demand in Asia increases Asian coal GHG emissions. In the Lower Bound Scenario, there is a decrease in emissions due to the mix of coal consumed in Asia as more coal with a lower carbon emissions rate is consumed and less coal with a higher carbon emissions rate is consumed. Thus the overall net emissions in Asia are less than in the 2015 U.S. and International Energy Policy Scenario. Compared to the No Clean Power Plan scenario, the Lower Bound Scenario results in higher natural gas emissions in the United States due to the deeper reduction of coal use domestically and the replacement of some of that coal energy with natural gas. In summary, the Lower Bound scenario results in the following emissions conditions.

- Overall net emissions are lower than in the No Clean Power Plan scenario.
- Coal emissions in Asia would be lower than in the No Clean Power Plan scenario because of the mix of coals consumed.
- Natural gas substitution is higher because domestic coal prices are more sensitive to changes in demand in the Lower Bound than the No Clean Power Plan scenario.
- Coal extraction emissions are lower than in the No Clean Power Plan scenario, driven by coal production reductions in Russia and China.

Figure 14. Lower Bound – Net Annual Emissions Excluding and Including Coal Extraction, 2018–2038



Note: Net GHG emissions represent the difference between the Proposed Action and the no-action.

3.1.15.4 Upper Bound Scenario

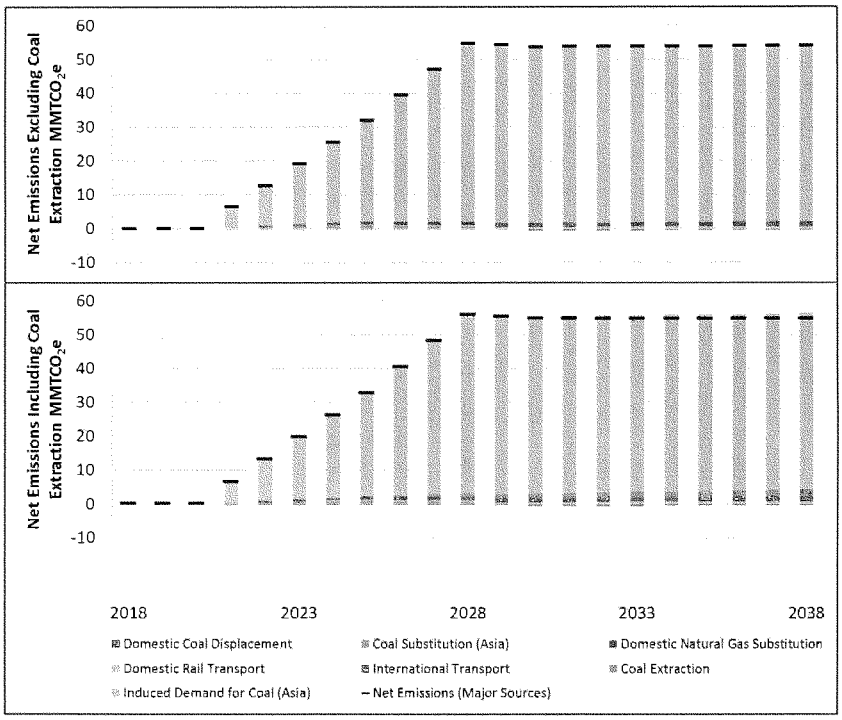
The Upper Bound scenario (Figure 15), which has a higher sensitivity to coal price changes, exhibits stronger induced demand from Asia, resulting in higher Asian coal emissions than the No Clean Power Plan scenario. There is a higher sensitivity to coal price changes due to the overall higher global coal demand, which in turn stresses the coal supply chain more than the other scenarios.[39] In summary, the Upper Bound scenario results in the following emissions conditions.

- Overall net emissions are higher than in the No Clean Power Plan scenario.
- Coal emissions in Asia rise more than in the No Clean Power Plan scenario because more demand is induced in the Upper Bound Scenario than in the No Clean Power Plan Scenario.

[39] The Upper Bound Scenario international coal demand is 33% higher than the No Clean Power Plan Scenario and 71% higher than the Lower Bound and 2015 U.S. and International Energy Policy Scenarios demand in 2040.

- Coal extraction emissions are higher than in the No Clean Power Plan scenario, driven by coal production increases in the Powder River and Uinta Basins, and China.

Figure 15. Upper Bound – Net Annual Emissions Excluding and Including Coal Extraction, 2018–2038



Note: Net GHG emissions represent the difference between the Proposed Action and the no-action.

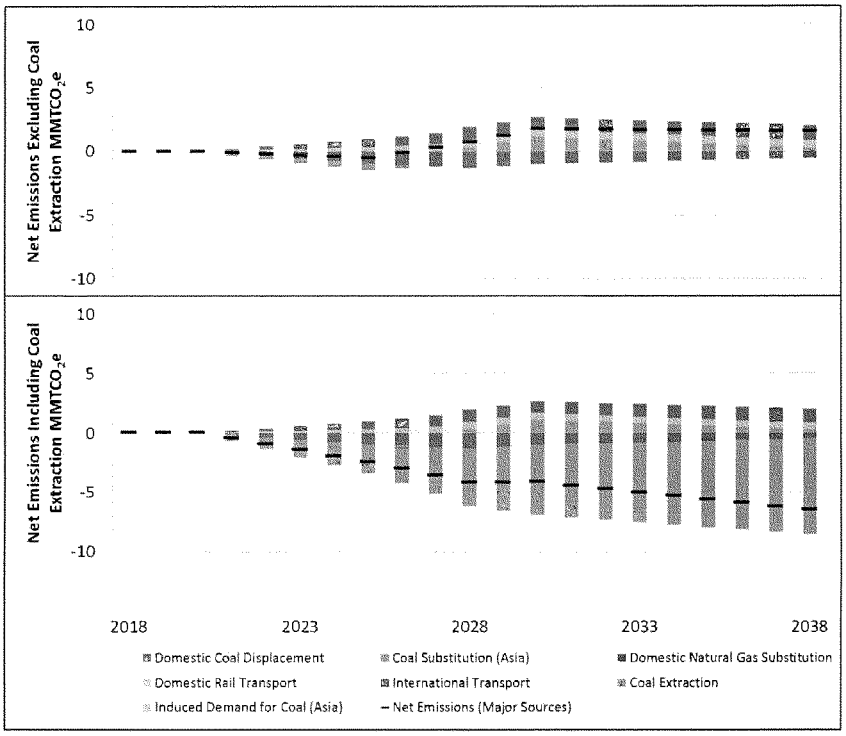
3.1.15.5 2015 U.S. and International Energy Policy Scenario

The 2015 U.S. and International Energy Policy scenario (Figure 16) has U.S. coal displacement that is lower than the No Clean Power Plan Scenario and higher than the Lower Bound scenario. This shift in coal displacement occurs because the climate policy in the United States depresses coal demand and prices and reduces coal combustion. Therefore, in this scenario, domestic coal emissions and natural gas emissions stay relatively flat throughout the analysis period. Net emissions in Asia are lower than in the No Clean Power Plan scenario and are driven by the change in the mix of coals. (One important note is that, although state climate emissions goals drive up the use of renewables relative to the No Clean Power Plan scenario, use of coal is permissible). Natural gas substitution is low in the 2015 U.S. and International Energy Policy Scenario because the Proposed Action does not cause coal prices to increase enough to result in a large decrease in coal consumption.

- The decrease in net emissions[40] from domestic coal combustion is greater than in the No Clean Power Plan scenario because coal consumption in the 2015 U.S. and International Energy Policy scenario is more sensitive to changes in coal prices due to lower overall electric demand (the coal elasticity of demand results in a decrease in coal demand of 0.5 million metric tons for every 1% increase in price).
- Net emissions from coal combustion in Asia increase less than in the No Clean Power Plan scenario because of changes in the mix of coal consumed.
- Net GHG emissions in Asia from coal combustion in the 2015 U.S. and International Energy Policy scenario are driven by changes in coal types consumed (i.e., low CO_2-content versus high CO_2-content coal).
- Net emissions from domestic natural gas combustion are greater than in the No Clean Power Plan scenario because of the larger decrease in domestic coal consumption in the 2015 U.S. and International Energy Policy scenario.
- Net emissions in coal extraction are lower than in the No Clean Power Plan scenario, driven by coal production reductions in Russia and China.

[40] Net GHG emissions represent the difference between the Proposed Action and the No-Action.

Figure 16. 2015 U.S. and International Energy Policy—Net Annual Emissions Excluding and Including Coal Extraction, 2018–2038



Note: Net GHG emissions represent the difference between the Proposed Action and the no-action.

To highlight the differences between net emissions during construction, net emissions during initial operation of the terminal, and net emissions during full operation of the terminal, Table 68 presents total net emissions for each phase as well as average net emissions if coal extraction is excluded. Table 69 shows net emissions if coal extraction is included.

Table 68. Net Emissions (Direct and Indirect) Excluding Coal Extraction by Phase ($MMTCO_2e$)

		2015 Energy Policy		Lower Bound		Upper Bound		No Clean Power Plan	
Phase	**Years**	**GHG Emissions**	**Avg. Annual Emissions**	**GHG Emissions**	**Avg. Annual Emissions**	**GHG Emissions**	**Avg. Annual Emissions**	**GHG Emissions**	**Avg. Annual Emissions**
Net Emissions Excluding Coal Extraction ($MMTCO_2e$)									
Construction Emissions	2018–2020	0.21	0.07	0.21	0.07	0.21	0.07	0.21	0.07
Total Net Emissions for Initial Operation	2021–2027	0.30	0.04	-13.66	-1.95	183.41	26.20	14.19	2.03
Total Net Emissions for Full Operations	2028–2038	21.85	1.99	-27.86	-2.53	596.80	54.25	37.35	3.40
Total Emissions	2018–2038	22.36		-41.31		780.42		51.75	

Table 69. Net Emissions (Direct and Indirect) Including Coal Extraction by Phase ($MMTCO_2e$)

		2015 Energy Policy		Lower Bound		Upper Bound		No Clean Power Plan	
Phase	**Years**	**GHG Emissions**	**Avg. Annual Emissions**	**GHG Emissions**	**Avg. Annual Emissions**	**GHG Emissions**	**Avg. Annual Emissions**	**GHG Emissions**	**Avg. Annual Emissions**
Net Emissions Including Coal Extraction ($MMTCO_2e$)									
Construction Emissions	2018–2020	0.21	0.07	0.21	0.07	0.21	0.07	0.21	0.07
Total Net Emissions for Initial Operation	2021–2027	-12.37	-1.77	-26.92	-3.85	186.11	26.59	8.04	1.15
Total Net Emissions for Full Operations	2028–2038	-51.38	-4.67	-95.34	-8.67	615.17	55.92	-13.00	-1.18
Total Emissions	2018–2038	-63.54		-122.04		801.49		-4.75	

683

3.1.15.6 Cumulative Scenario

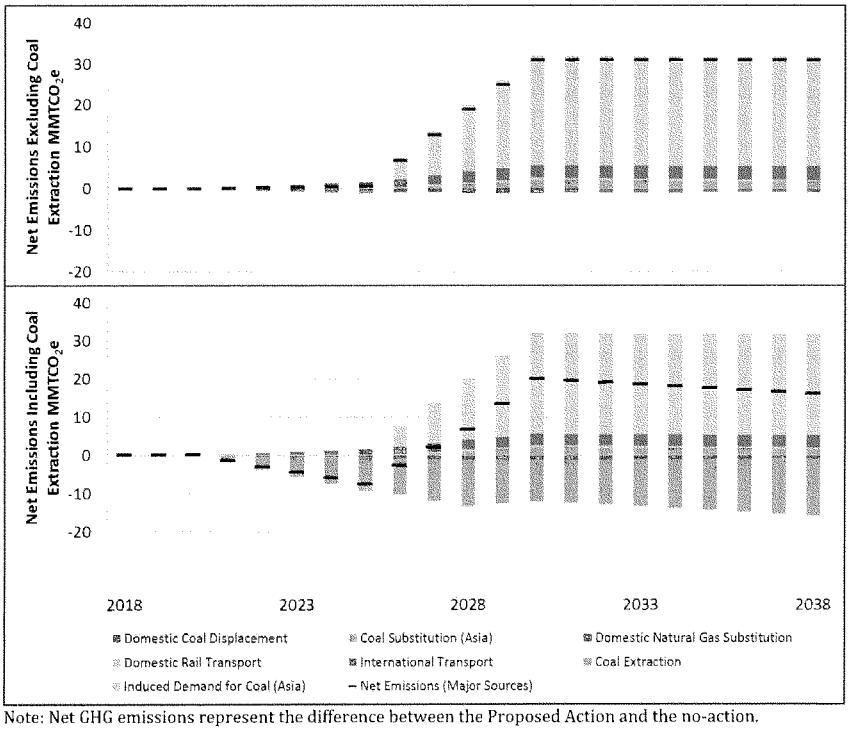
The Cumulative scenario includes other planned export coal terminals in the Pacific Northwest. Each terminal would operate at full capacity, except for the Ridley terminal due to its long distance from the Powder River Basin, for a total export tonnage of 175 million metric tons, which includes both thermal and metallurgical coal.[41] The emissions from the operation of the other coal export terminals are not included in the cumulative emissions analysis. Their impact is solely limited to their ability to influence coal supplies and prices. All other assumptions are the same as the No Clean Power Plan scenario. The Cumulative scenario compares the no-action without the additional coal export terminals against the Proposed Action that includes the other coal export terminals.

The Cumulative scenario emissions are dominated by changes in Asian coal emissions (Figure 17.). The operation of multiple coal export terminals changes the mix of coal types consumed in Asia with only a small decline in domestic coal consumption. The additional export capacity beyond the Proposed Action causes a decrease in coal prices in 2030, which results in induced demand equivalent to about 12.5 million metric tons. In summary, the Cumulative scenario results in the following emissions conditions.

- Net emissions relative to the no-action are higher than the No Clean Power Plan scenario (351.24 $MMTCO_2e$ versus -51.75 from 2018 through 2038 excluding coal extraction, and 165.43 $MMTCO_2e$ versus -4.75 from 2018 through 2038 including coal extraction).
- The change in Asian coal combustion emissions is due to a mix of induced demand and a change in the mix of coals consumed.
- Coal use in the United States declines more relative to the No Clean Power Plan scenario due to the increased demand from multiple coal export terminals that is a greater stimulus to the domestic supply system and, as such, causes coal prices to rise higher and coal demand to fall farther. The change in coal use in the United States is less than 0.9 million metric tons in both the Cumulative and No Clean Power Plan Scenarios.
- Natural gas substitution follows the same pattern as in the No Clean Power Plan scenario as natural gas consumption moves in the opposite direction of coal consumption changes in each scenario.
- Coal extraction emissions show a similar trend as the No Clean Power Plan scenario; however, emissions are almost exclusively driven by a reduction in coal production in China.

[41] The analysis for the EIS only models thermal coal as only thermal coal would be exported through the proposed terminal. The total export capacity for thermal coal is 157 million metric tons.

Figure 17. Cumulative Scenario—Net Annual Emissions, 2018–2038



Note: Net GHG emissions represent the difference between the Proposed Action and the no-action.

3.2 No-Action Alternative

Under the No-Action Alternative, the Applicant would not construct the coal export terminal and GHG emissions would not be affected by construction or operation. However, the Applicant has indicated that the operation of the current bulk product terminal would continue and increase within the project area. The Applicant would not construct Docks 2 and 3. Dock 1 would continue to be used for bulk cargo, primarily alumina, and might be used for general cargo.

Alternative uses of the project area would be expected to result in minimal increases in GHG emissions relative to current conditions in Cowlitz County. Under the No-Action Alternative, the Applicant anticipates importing from Asia up to 600,000 short tons of calcined pet coke a year. This material would arrive by vessel and be stored in a building at the facility. Approximately 200,000 short tons of coal tar pitch per year could also be imported by vessel, as well as an undetermined amount of cement. Future operations would result in two additional daily trains arriving and departing the facility with an average rail car length of 30 cars carrying bulk product. Each train is

composed of two locomotives. In addition, an average of 26 Panamax-sized vessels would arrive and depart each year, an increase of 20 vessels compared to the 6 vessels that currently arrive and depart. Truck haul emissions associated with the transport of coal to the nearby Weyerhaeuser facility would increase and are included in estimate of GHG emissions. Emissions from the consumption of electricity at the bulk product terminal would increase due to the planned terminal expansion; however, the extent of this increase is uncertain. The estimated emissions are shown in Table 70.

Table 70. No-Action Alternative Annual Average Emissions from Rail, Vessel, and Haul Trucks Operating within Cowlitz County ($MMTCO_2e$)

Source	Maximum Annual Average Emissions ($MMTCO_2e$)
Locomotive combustion	0.0005
Vessel combustion	0.0004
Haul trucks	0.0002
Total	**0.0012**

$MMTCO_2e$ = million metric tons of carbon dioxide equivalent

The no-action in coal market assessment contains different boundaries than the emission sources above (i.e., the coal market assessment examines effects on the international coal market, while the No-Action Alternative examines alternative uses of the project area). While the no-action for the coal market assessment examines the implications of not building the coal export terminal, net emissions between a given coal market scenario and the no-action consider changes in emissions from coal combustion in Asia and the U.S. for instance, but do not consider changes in emissions from emission sources described in Table 70. In particular, the no-action as it relates to the coal market assessment does not evaluate net impacts associated with existing vessel, rail, and vehicle traffic.

Chapter 4
Supplementary Data

4.1 Interpolated Results from Coal Market Assessment

The GHG analysis used coal market assessment estimates on changes in domestic and international coal demand for 2025, 2030, and 2040. For the GHG analysis, the years 2025, 2028, and 2038 are extracted from the full, interpolated time series and presented below. As mentioned in Section 2.2.2.2, *Method for Assembling an Emissions Time Series*, the coal market assessment values were adjusted to capture the gradual increase in coal exports from 2020 to 2025 (from zero to 25 million metric tons) and 2028 (full capacity of 44 million metric tons). This chapter presents the interpolated results based on the coal market assessment results. The following tables are presented.

- Table 71. Interpolated Coal Market Assessment Results, 2015 U.S. and International Energy Policy
- Table 72. Interpolated Coal Market Assessment Results, Lower Bound
- Table 73. Interpolated Coal Market Assessment Results, Upper Bound
- Table 74. Interpolated Coal Market Assessment Results, No Clean Power Plan
- Table 75. Interpolated Coal Market Assessment Results, Cumulative

In addition, Table 76 provides the net change in coal extraction volumes for the year 2028 and the entire 2018 through 2038 analysis period.

Table 71. Interpolated Coal Market Assessment Results, 2015 U.S. and International Energy Policy

	2025	2028	2038
Coal Exported Through the Proposed Action (million metric tons)	**25.0**	**44.0**	**44.0**
Coal by Origin exported Through the Proposed Action (million metric tons)			
Powder River Basin - Total	25.0	44.0	37.5
MT Powder River Basin	9.9	29.0	36.1
MT Signal Peak	0.0	0.0	0.0
Powder River Basin WY 8400	0.0	0.0	0.0
Powder River Basin WY 8800	15.1	15.0	1.4
Uinta Basin - Total	0.0	0.0	6.5
Colorado	0.0	0.0	3.2
Utah	0.0	0.0	3.3
Total U.S. CO_2 Emissions - Coal (thousand metric tons)	**-953.2**	**-1,251.4**	**-498.8**
Total Asian CO_2 Emissions - Coal (thousand metric tons)	**-482.5**	**317.1**	**252.9**
Asia - Other	-1,179.9	-830.7	0.0
Australia	0.0	0.0	0.0
China	-66.8	1.6	16.2
Hong Kong	472.4	416.5	149.0
India	0.0	0.0	0.0
Indonesia	0.0	0.0	0.0
Japan	-95.1	-165.9	35.7
Korea	-151.8	-6.3	118.5
Taiwan	538.8	901.8	-66.5
Total U.S. Natural Gas Consumption (TBtu)	**0.0**	**1.2**	**0.8**
Total U.S. CO_2 emissions - Natural Gas (thousand metric tons)	**0.0**	**65.2**	**41.6**
Net Change in Shipping GHG Emissions from all Asian Sources, Excluding Transport from coal export terminal to WA State Border – Thousand $MTCO_2e$	**602.6**	**1,013.2**	**1,179.9**

Table 72. Interpolated Coal Market Assessment Results, Lower Bound

	2025	2028	2038
Coal Exported Through the Proposed Action (million metric tons)	**25.0**	**44.0**	**44.0**
Coal by Origin exported Through the Proposed Action (million metric tons)			
Powder River Basin - Total	25.0	44.0	44.0
MT Powder River Basin	0.0	0.0	0.0
MT Signal Peak	0.0	0.0	0.0
Powder River Basin WY 8400	0.0	0.0	11.4
Powder River Basin WY 8800	25.0	44.0	32.6
Uinta Basin - Total	0.0	0.0	0.0
Colorado	0.0	0.0	0.0
Utah	0.0	0.0	0.0
Total U.S. CO_2 Emissions - Coal (thousand metric tons)	**-4,928.4**	**-7,940.6**	**-3,725.4**
Total Asian CO_2 Emissions - Coal (thousand metric tons)	**-473.8**	**-535.5**	**-652.1**
Asia - Other	-161.2	-113.5	0.0
Australia	0.0	0.0	0.0
China	-52.4	-89.8	-122.2
Hong Kong	269.2	45.4	-256.0
India	-632.9	-445.5	0.0
Indonesia	0.0	0.0	0.0
Japan	-95.1	-165.9	-41.6
Korea	-151.8	-252.2	-59.1
Taiwan	350.4	486.1	-173.3
Total U.S. Natural Gas Consumption (TBtu)	**28.8**	**45.6**	**18.3**
Total U.S. CO_2 emissions - Natural Gas (thousand metric tons)	**1,531.1**	**2,424.0**	**972.4**
Net Change in Shipping GHG Emissions from all Asian Sources, Excluding Transport from coal export terminal to WA State Border – Thousand $MTCO_2e$	**769.8**	**1,130.8**	**1,189.9**

Table 73. Interpolated Coal Market Assessment Results, Upper Bound

	2025	2028	2038
Coal Exported Through the Proposed Action (million metric tons)	**25.0**	**44.0**	**44.0**
Coal by Origin exported Through the Proposed Action (million metric tons)			
Powder River Basin - Total	25.0	42.4	32.1
MT Powder River Basin	25.0	42.4	32.1
MT Signal Peak	0.0	0.0	0.0
Powder River Basin WY 8400	0.0	0.0	0.0
Powder River Basin WY 8800	0.0	0.0	0.0
Uinta Basin - Total	0.0	1.6	11.9
Colorado	0.0	0.0	2.9
Utah	0.0	1.6	9.0
Total U.S. CO_2 Emissions - Coal (thousand metric tons)	**17.4**	**26.0**	**115.3**
Total Asian CO_2 Emissions - Coal (thousand metric tons)	**30,790.8**	**52,895.8**	**51,805.7**
Asia - Other	0.0	-440.4	-160.0
Australia	0.0	0.0	0.0
China	28,225.5	49,371.7	49,168.2
Hong Kong	23.4	149.7	278.0
India	1,429.7	2,289.3	1,525.4
Indonesia	0.0	0.0	0.0
Japan	477.4	618.8	350.6
Korea	130.9	292.4	251.1
Taiwan	503.9	614.3	392.4
Total U.S. Natural Gas Consumption (TBtu)	**-0.4**	**-0.5**	**-0.1**
Total U.S. CO_2 emissions - Natural Gas (thousand metric tons)	**-18.9**	**-24.1**	**-3.6**
Net Change in Shipping GHG Emissions from all Asian Sources, Excluding Transport from coal export terminal to WA State Border – Thousand $MTCO_2e$	**739.3**	**1,116.7**	**1,366.4**

Table 74. Interpolated Coal Market Assessment Results, No Clean Power Plan

	2025	2028	2038
Coal Exported Through the Proposed Action (million metric tons)	**25.0**	**44.0**	**44.0**
Coal by Origin exported Through the Proposed Action (million metric tons)			
Powder River Basin - Total	25.0	44.0	44.0
MT Powder River Basin	25.0	44.0	44.0
MT Signal Peak	0.0	0.0	0.0
Powder River Basin WY 8400	0.0	0.0	0.0
Powder River Basin WY 8800	0.0	0.0	0.0
Uinta Basin - Total	0.0	0.0	0.0
Colorado	0.0	0.0	0.0
Utah	0.0	0.0	0.0
Total U.S. CO_2 Emissions - Coal (thousand metric tons)	**-2.6**	**-2.1**	**-4.0**
Total Asian CO_2 Emissions - Coal (thousand metric tons)	**1,579.4**	**1,835.5**	**1558.8**
Asia - Other	0.0	-672.2	-224.1
Australia	0.0	0.0	0.0
China	183.3	300.0	57.0
Hong Kong	522.6	979.5	356.1
India	-357.0	-251.3	0.0
Indonesia	0.0	0.0	0.0
Japan	710.1	499.9	102.9
Korea	0.0	0.0	92.5
Taiwan	520.5	979.5	1,174.4
Total U.S. Natural Gas Consumption (TBtu)	**0.0**	**0.0**	**0.0**
Total U.S. CO_2 emissions - Natural Gas (thousand metric tons)	**0.8**	**0.2**	**-0.1**
Net Change in Shipping GHG Emissions from all Asian Sources, Excluding Transport from coal export terminal to WA State Border – Thousand $MTCO_2e$	**458.0**	**927.2**	**918.5**

Table 75. Interpolated Coal Market Assessment Results, Cumulative

	2025	2028	2038
Coal Exported Through the Proposed Action (million metric tons)	**25.0**	**44.0**	**44.0**
Coal by Origin exported Through the Proposed Action (million metric tons)			
Powder River Basin - Total	25.0	44.0	44.0
MT Powder River Basin	25.0	44.0	44.0
MT Signal Peak	0.0	0.0	0.0
Powder River Basin WY 8400	0.0	0.0	0.0
Powder River Basin WY 8800	0.0	0.0	0.0
Uinta Basin - Total	0.0	0.0	0.0
Colorado	0.0	0.0	0.0
Utah	0.0	0.0	0.0
Total U.S. CO_2 Emissions - Coal (thousand metric tons)	**-556.0**	**-1,028.3**	**-734.3**
Total Asian CO_2 Emissions - Coal (thousand metric tons)	**-394.0**	**16,801.8**	**27,986.3**
Asia - Other	0.0	-678.4	-300.7
Australia	0.0	0.0	0.0
China	247.9	16,306.7	26,876.6
Hong Kong	522.6	953.6	-163.6
India	-357.0	-251.3	0.0
Indonesia	0.0	0.0	0.0
Japan	-1,327.9	-796.7	230.3
Korea	0.0	89.3	148.8
Taiwan	520.5	1,178.7	1,194.9
Total U.S. Natural Gas Consumption (TBtu)	**-0.4**	**0.8**	**0.4**
Total U.S. CO_2 emissions - Natural Gas (thousand metric tons)	**-23.7**	**43.1**	**20.2**
Net Change in Shipping GHG Emissions from all Asian Sources, Excluding Transport from coal export terminal to WA State Border – Thousand $MTCO_2e$	**1,302.6**	**2,666.8**	**3,194.4**

Table 76. Coal Extraction by Region (Million Metric Tons)

	Scenario				
Extraction Source / Period	2015 Energy Policy	Lower Bound	Upper Bound	No Clean Power Plan	Cumulative
Powder River Basin					
Annual Extraction, 2028	43.46	36.09	40.07	44.00	83.08
Total Extraction, 2018-2038	582.64	524.93	522.80	628.00	1,309.33
Uinta Basin					
Annual Extraction, 2028	-0.24	0.09	1.15	<0.005	-0.03
Total Extraction, 2018-2038	21.10	3.98	56.15	<0.005	-0.22
Other U.S. Coals					
Annual Extraction, 2028	0.45	2.26	<0.005	<0.005	1.37
Total Extraction, 2018-2038	14.92	26.47	10.22	-0.01	19.04
Australia					
Annual Extraction, 2028	-6.15	-6.19	0.00	-19.09	-0.44
Total Extraction, 2018-2038	-75.80	-76.39	0.00	-238.25	-58.72
Canada					
Annual Extraction, 2028	0.00	-0.02	0.00	0.00	0.00
Total Extraction, 2018-2038	0.00	-0.22	0.00	0.00	0.00
China					
Annual Extraction, 2028	-8.36	-7.09	6.11	-8.96	-48.25
Total Extraction, 2018-2038	-226.57	-197.99	75.40	-146.45	-721.00
India					
Annual Extraction, 2028	0.00	-7.59	0.00	-4.28	-4.28
Total Extraction, 2018-2038	0.00	-62.12	-70.45	-35.04	-35.04
Indonesia					
Annual Extraction, 2028	-8.29	-1.13	-12.32	-8.01	-14.44
Total Extraction, 2018-2038	-67.83	-9.27	-135.61	-94.96	-209.24
Russia					
Annual Extraction, 2028	-16.08	-15.72	-8.45	0.00	0.01
Total Extraction, 2018-2038	-170.44	-167.01	-104.25	-48.86	0.17
South Africa					
Annual Extraction, 2028	0.18	0.00	-2.04	<0.005	0.00
Total Extraction, 2018-2038	1.49	0.00	-25.15	<0.005	-0.05
Net Extraction					
Annual Extraction, 2028	4.78	0.67	26.57	3.65	17.01
Total Extraction, 2018-2038	78.03	42.38	354.27	64.43	304.33

Chapter 5
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August 10, 2018

The Honorable John Barrasso
Chairman
U.S. Senate Committee on Environment and
Public Works
410 Dirksen Senate Office Building
Washington, D.C. 20510-6175

The Honorable Tom Carper
Ranking Member
U.S. Senate Committee on Environment and
Public Works
410 Dirksen Senate Office Building
Washington, D.C. 20510-6175

Dear Chairman Barrasso and Ranking Member Carper:

I am writing on behalf of the International Brotherhood of Electrical Workers District 2, which includes the states of Massachusetts, Connecticut, Rhode Island, New Hampshire, Vermont and Maine, to offer our support for the Water Quality Certification Improvement Act of 2018. While upholding important environmental protections, this legislation will improve and clarify the permitting process for key energy projects that create jobs for America's skilled trades people.

Over the past several years, our organization has experienced first-hand the troubling actions of environmental special interests and state governments to bog down good energy projects with unnecessary and costly permitting requirements. The sole aim of these actions is to stop energy development regardless of a projects merits and benefits, and they have successfully stalled a variety of energy development projects, including electrical transmission, power plant construction, gas pipelines and others.

New England's lack of investment in energy infrastructure, particularly natural gas infrastructure, continues to be a critical issue for our region. The impacts of this lack of investment and resulting instability to our region's energy market is particularly harmful to skilled tradespeople and thousands of working families in New England.

This past winter, these problems continued to undermine our region's competitiveness, hampered investment and undermined job creation and retention. Recent negative developments in the state's energy sector have included:

- Limitations on natural gas supplies undermined energy security in the region this past winter making New England the costliest natural gas market in the world;
- Natural gas shortages resulted in New England relying on shipments of imported Russian liquid natural gas;
- Release of an ISO New England analysis that found inadequate fuel supplies could lead to future energy shortfalls with most scenarios requiring the frequent use of emergency actions, including rolling blackouts; and
- Continued retirement of existing power facilities and growing pressure on coal- and oil-fired generation to retire in coming years - resulting in the loss of skilled trades jobs impacting thousands of working families in our state.

Ultimately, these problems stem from the state's lack of progress in developing natural gas infrastructure and ensuring adequate natural gas supplies for electricity generation throughout the year. In fact, proposals to make these critical investments have been stalled, and there has been little effort by New England elected officials to move this issue forward.

In addition to providing stability to our energy market and economic benefits, investment in energy infrastructure will create thousands of jobs in our state. Skilled tradespeople needed for various energy project construction include: outside electrical linemen, construction laborers, operating engineers, boilermakers, carpenters, inside electricians, instrumentation technicians, insulators, ironworkers, millwrights, painters, welders, plumbers, and pipefitters. When American workers are employed to build critical infrastructure for our country everyone benefits.

IBEW District 2 urges your continued work and support for the Water Quality Certification Improvement Act of 2018. Your leadership on this issue will bring significant benefits to all citizens, create a foundation for decades of economic growth, and create thousands of skilled trades jobs.

Sincerely,

Michael Monahan

International Vice President
IBEW Second District

IBEW
. . . the right choice

The 401 Water Quality Certificate has been the most successful tools in preventing pipelines. New York denied a 401 permit for the proposed Constitution Pipeline; the Island East pipeline was stopped in Connecticut. Both decisions were upheld in court. In New Jersey, we are using the 401 Certificate as a tactic for stopping dangerous pipelines, including PennEast, from being built.

Even if Congress passes this terrible bill, we can still stop pipelines with our wetlands rules, which we have federal authority for, and flood hazard rules. However, former Gov. Chris Christie weakened both rules to make it easier to build pipelines.

Under pre-Christie rules, it was much harder to get the necessary individual permits since they had to prove need and no impact to streams or wetlands. His changes including making them general permits, which declares there is no impact. These are much easier for pipeline companies to obtain.

Gov. Phil Murphy must fix these rules and strengthen them to protect our clean water and protect us against pipelines.

Jeff Tittel
Director of the New Jersey Sierra Club
Trenton

August 24, 2018

The Honorable John Barrasso
Chairman
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510

The Honorable Thomas R. Carper
Ranking Member
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510

Dear Chairman Barrasso and Ranking Member Carper:

On behalf of New Jersey Conservation Foundation and The Watershed Institute, we write to oppose S. 3303, the "Water Quality Certification Improvement Act of 2018" because it is designed to undercut states' long history of primacy in protecting their water quality against a panoply of harms and employing their expertise to effectively restore their waters for residents' health, safety and welfare.

Under section 401 of the Clean Water Act, states ensure that any applications for federal permits or licenses comply with state water quality standards by reviewing the contemplated activity's potential impacts to state water quality. The proposed legislation attempts to undermine this system of cooperative federalism based on the premise that the system is somehow not working or that project proponents lack clarity on what they must do.

There is no such lack of clarity. State certification programs are designed to allow projects that can proceed without harming water quality to proceed, attaching any conditions necessary to ensure such protection. In a very small percentage of cases, states have found that projects as proposed cannot be safely built without harming water quality. The very existence of any permitting or certification system is premised upon the idea that some projects are incompatible with maintaining existing water quality under integrated state programs.

The states and the federal government enjoy a special partnership for purposes of implementing the Clean Water Act. Congress specifically designated states and tribal authorities as co-regulators that recognize state interests and authority. As proposed, S. 3303 attempts to thwart the purpose of the Act to maintain state authority over its water resources, and appears designed to circumscribe states' ability to manage or protect water quality within their boundaries.

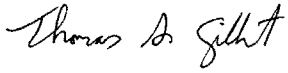
Furthermore, this legislation attempts to unreasonably constrain states' time for their 401 certification processes. As such, states may be forced to deny certifications more often because they will not have enough information for decision making. The proposal includes no requirements

that applicants' requests for certification are based upon applications containing data compliant with state certification rules.

A vital component of the CWA's system of cooperative federalism is state authority to certify and condition federal permits of discharges into waters of the United States under Section 401. This authority has helped ensure that activities associated with federally permitted discharges will not impair state water quality. S. 3303 does not reflect the historic relationship between states and the federal government with respect to managing water, and instead would upend the careful balance between the states and the federal government inherent in the Clean Water Act. By seizing power from states and tribes, S. 3303 puts the interests of power companies, pipelines, railroads and other developers ahead of the interests of the states and the public that wants to enjoy access to clean water.

Please accept our attached testimony into the record. We urge the Committee to reject S. 3303 as an attempt to trammel the states' historic regulation of water pollution.

Sincerely and respectfully submitted,



Tom Gilbert, Campaign Director
for Energy, Climate and Natural
Resources
New Jersey Conservation Foundation

Michael L. Pisauro, Jr., Esq.
Policy Director
The Watershed Institute

Testimony of New Jersey Conservation Foundation and The Watershed Institute for Inclusion in S. 3303 Record

The proposed changes to Clean Water Act Section 401 are unnecessary and are a thinly veiled attempt to upset the careful balance of cooperative federalism underlying the entire Act and a long history of state-led water quality protection. The changes would generate -- not resolve -- conflict between and among the federal and state agencies currently responsible for reviewing the actual environmental impacts of project proponents' applications. Any attempts to infringe on the state's historical rights and obligation to protect residents' water quality should be discarded as a solution to an imaginary problem. This solution in search of a problem would have significant long term water quality impacts to the states. Importantly, states are charged with implementing comprehensive water quality programs tailored to their geographical regions, historical development and prospective goals. On the other hand, federal agencies solely evaluate one project application at a time, subject to no integrated regional plan designed to ensure the integrity of particular water bodies for uses that states designate. States' Section 401 Water Quality Certification analyses involve coordination and application of myriad complex state laws, each designed to fulfil a critical puzzle piece tailored to the particularized needs of that state, and the proposed language seeks to unduly constrain that expert analysis.

At a time when water quality will become *exponentially* more difficult to protect because climate change impacts are becoming increasingly apparent, we must be vigilant against such attempts to roll back state authority. Primary impacts of climate change on water quality result from changing air temperature and hydrology. Water temperature is directly affected by ambient air temperature, and is expected to increase as a result of global warming. Any variations in water temperature govern physico-chemical equilibriums (e.g., nitrification, mineralization of organic matter, etc.) of our nation's rivers, and will therefore change contaminant transport and concentration. Additionally, water temperature increases will reduce oxygen solubility, thus reducing dissolved oxygen concentrations and dissolved oxygen concentrations at which saturation occurs. This will have an impact on the duration and intensity of algal blooms, and myriad other significant water quality impacts. Safeguarding against impacts to water quality from proposed activities - rather than narrowing the lens exclusively to a particular discharge - is crucial.

Historically, water quality regulation was the states' job. See Federal Water Pollution Control Act, ch. 758, 62 Stat. 1155 (1948) (declaring a policy to "recognize, preserve, and protect the *primary* responsibilities and rights of the States in controlling water pollution") (emphasis added); Federal Water Pollution Control Amendments of 1956, ch. 518, 70 Stat. 498 (declaring that "[n]othing . . . shall be construed as impairing or in any manner affecting any right or jurisdiction of the States with respect to the waters . . . of such States."). As water quality regulation was gradually federalized, states retained authority to determine water quality standards applicable to their own waterways,[1] and in 1970, Congress created the water quality certification mechanism to assure that federally permitted activities would not violate state-set water quality standards.[2] In 1972, the Clean Water Act incorporated this long-standing history

[1] See Water Quality Act of 1965, Pub. L. No. 89--234, sec. 5, §10.
[2] Water Quality Improvement Act of 1970, Pub. L. No. 91--224, sec. 102, § 21(b)(1).

into the new cooperative federalism framework: giving states authority to set water quality standards subject to minimum standards, and giving states the role of determining whether federally permitted activity would comply with those standards.[3]

A key legislative purpose of the modern Clean Water Act was to uphold "the primary responsibility for controlling water pollution [that] rests with the States."[4] From its inception, the 401 certification requirement was a mechanism to explicitly protect states' ability to regulate water quality standards and pollution control, ensuring states' abilities to enforce more stringent standards than federal ones. Senator Muskie, who introduced the 1970 bill that created water quality certification, stated "no license or permit will be issued by a Federal agency for an activity that through inadequate planning or otherwise could in fact become a source of pollution."[5] He later expounded further on the aim of section 401, contemplating how the certificate program would prevent projects proposed for federal authorization such as Natural Gas Act Section 7 or Section 3 projects from circumventing the state's certification:

> No polluter will be able to hide behind a Federal license or permit as an excuse for a violation of water quality standards. No polluter will be able to make major investments in facilities under a Federal license or permit without providing assurance that the facility will comply with water quality standards.[6]

Congress enacted the certification requirement as a mechanism to ensure that proposed projects would not move forward without first complying with state water pollution control standards. Congress recognized that occasional project delays could result from state certification requirements and decided that certification nonetheless was required before a federal permit could be issued, because it represented a critical safeguard.

Congress purposely enacted the certification program to prevent "investments" in projects until the state assured that such projects would abide by water quality standards, regardless of the attendant delays. In fact, this has not borne out in practice. Delays, for example, in FERC's infrastructure certification processes typically do not stem from states' tardiness in issuing a section 401 certificate. Rather, applicants that postpone their section 401 applications and submit incomplete data to FERC in their CPCN applications create their own bottlenecks in the certification process. Furthermore, expediency is insufficient rationale for circumventing a carefully crafted statutory scheme. Applicants should anticipate and account for any delays that do result from the section 401 process. For example, despite the increase in applications, there is no indication that FERC's decision-making process has become overly burdened or delayed; recent congressional debates on this issue revealed that 88% of natural gas pipeline applications are decided within twelve months.[7] The same holds true for project permits under other regulatory regimes, governed by other agencies.

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[3] Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92--500, §§ 303, 401.
[4] 115 Cong. Rec. 28,970 (1969) (statement of Sen. Cooper); see also 33 U.S.C. §1251(b). 8 H.R. Rep. No. 91--127 (1969).
[5] 116 Cong. Rec. 8,984 (1970) (statement of Sen. Muskie).
[6] 116 Cong. Rec. 8,984 (1970) (statement of Sen. Muskie).
[7] Hearing before the Subcommittee on Energy of the Committee on Energy and Commerce, House of Representatives, testimony of Terry L. Turpin, Director, Office of Energy Projects, Federal

The complex interplay between Clean Water Act Section 401 and other federal statutes has struck the appropriate balance between the respective federal and state agencies responsible for reviewing permits under the various applicable statutes, and fulfilled Congressional intent to prevent the pursuit of any project activity unless the states certified that the project could proceed without harming water quality, as determined by the state 401 programs, which are confirmed by the USEPA.

Congress explicitly provided that a federally licensed project could not proceed absent state certification under the Clean Water Act,[8] as evidenced by the plain language of the Clean Water Act statute and the foregoing legislative history. Congress enacted the Clean Water Act to establish a comprehensive statutory scheme in which states have final authority to set their own water quality standards and to impose conditions on federal licensing of projects or reject applications that do not meet water quality standards.[9] The Clean Water Act section 401 confers on the state the threshold determination of a project's viability for complying with water quality standards.[10] These amendments aim to make that critical determination an afterthought or rapid rubber stamp. Doing so would upend decades of jurisprudence that have helped states regain healthy waterways and drinking water supplies and reopen water resources to compatible recreational uses.

State water quality standards may regulate water quality more stringently than the baselines set out by EPA under the Clean Water Act. See 33 U.S.C. § 1370. The federal standards provide the minimum standards to which the states must adhere. A state's water quality standards are deemed to be the federal standards.[11] This system, as well as the functional basis for it, has been explained and confirmed by a long body of judicial precedent.

Energy Regulatory Commission (May 3, 2017). https://www.govinfo.gov/content/pkg/CHRG-115hhrg26256/pdf/CHRG-115hhrg26256.pdf.

[8] City of Tacoma, 460 F.3d at 67 (explaining that the state's ability to block the project is the mechanism through which the state fulfills its primary responsibilities under the Clean Water Act); see also Keating, 927 F.2d at 622 (same); Gunpowder, 807 F.3d at 279 (same). The Keating court also stated that "an applicant for such a license must first obtain state approval of the proposed project" and "section 401 certification is a predicate to the issuance of any section 404 permit." Keating v. FERC, 927 F.2d 616, 622 (D.C. Cir. 1991) (making the point that 401 governs 404 permits because the 404 permit is a federal license).

[9] Notably, the state's authority to establish such conditions is not restricted to those "specifically tied to a 'discharge'" under section 401, but rather applies to any activities which the state deems are necessary to ensure compliance with the Clean Water Act. PUD No. 1 of Jefferson County v. Washington Dep't of Ecology, 511 U.S. 700, 701 (1994) (finding that Washington state's minimum stream flow requirements were within the state's statutory authority and were entitled to deference).

[10] 33 U.S.C. § 1341(a)(1) (2012).

[11] See Islander East Pipeline Co., LLC v. McCarthy, 525 F.3d 141 (2d Cir. 2008) ("Clean Water and Coastal Zone Management Acts are notable in effecting a federal--state partnership to ensure water quality and coastal management around the country, so that state standards approved by the federal government become the federal standard for that state.").

The proposed amendments of S. 3303 attempt to upend that jurisprudence, as well as fundamentally constrain state's rights.

States' exercise of Section 401 authority has been both expeditious and judicious, and overwhelmingly resulted in project approvals, with but a handful of denials. The system is working. Industry cries of states "abusing" their reserved and primary powers to protect their water quality, therefore, must stem from their mistaken belief that any certification denial constitutes an abuse of authority. Congress need not disturb its determination that that ability is rooted in the prevention of "major investments in facilities under a Federal license or permit without providing assurance that the facility will comply with water quality standards."

WESTERN STATES WATER COUNCIL

682 East Vine Street, Suite 7 / Murray, Utah 84107 / (801) 685-2555 / FAX (801) 685-2559 Web Page: www.westernstateswater.org

August 14, 2018

The Honorable Lisa Murkowski, Chairwoman
Energy and Natural Resources Committee
United States Senate
304 Dirksen Senate Building
Washington, DC 20510

The Honorable Maria Cantwell, Ranking Member
Energy and Natural Resources Committee
United States Senate
304 Dirksen Senate Building
Washington, DC 20510

The Honorable John Barrasso, Chairman
Environment and Public Works Committee
United States Senate
410 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Tom Carper, Ranking Member
Environment and Public Works Committee
United States Senate
456 Dirksen Senate Office Building
Washington, DC 20510

Dear Chairs and Ranking Members:

The Western States Water Council, a government entity advising western governors on water policy issues, supports collaboration and leadership at all government levels – federal, state, tribal, and local – and the private sector – to address the Nation's infrastructure needs and establish water infrastructure improvements as a public policy priority. The Council has supported federal investments in water-related infrastructure projects and programs, and called on the Congress and the Administration to continue to work together and with States to streamline permitting processes and coordinate environmental and other regulatory reviews to eliminate duplicative procedures, reduce costs of compliance and construction, and ensure timely completion, maintenance, or relicensing of authorized infrastructure projects so vital to the West and the Nation. Clean Water Act Section 401 State Water Quality Certification alone is not usually an obstacle in itself to timely federal licensing and permitting.

It should be noted that the Council has been a continuous advocate for the rights of States to conserve and protect their water resources, a primary responsibility often cited in state constitutions. States and federal agencies strive to work in concert as co-regulators to achieve water quality goals. The Clean Water Act (CWA) clearly recognizes the important role of the States. Section 101(b) declares: "It is the policy of Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution;" and Section 101(g) adds that the authority of the States to "allocate quantities of water within its jurisdiction shall not be superseded, abrogated, or otherwise impaired by this Act…."

Section 401 requires: "Any applicant for a Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the State in which the discharge originates or will originate…that any such discharge will comply with the applicable provisions…" of various CWA sections. This state water quality certification authority is a vital component of our federalist system for

protecting water resources, and any conditions deemed necessary by the States to ensure compliance are a mandatory addition to any federal license or permit.

In 2014, in response to criticism of States' actions under Section 401, including claims of unnecessary project delays, primarily as related to development of hydropower, the Council surveyed its membership to get a regional perspective on the certification process. Fifteen of our eighteen-member states responded and a summary is attached. The following are some of the highlights:

- *Provided that applications are complete and ancillary federal activities are complete or nearly complete (e.g. public notice, study requirements, a complete EIS, mitigation requirements, etc.), 401 certification is not usually an obstacle to timely federal licensing and permitting.*
- *401 certifications related to CWA Section 404 permitting dominate the number of requests. Many times certification requests are filed before the Corps has completed their assessment. Also, it is not uncommon for 404 permitting applications to be elevated to Corps/EPA Headquarters for consideration.*
- *States and the U.S. Army Corps of Engineers collaborate to expedite the process, but projects requiring an individual 404 permit can be time consuming.*
- *CWA 401 certifications are also used to inform state 402 NPDES permits issued by states.*
- *Hydropower permitting-related requests vary with hardly any in Plains States, few in the Rocky Mountain States, while West Coast States face more permitting and 401 certification requests.*
- *The complexity and long duration of the FERC licensing and relicensing process is a major contributing factor in those States with related 401 certification requests pending. FERC's Integrated Licensing Process (ILP) takes a minimum of five years to complete.*
- *All States act on 401 certification requests within the one-year period allowed by the CWA. The majority of requests, on average, are processed within 40-90 days, some in a couple of weeks.*
- *States report certification applications filed with missing signatures, illegible maps, and/or lacking required documents such as a CWA Section 404 application.*
- *Certifications may also be held up by the applicant not responding to States' requests for additional information or failing to comment on proposed project conditions. Often substantive details of the proposed action change, requiring further review.*
- *States generally have a process and rules outlining a formal timetable or goal for action, but where there is not, every effort is made to issue the certification or a waiver in a timely manner.*
- *The vast majority of states have no backlog of certification actions, but a few do. Delays are typically due to submission of an incomplete application, completion of study requirements, and constraints on state resources, including staff limitations and turnover.*
- *States have undertaken various process improvements, including coordinating state and federal environmental reviews, some through formal memoranda of understanding.*
- *Many States provide information in advance to assist applicants in navigating the 401 certification process, including online resources.*
- *Most states do not anticipate a significant increase in 401 certification requests. Some do. Some states have actually seen significant declines in requests. Again, most requests appear to be related to 404 permitting, which in turn increases with general economic conditions and related construction starts, oil and gas development, etc.*

The 401 certification process is an important tool for States to fulfill their responsibilities to conserve and protect their water resources, and States are responsibly acting to execute their delegated authority in a timely manner. Ensuring federally permitted projects comply with state water quality standards is a proven process. Resources should be focused on reforming, streamlining, and expediting time consuming and costly federal requirements – such as the 404 permitting process. The Administration's efforts in consultation with the States to refine the definition of and jurisdiction over Waters of the United States holds greater promise of simplifying and expediting infrastructure project approvals.

We look forward to working with the Administration and the Congress to appropriately remove obstacles to timely action on infrastructure projects.

Sincerely,

Tony Willardson

Tony Willardson, Executive Director
Western States Water Council

Attachment

WESTERN STATES WATER COUNCIL

Summary of State Responses

Clean Water Act Section 401 Water Quality Certification Activities

April 2014

The Council surveyed its 18 member states. Responses have not yet been received from Nebraska, North Dakota and Washington.

Hydropower permitting-related requests vary widely by state as might be expected, with little or no hydropower development and related 401 certification requirements in most Plains States. Even in the Rocky Mountains there appear to be relatively few active requests. West Coast States have more certification and permitting actions.

It appears that 401 certifications related to CWA Section 404 permitting dominate the number of certification requests. Coordination and collaboration between the States and Corps often expedite the process, but projects requiring an individual 404 permit can be time consuming.

CWA 401 certifications are also used to inform state 402 NPDES permits issued by states, and would be required in those states without primacy to issue 401 permits, which would include Idaho and New Mexico.

1. In your opinion is State 401 certification authority a significant obstacle to timely federal licensing and permitting activities? Specifically hydropower licensing? Other permits (such as CWA Section 404 permits)?

States unanimously reported that the CWA 401 State Water Quality Certification is not usually an obstacle in itself to timely federal licensing and permitting, provided that all applications are complete and ancillary federal activities are complete or nearly complete (e.g. public notice, study requirements, a complete EIS, mitigation requirements, etc.).

States report certification applications filed with missing signatures, illegible maps, and/or required documents such as a CWA Section 404 application. Often substantive details of the proposed action requirement certification can also change. Many times certification requests are filed before the Corps has completed their assessment. Certifications may also be held up by the applicant not responding to requests for additional information, or failing to comment on proposed project conditions.

EPA and other federal agency comments, conditions and other actions can delay certification. It is not uncommon for example for 404 permitting applications to be elevated to Corps/EPA Headquarters for consideration.

The complexity and long duration of the FERC licensing and relicensing process is a major contributing factor in those States with related 401 certification requests pending. FERC's Integrated Licensing Process (ILP) takes a minimum of five years to complete.

Some States have separate environmental review requirements, such the California Environmental Quality Act (CEQA) process required for non-governmental entities (which can be time consuming). The federal NEPA process is the starting point for CEQA. Further, the California State Water Resources Control Board, consistent with maintaining a transparent and public process, provides a public comment opportunity on draft certification decision before issuance. As project licenses typically range from 3050 years, this is considered to be important, though this is not a required step.

Oregon has a separate state hydropower licensing process, in parallel to the federal process.

2. How long does it usually take for your State to act on a certification application? It there a specific goal or timeline for action?

This varies by state, but all are within the one year period allowed by law. The majority, on average, fall between 40-90 days, while some may process certification requests within a couple of weeks. Action on a request can depend on a number of factors, such as a 30-day public comment period requirement. Other reasons for delay are listed below under Question #3.

States generally do have a process and specific rules outlining a formal timetable or goal for action, but where there is not, every effort is made to issue the certification or a waiver in a timely manner.

Alaska has a goal of processing 401 certification requests within 10 days after the close of the public notice and comment period.

Similarly, the Texas Commission on Environmental Quality (TCEQ) reviews 401 certification requests in parallel with federal licensing and 404 permitting activities, and based on an memorandum of agreement (MOA) with the Corps Southwestern Division, TCEQ make a decision within 10 days of the Corps having reached a permitting decision (certification is required before a permit is issued).

3. Does the State currently have a backlog of certification applications? If so, what is the size of the backlog? What types of licenses or permits are most likely to be delayed? What are the primary reasons for delays (incomplete applications, study requirements, state staff or other resource limitations, etc.)?

The vast majority of states have no backlog of certification actions, but a few do. Delays are typically due to submission of an incomplete application, completion of study requirements, and constraints on state resources, including staff limitations. Often, 401 certification is a part-time duty for staff, assigned as needed. State turnover is another problem, and often entry level staff is assigned 401 certification responsibilities. Given the length of the FERC permitting process staff may change over time.

California reported the most delayed FERC projects and certification requests (only 2-3 staff are devoted to requests). California is working on certification for sixteen FERC licensed projects where their license has expired. Most should be completed within two years. Post-licensing monitoring of certification and

permitting conditions, which may involve continuing studies given the uncertainty regarding future conditions, also place an increasing burden on staff time.

Oregon does have two large hydropower projects which haven't been certified within one year of the original application, one due to ongoing federal activities, and ongoing mitigation studies have delayed the other.

At least one state will no longer accept 401 certification applications as complete until required federal actions have already been approved or completed.

4. What actions has the state taken to simplify or expedite the certification process (such as interagency MOUs, online applications, etc.)? Please provide references and copies.

States have undertaken various process improvements, including coordinating state and federal environmental reviews, some through formal memoranda of understanding.

The Alaska Department of Environmental Conservation has developed a waiver process applied to individual 404 permits issued by the U.S. Army Corps of Engineers. Criteria are based on the potential risk of a particular activity that may affect water quality, such as the size of the wetlands fill, the type of activity, the proximity to a waterbody and the particular wetlands functions and values.

On November 19, 2013, The California State Water Resources Control Board (SWRCB) executed a memorandum of understanding (MOU) with FERC that covers coordination of pre-application activities that include "consultation, environmental scoping, study planning, and submittal of and commenting on the applicant's preliminary licensing proposal." A copy of the MOU is available online at:

http://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/ferc_mou/index.shtml

Also, with the support of the California Hydropower Reform Coalition and FERC licensees, SWRCB is ramping up staffing resources and increasing fees. Three 401 certification requests were completed within an eight month period. Each project request is also assigned a back-up staff person to assure continuity. There are templates for standard letters and more common certification conditions, and SWRCB is developing a program manual and training staff on up-to-date techniques.

For large, complex projects the Colorado Department of Public Health and Environment works with applicants prior to formal filing of a certification request to streamline the review process and minimize requests for additional information. In 2010, Colorado executed an MOU with FERC, and also hired a contractor to identify a number of small projects that were reviewed and certified, but the contract was not renewed and FERC has not informed the State of new conduit or other small scale hydropower project licensing applications, though some potential projects have come to light through public information and conversations with Corps staff.

Idaho has used settlement agreements to develop FERC 401 certifications.

New Mexico has expedited the certification process through the use of general permits and established procedures. The "New Mexico Implementation Plan" governs the process for issuing NPDES permits.

Oklahoma meets regularly with the Corps to coordinate procedures for public notice and processing of permit and certification applications.

Oregon Department of Environmental Quality staff work with applicants on study design and data review early on to ensure a 401 request is complete. Oregon also has a statute outlining state review of hydropower relicensing in coordination with federal relicensing to avoid duplication through a Hydroelectric Application Review Team (HART) with staff from DEQ, the Department of Water Resources, and the Department of Fish and Wildlife. Other state agencies may participate as well.

HART may provide applicants with an estimate of costs for relicensing work, including certification, and one applicant entered into an agreement to pay the state agencies' costs. HART addresses relicensing, but state agencies coordinate as needed for any new project to reduce inefficiencies. Also, DEQ invoices all 401 certification applicants for costs incurred in processing, providing the revenue necessary for timely action, including reassigning staff work.

A Texas/Corps MOA implements a tiered classification system for projects that require an individual CWA 404 permit, which require certification reviews for proposed projects that directly impact aquatic resources of greater than three acres or 1500 linear feet of stream (Tier II projects). For Tier I projects (below that threshold), TCEQ waives certification if the permit applicant agrees to incorporate specific best management practices.

In Wyoming, electronic delivery of certification requests directly from the USACE (Corps) Wyoming Regulatory Office to the Department of Environmental Quality facilitates timely review and processing. WY DEQ encourages project proponents to contact the agency prior to submitting their 404 application to the Corps. Lastly, Wyoming has categorically certified several nationwide permits, further expediting the process.

5. What public information regarding 401 certification is available from the State (include state websites and addresses)?

Many states provide information in advance to assist applicants in navigating the 401 certification process, including online resources. This may include current program activity, staffing, current projectspecific webpages, 401 certifications issued, etc. FERC also posts 401 certification information on its website. Further, Corps Districts may post information on 404 permit applications.

AK: http://dec.alaska.gov/water/wwdp/wetlands/index.htm

AZ: http://www.azdeq.gov/environ/water/permits/cwa401.html

CA: http://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/

CO: http://www.colorado.gov/cs/Satellite/CDPHE-WQ/CBON/1251596872987

ID: http://www.deq.idaho.gov/water-quality/surface-water/standards/401-certification.aspx

This is Idaho's 401 certification website. The 401 certification list of projects is on these webpages:

NPDES: http://www.deq.idaho.gov/water-quality/surface-water/standards/401-certification/401certifications-npdes-permits.aspx

404 Permits: http://www.deq.idaho.gov/water-quality/surface-water/standards/401-certification/401certifications-dredge-fill.aspx

MT: All FERC related 401 water quality certifications are posted on the FERC website. Montana shares the public notice with the Army Corps of Engineers for individual 404 related 401 water quality certifications.

NV: http://ndep.nv.gov/bwqp/401cert.htm

NM: Section 404 program can be found at **http://www.nmenv.state.nm.us/swqb/404/** . The web site for the NPDES program can be found at **http://www.nmenv.state.nm.us/swqb/Permits/**.

OK: http://www.deq.state.ok.us/wqdnew/401_404/index.htm.

Public notices for the Section 404 permits are located on the U.S. Army Corps of Engineers, Tulsa District website: http://www.swt.usace.army.mil/Missions/Regulatory/PublicNotices.aspx

OR: http://www.deq.state.or.us/wq/sec401cert/hydro.htm

SD: http://denr.sd.gov/des/sw/401.aspx

TX: The TCEQ maintains several public web pages containing information about the TCEQ 401 certification program. Each page can be accessed from the following URL:

http://www.tceq.texas.gov/permitting/401certification UT:

http://www.waterquality.utah.gov/permits/index.htm

WA:

WY: The USACE Wyoming Regulatory Office website provides a link to the Wyoming Department of Environmental Quality website that contains information on specific State 401 certification.

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IN THE SUPERIOR COURT OF THE STATE OF WASHINGTON
FOR COWLITZ COUNTY

MILLENNIUM BULK TERMINALS-LONGVIEW, LLC, Plaintiff, v. WASHINGTON STATE DEPARTMENT OF ECOLOGY, and MAIA BELLON, Ecology Director, Defendants.	Case No. 18 2 00994 08 PETITION FOR REVIEW, COMPLAINT AND REQUEST FOR JURY TRIAL

I. INTRODUCTION

1. The U.S. and Washington State Constitutions guarantee all citizens the right to expect that their government will treat them fairly and in accordance with "the rule of law." Our society "is governed by rules, not individuals," and all property owners are entitled to have permit applications processed by neutral and objective decision-makers.

2. Millennium Bulk Terminals-Longview, LLC ("Millennium" or the "Company") was denied that basic right. Millennium applied to the Washington State Department of Ecology ("Ecology") for a certification to construct and operate a Coal Export Terminal ("CET" or "Project") under Clean Water Act ("CWA") section 401, 33 U.S.C. § 1341. Admittedly, coal (as a commodity) is out of political favor with some in Washington State, including Washington's Governor, who has banked his political career on fighting climate change, and an Ecology

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1 Director who has publicly disparaged Millennium's proposal to export coal to the Far East and
2 who continues to lobby against the Project. Although Millennium was entitled to the same fair
3 and equitable treatment as any applicant, Ecology, under the direction of Director Maia Bellon,
4 provided Millennium with a unique and unfair process, driven by political considerations. After
5 running Millennium through regulatory hoops for many years, Ecology suddenly denied
6 Millennium's certification application "with prejudice" (something that it has never done before)
7 and did so (1) by invoking improper criteria under the State Environmental Policy Act
8 ("SEPA"); and (2) without any *notice* to Millennium of Ecology's intent to apply SEPA or
9 *opportunity* for Millennium to provide mitigation addressing Ecology's SEPA concerns.
10 3. Millennium brings this case to challenge the legally improper and unconstitutional
11 manner in which Director Bellon and her Department treated Millennium's application for a
12 CWA section 401 certification, a key state approval necessary for Project authorization.
13 4. Rather than applying its standard procedure for handling CWA section 401
14 applications, Director Bellon instructed Ecology staff to depart from decades of agency practice
15 and to treat Millennium's certification application in a uniquely unfavorable and punitive
16 manner.
17 5. Instead of answering the single question that Congress authorized Ecology to
18 answer under CWA section 401—whether discharges caused by the construction and operation
19 of Millennium's proposed Project would violate applicable state water quality standards—
20 Ecology decided for the first time in its history to answer a different question altogether.
21 Ecology decided instead to use SEPA to deny the certification "with prejudice" to, in effect, veto
22 the Project using non-water-quality factors that are prohibited from consideration under CWA
23 section 401(a)(1).
24 6. Even more fundamentally, Ecology and its Director denied Millennium's water
25 quality certification without providing Millennium with any notice of its intent to use SEPA to
26 permanently deny the certification, much less any opportunity to discuss its findings or

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1 opportunities for mitigation.

2 7. Ecology spent $15 million of Millennium's money and six long years in
3 producing a 13,600-page Environmental Impact Statement ("EIS"), which unequivocally
4 concluded that the Project would result in no significant environmental effect on water quality,
5 fish, wetlands or aquatic resources, and that any potential impacts could be fully mitigated. But
6 rather than relying on those water quality findings to answer the water quality compliance
7 question posed by CWA section 401, Ecology used conclusions from the EIS about air emissions
8 from trains, other interstate rail induced effects, and effects from increased vessel traffic on the
9 Columbia River to summarily deny the certification.

10 8. Instead of giving Millennium the fundamental procedural and substantive process
11 it was due, Ecology cherry-picked non-water-quality effects found in the EIS as a pretext to veto
12 the water quality certification—and the Project—altogether. Ecology vetoed the Project even
13 though it is well established in this state that SEPA may not be used "to block the construction of
14 projects, merely because they are unpopular." *Parkridge v. City of Seattle*, 89 Wn.2d 454, 573
15 P.2d 359, 366 (1978).

16 9. Millennium now petitions this Court under the State Administrative Procedure
17 Act ("APA"), RCW 34.05, to review and invalidate Ecology's Denial Order (also referred to
18 herein as the "Denial"), which is attached hereto as Exhibit A. (In the Matter of Denying Section
19 401 Water Quality Certification, Order #15417- Corps Reference #NWS-2010-1225 (Sept. 26,
20 2017).) Millennium also petitions this Court to review a decision by the Pollution Control
21 Hearings Board ("Board") improperly upholding that Denial, attached hereto as Exhibit B.
22 (PCHB No. 17-090, Order On Summary Judgment.)

23 10. Millennium also petitions the Court to declare and adjudge under 42 U.S.C.
24 § 1983 and RCW 64.40 that Ecology and Director Bellon violated state and federal law and the
25 U.S. and Washington State Constitutions by intentionally misapplying the CWA and SEPA to
26 deprive Millennium of its rights, privileges and immunities. Congress cabined Ecology's

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1 discretion under section 401(a)(1) to deny a certification—much less deny one "with
2 prejudice"—by requiring Ecology to consider only those factors explicitly enumerated under
3 CWA section 401(a)(1) in deciding whether to certify a project. Instead of applying those
4 statutorily prescriptive factors as it has uniformly done throughout its 45-year history, Ecology
5 here decided instead to "color outside the lines" by using SEPA to deny Millennium's water
6 quality certification. Ecology decided to use SEPA in this manner even though water quality
7 certifications are themselves exempt from SEPA through a rule promulgated by Ecology under
8 WAC 197-11-800(a).

9 11. Even more egregiously, Ecology used this *sui generis* process without providing
10 the Company notice of its intent to use SEPA in the CWA process, or any opportunity to
11 demonstrate that the alleged unavoidable and significant adverse impacts identified in Ecology's
12 EIS could be mitigated.

13 12. Through this action, Millennium asks this Court to redress the injuries
14 Millennium has suffered as a result of Defendants' animus towards the Project and their intent to
15 deprive Millennium of its most fundamental rights implicit in the concept of "ordered liberty."
16 *Maytown Sand & Gravel, LLC v. Thurston County*, No. 94452-1 (en banc) (Wash. Sup. Ct., Aug.
17 9, 2018). Millennium asks this Court to award it declaratory and injunctive relief under 42
18 U.S.C. § 1983, as well as damages under RCW 64.40, as a result of the injuries it has sustained
19 through Ecology and Director Bellon's actions.

20 **II. PARTIES**

21 13. Defendant Maia D. Bellon is the Director of Ecology and, as such, signed and
22 adopted the Denial. Her office is located at Ecology headquarters, 300 Desmond Drive SE,
23 Lacey, Washington 98503. This action is brought against Director Bellon in her official
24 capacity. Her verified Twitter account is @maiabellon.

25 14. Defendant Ecology is an administrative agency of the State of Washington that is
26 charged, among other things, with section 401 certification decisions under the federal and state

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1 CWA. Ecology was the agency responsible for drafting and issuing the Denial. Ecology's
2 mailing address is P.O. Box 47600, Olympia, Washington 98504-7600, and its headquarters are
3 located at 300 Desmond Drive SE, Lacey, Washington 98503. Ecology's verified Twitter
4 account is @EcologyWA.

5 **III. JURISDICTION**

6 15. This Court has jurisdiction under RCW 43.21B.180, RCW 34.05.570(4), RCW
7 64.40, and 42 U.S.C. § 1983.

8 **IV. VENUE**

9 16. Venue is proper in this Court under RCW 4.12.020(b) because the causes of
10 action identified below, or some part thereof, arose in Cowlitz County. Venue is also appropriate
11 in this Court under RCW 34.05.514(1)(b) and (c). Millennium's principal place of business is
12 Longview, Washington, and the property affected by the Denial and leased by Millennium is
13 located in Cowlitz County.

14 **V. EXHAUSTION OF ADMINISTRATIVE PROCEDURES**

15 17. Millennium originally filed suit in this Court on October 24, 2017 challenging
16 Ecology's Denial Order. This Court dismissed Millennium's suit on March 3, 2018, concluding
17 that Millennium was required to exhaust, but had not exhausted, its administrative remedies.

18 18. Accordingly, Millennium pursued its administrative challenge to Ecology's
19 Denial Order before the Board, which entered an order on August 15, 2018, granting Ecology
20 summary judgment and dismissing Millennium's appeal. Millennium has timely satisfied the
21 requirement to appeal from the Board's decision within 30 days of its entry under RCW 34.05.

22 19. The Board found that Ecology acted exclusively under SEPA, RCW 43.21C.060,
23 in denying Millennium a water quality certification *with prejudice*. The Board determined
24 (based on sworn testimony from Ecology that the agency did not rely on CWA section 401 in
25 denying the certification *with prejudice*), that it was not necessary to address section III of
26 Ecology's Denial Order. That part of the Denial Order listed the information that Ecology

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1 alleged was missing from Millennium's application, yet was allegedly necessary for certification.
2 The Board improperly concluded that Ecology had the authority to deny Millennium's
3 certification on the basis of SEPA alone—and non-water-quality effects found in the EIS—
4 although CWA section 401 makes no mention of SEPA, and authorizes a denial based only on
5 the explicit statutory water quality factors prescribed under 33 U.S.C. § 1341(a)(1).
6 20. The Board also incorrectly determined that although water quality certifications
7 are SEPA-exempt, Ecology nonetheless had the authority to deny the certification with prejudice
8 under RCW 43.21C.060. In so ruling, the Board disregarded the statutory bar against using
9 SEPA to deny an action that was not required to undergo SEPA review in the first place. RCW
10 43.21C.110(1)(b).

11 **VI. BACKGROUND**

12 **The CET Project Is Situated Near Existing Interstate Transportation Corridors**

13 21. Millennium proposes to construct a CET at river mile 63 on the lower Columbia
14 River in Longview, Washington.
15 22. The CET would be developed on 190 acres (the project area) on a 540-acre site
16 that is leased by Millennium from Northwest Alloys ("NWA"), a wholly owned subsidiary of
17 ALCOA, Inc. The lease was purchased in January 2011 because of its location on the river and
18 its access to the Federal Navigation Channel, which has just been deepened by three feet to
19 accommodate the type of deeper-draft vessels that the Company's customers plan to use. The
20 CET would receive coal arriving over existing interstate rail lines, primarily from the Powder
21 River and the Uinta Basins. The CET would transfer the coal to Panamax-sized vessels, which
22 would, in turn, navigate down-river and across the Columbia River Bar and the Pacific Ocean to
23 customers primarily in Japan and South Korea, as well as other countries in the Far East.
24 23. Congress appropriated hundreds of millions of dollars under the Water Resource
25 Development Act of 1999 to improve navigation on the lower Columbia. The deepening project
26 was explicitly aimed at attracting the type of operation that Millennium proposes to construct.

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24. The States of Washington and Oregon strongly supported the navigation improvement project, as did a group of local sponsor ports in both states, including the Ports of Longview, Kalama, Woodland, Vancouver, St. Helens and Portland. The sponsor ports committed millions of dollars in local funds and professional resources to see the deepening project through, understanding that a deeper channel would attract to their ports and communities the type of job-creating operation that Millennium proposes to build.

25. The navigation deepening project has led to an infusion of capital on the lower Columbia River at the Ports of Longview, Kalama and Vancouver. In Cowlitz County alone, those capital projects include the $230 million Export Grain Terminal at the Port of Longview, the $100 million expansion of Temco Grain Terminal, and the $7 million investment in rail infrastructure upgrades at the Port of Kalama. Channel deepening has allowed these public and private ports to respond to growing demand from the Pacific Rim and to effectively compete for Asian trade, as evidenced by the fact that the Port of Kalama and Northwest Innovation Works plan to invest more than $2 billion in the hopes of building a new methanol plant just upstream from where Millennium plans to build the CET. *See* https://nwinnovationworks.com/project/.

The CET Is a Typical Port Project

26. Millennium is one of the entities that plans to utilize the deepened Columbia River channel by building two new docks with ship loaders, and dredging in associated berthing areas on the river. As is typical for port projects, the Company proposes to also include rail car unloading facilities, and operating rail track, rail storage tracks, stockpile areas and conveyors—standard infrastructure for bulk product terminals on the lower Columbia.

27. The proposed CET site was specifically selected not only because it provided direct access to a deepened federal navigation channel, but because it is also proximate to existing interstate rail lines with existing capacity. Both BNSF and Union Pacific rail companies operate rail cargo service from the Powder River Basin across multiple states, including Washington, to the Pacific Ocean. Access to Cowlitz County's industrial waterfront, including

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1 the Port of Longview, Weyerhaeuser, Kapstone and other industries, as well as the proposed
2 CET, occurs through operation of a short line run by the Longview Switching Company.
3 28. Millennium proposes to create suitable berthing areas by using standard dredging
4 techniques. It also proposes to use standard pile driving and pile removal techniques commonly
5 used on the lower Columbia and expressly approved by the National Marine Fisheries Service to
6 protect water quality, listed species under the Endangered Species Act, and biota.
7 **The CET Will Create Jobs and Tax Revenues for Cowlitz County**
8 29. Longview has an unemployment rate that is significantly higher than the nation's
9 and the state's. Longview is located within Cowlitz County. Cowlitz County's unemployment
10 rate has stubbornly remained several points above Puget Sound unemployment rates, long after
11 the Great Recession recovery most West Coast communities have experienced.
12 30. During construction, the CET will result in the direct creation of 1,350 jobs and
13 the indirect creation of 1,300 jobs in Cowlitz County and the surrounding region, and will
14 generate about $70 million in wages in Cowlitz County and the surrounding region.. Following
15 construction, the CET will result in the creation of 135 direct and 165 indirect jobs, resulting in
16 about $16 million annually in wages in Cowlitz County and the surrounding region.
17 31. The CET will also result in tax revenues to Cowlitz County and the State. The
18 County will receive a one-time construction sales tax benefit of $5.87 million, representing a 5%
19 increase to the 2012 Cowlitz County revenue of $107.8 million. It will also receive an annual
20 average of $1.65 million in tax revenues from the ongoing operation of the CET, which equates
21 to a 30-year present value of over $32 million. The State is estimated to receive over $37 million
22 in state tax revenue from the construction of the CET and an average annual amount of
23 $2.18 million from site operations, which equates to a 30-year present value of $41.77 million.
24 **Ecology's SEPA Process and Findings**
25 32. Millennium submitted a Joint Aquatic Resources Permit Application ("JARPA")
26 to the U.S. Army Corps of Engineers ("Corps") and Ecology on February 23, 2012. The JARPA

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1 requested that the Corps issue Millennium a joint CWA section 404 permit to dredge and fill
2 wetlands, and section 10 authorization to construct docks under the Rivers and Harbors Act of
3 1899, 33 U.S.C. § 403.

4 33. Millennium also requested that Ecology issue a CWA section 401 water quality
5 certification for construction. Under CWA section 401, states are given authority to determine
6 whether discharges associated with a project requiring a Corps permit will comply with
7 applicable water quality standards. Obtaining that state certification is a necessary condition
8 precedent to obtaining a federal permit from the Corps to dredge and fill wetlands.

9 34. Because it has authority to review and either approve or disapprove any shoreline
10 conditional use permit issued by Cowlitz County for dredging, Ecology conducted a six-year
11 SEPA EIS process that culminated in a Draft EIS on April 29, 2016, and a Final EIS (or "FEIS")
12 that exceeded 13,600 pages on April 28, 2017. That in-depth EIS contains numerous scientific
13 and technical evaluations of potential environmental effects, including in-depth water quality
14 analyses. The appeal period for the Final EIS passed without challenge by any Project opponent.

15 35. The EIS expressly and unambiguously found that the CET will not result in
16 significant adverse effects on water quality, aquatic life and designated uses, and that any effects
17 it would generate in these areas can be fully mitigated. *See*
18 http://millenniumbulkeiswa.gov/sepa-eishtml (Vol III.B., SEPA Water Quality Technical
19 Report). With respect to water quality, the EIS concluded that:

20 • the Project would result in no unavoidable and significant adverse impacts on fish
21 (SEPA FEIS at 4.7-41);
22 • "the construction activities associated with the proposed activity would not be
23 expected to cause a measurable effect on water clarity, water quality, or biological
24 indicators or affect designated uses" (SEPA FEIS at 4.5-19);
25 • as to the impacts on water quality from in- and over-water work, "no long-term
26 changes in the baseline conditions in the study area would be expected to occur"

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(SEPA FEIS at 4.5-23); and

- effects associated with coal dust and contamination from coal runoff "would not be measurable," and any change in water quality resulting from those activities are "not anticipated to increase turbidity or water temperature or affect marine organism functions" (SEPA FEIS at 4.5-25).

The FEIS therefore concluded that "coal dust from operation of the Proposed Action is not expected to have a demonstrable effect on water quality." (*Id.*)

36. With respect to stormwater runoff, the FEIS concluded that "continued discharges at existing levels would not cause a measurable increase in chemical indicators in the Columbia River and would not cause a measurable impact on water quality or biological indicators or affect designated beneficial uses." (*Id.*).

37. The conclusions ultimately reached by the SEPA FEIS on water quality issues were

> Compliance with laws and implementation of the mitigation and design features would reduce impacts on surface waters and floodplains. There would be no unavoidable and significant adverse environmental impacts on surface waters and floodplains.

(SEPA FEIS at 4.2-21.)

38. Although the EIS made other favorable findings outside the water quality context, some of those findings, including those related to greenhouse gas ("GHG") emissions, were struck from and not included in the Final EIS Summary. Ecology's third party consultants concluded that the Project would actually *reduce* the overall amount of GHGs produced, due in large part to fewer GHG emissions from domestic mines as compared to foreign mines, but Ecology eliminated that discussion from the executive summary of the Final EIS, the condensed 60-page version of the 13,600-page final document used by Ecology for public relations, media, and political purposes.

39. The Final EIS also included scientifically flawed findings concerning diesel emissions from trains transiting through Longview. The findings used risk factors designed for

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1 stationary—not mobile—sources. Those findings led Ecology to improperly draw cancer risk
2 conclusions for the Highlands community in Longview that were wildly skewed, and allowed
3 Ecology to incorrectly determine that these train induced effects could not be mitigated.

4 **Ecology's Protracted Certification Process**

5 40. While the EIS was being prepared, the Company withdrew its JARPA and
6 corresponding certification request. These withdrawals were made at the Corps' request to allow
7 the federal agency more time to complete its regulatory process. The Company waited until the
8 EISs prepared by both Ecology and the Corps under the National Environmental Policy Act
9 ("NEPA"), 42 U.S.C. § 4321 *et seq.*, and SEPA were sufficiently complete to refile its
10 applications. It also did this to trigger the one-year statutory clock required for states to
11 complete their certification process under section 401(a)(1). Accordingly, Millennium submitted
12 a new permit application and water quality certification request to both the Corps and Ecology
13 on July 18, 2016.

14 41. Knowing full well that its certification decision had to be completed before July
15 18, 2017 (one year after receipt of the certification request), and except for a brief
16 communication and information exchange with Millennium in November-December 2016,
17 Ecology had little to no contact with Millennium on its certification request until mid-May 2017.
18 Ecology remained uncommunicative during this period. At no time between July 18, 2016—the
19 date Millennium filed its certification application—and May 2017 did Ecology communicate to
20 the Company that its application was inadequate.

21 42. After convening several conference calls and meetings in May and June, Ecology
22 requested the Company in June 2017 to once again withdraw its certification request to provide
23 the agency with "more time to complete its review." Although the Corps has asserted that the
24 one-year statute of limitations period for completing a CWA section 401 certification process
25 was triggered on September 30, 2016—the date the Corps issued its public notice and request for
26 comments on its Draft NEPA EIS—Ecology was concerned that the limitations period under

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1 section 401(a)(1) could be construed to end one year from the date Ecology received the request
2 for certification, which was July 18, 2016.
3 43. Millennium was promised a certification decision by September 30, 2017.
4 Accordingly, at Ecology's specific request, and to facilitate a decision by September 30, 2017 (as
5 promised), the Company withdrew and resubmitted its request for CWA section 401 certification
6 on June 22, 2017. The Company was led to believe that Ecology was busy processing its
7 application and seriously reviewing its water quality information to meet its September 30, 2017
8 deadline.
9 44. In support of its section 401 certification application and in response to oral
10 requests from Ecology, Millennium provided Ecology a Reasonable Assurance Plan ("RAP") on
11 August 7, 2017. That RAP included complete information on discharges associated with
12 construction and operation of the future CET. First, it contained an evaluation of the existing on-
13 site treatment facility's capabilities to meet water quality standards. Second, the RAP included
14 information and data on the pollutants likely to be discharged from on-site coal management
15 activities, as well as stormwater and wastewater management activities that Millennium
16 proposed to implement to meet water quality standards.
17 45. The RAP demonstrated in detail that the information submitted by the Company
18 was sufficient to provide Ecology with the "reasonable assurance" it needed to certify the Project
19 under section 401. It further explained that the agency did not need the functional equivalent of
20 an engineering report otherwise required for an NPDES permit because state law allows Ecology
21 to rely on its future ability to use its separate NPDES permitting process for that purpose. The
22 information submitted by the Company was exactly the type of information and level of detail
23 that Ecology customarily requires for certification purposes.
24 46. On August 31, 2017, Ecology's section 401 certification lead visited the site and
25 acknowledged that she had not reviewed the RAP. She nonetheless orally suggested that
26 additional information would likely be necessary for Ecology to certify the Project. Ecology's

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1 certification lead also stated that if she received the additional information by September 20,
2 2017, that would allow her to evaluate the information and issue the certification by September
3 30, 2017.

4 47. Accordingly, on or about September 8, 2017, Ecology convened a call with
5 Millennium representatives to orally request additional information about the quantity and
6 quality of its future wastewater discharges. Ecology staff promised to provide that request in
7 writing, but that writing never materialized. At that time, Ecology's section 401 lead demanded
8 the type of information otherwise necessary to obtain an NPDES permit, including a complete
9 NPDES permit application and engineering report. Had the Company been aware that Ecology
10 would demand this unprecedented level of information to complete the certification process, it
11 would have begun that process a year prior.

12 48. Public records requests later revealed that Ecology had, as early as January 2017,
13 internally discussed whether Millennium should submit an NPDES permit application prior to
14 Ecology's consideration of Millennium's section 401 certification application, but the first time
15 Ecology mentioned this request to Millennium was 22 days before Ecology was scheduled to
16 make its decision.

17 49. Attempting to hit Ecology's constantly moving target, Millennium submitted a
18 subsequent information package that Ecology orally requested be received on September 20,
19 2017, which included an updated RAP. That package also included an expanded discussion of
20 the pollutants that would be discharged, additional details on the known and available treatment
21 systems that would be employed on-site, best management practices associated with construction
22 and ongoing operations, and a discussion of the Tier II anti-degradation evaluation otherwise
23 necessary for issuance of an NPDES permit.

24 50. The Company also included robust information on the constituents of the coal that
25 would be handled at the facility. It provided Ecology an evaluation of other analogous NPDES
26 permits around the country and in Washington State involving coal handling/export terminals—

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1 including specific information on the technology and water quality-based treatment those
2 facilities have been required to employ—and the quality and quantity of coal-related wastewater
3 and stormwater discharged at those similarly-constituted facilities.

4 51. In fact, the Company provided Ecology with information that Ecology already
5 had on coal-related surface water discharges from the operation of the Centralia, Washington
6 Trans Alta coal-fired power plant. Less than one year before the Denial was issued (in October
7 2016), Ecology reissued an NPDES permit to that coal-fired power plant. That permit addressed
8 runoff from a coal stockpile that is comparable in size and composition to what is proposed by
9 Millennium. That facility was implementing a treatment system approved by Ecology, which
10 was the same treatment system that Millennium was proposing to install at the CET.

11 52. Ecology therefore knew exactly what it takes to ensure that runoff from a coal
12 stockpile of the magnitude Millennium proposed would meet water quality standards. Indeed,
13 there was nothing materially different, complicated, or mysterious about the Company's
14 proposal.

15 53. Nonetheless, on September 26, 2017, Ecology denied Millennium's CWA section
16 401 certification with prejudice. The Denial was issued just four business days after receiving
17 the mountain of enhanced and expanded water quality data, engineering submittals and related
18 information that Ecology had orally requested and that Millennium had previously submitted on
19 September 20, 2017.

20 54. Despite previously promising Millennium a letter identifying all outstanding
21 information missing from its application, at no time prior to the Denial did Ecology ever provide
22 the Company with a written communication articulating what information Millennium needed to
23 supply for Ecology to complete the section 401 certification review process.

24 **Ecology Engaged in a Duplicitous Decision-Making Process to Deny the Certification**

25 55. Unbeknownst to Millennium, while Ecology certification staffers were working
26 with Millennium to obtain and review the necessary information to support a CWA section 401

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1 certification, Ecology officials at the highest levels, including Director Bellon herself, were
2 meeting with Governor Inslee to discuss the Millennium Project and a means to bring the entire
3 certification process to an abrupt and final stop.

4 56. Although Ecology certification staff had requested that Millennium submit a host
5 of additional technical information for agency review by September 20, 2017, senior Ecology
6 officials had predetermined to deny the certification "*without prejudice*" by September 6th or
7 7th, in order to give agency staff sufficient time to review the voluminous information it had
8 requested and was in the process of receiving from Millennium. On or about September 7th,
9 Ecology senior officials sent Governor Inslee a copy of a decision denying the certification
10 "without prejudice" under CWA section 401, requesting an "OK" for the decision to be sent to
11 Millennium by certified mail later that day. For reasons that continue to elude Millennium, that
12 all-but-final letter (which included a certified mail number) was never sent.

13 57. Instead, sometime between a briefing with the Governor on September 7th and a
14 follow-up meeting between Director Bellon, senior agency officials, and the Governor on
15 September 14, 2017, it was decided that Ecology would—for the very first time in agency
16 history—use SEPA to deny a section 401 water quality certification, and to deny it "with
17 prejudice."

18 58. Public records requests and discovery in the Board proceedings below revealed
19 that Director Bellon made her SEPA decision in the absence of any known written evaluation of
20 the propriety of her decision, or any sort of decision-making record, other than the Denial Order
21 itself. Director Bellon made her SEPA decision while her water quality staff were otherwise
22 engaged with Millennium in collecting, developing and evaluating water quality information.
23 Director Bellon made her SEPA decision while her staff were going through the motions in
24 requesting more and more information from Millennium under the pretense of making a
25 "reasonable assurance" determination under 40 C.F.R. § 121.2(a) and the CWA.
26

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1 59. The outcome of Ecology's decision was predetermined and not based on reason or
2 evidence; indeed, Ecology made its determination before it received the massive amount of
3 scientifically technical information it requested.
4 60. Defendants never informed Millennium that they intended to use SEPA
5 substantive authority to deny the section 401 certification.
6 61. Defendants did not consider the possibility that Millennium could have mitigated
7 the adverse effects discussed in the Denial Order, and did not provide Millennium with the
8 opportunity to discuss appropriate mitigation.
9 62. While Millennium had no idea that Ecology would use its so-called SEPA
10 substantive authority to deny the certification outright, Millennium fully expected to have just
11 that sort of frank mitigation discussion for future permitting decisions. Millennium based that
12 expectation on the plain language of the EIS itself, which explicitly stated that the EIS was not a
13 decision to approve or deny a proposal (EIS at S-2). Millennium also based its expectation on
14 the fact that the EIS did not conclude that reasonable mitigation measures were insufficient to
15 mitigate the identified impacts. In the absence of that regulatory finding, Millennium understood
16 that potential mitigation measures were ripe for discussion. Instead of making the finding
17 required under RCW 43.21C.060 to deny the proposal, the EIS found that Millennium's
18 proposed mitigation measures would reduce (but not "completely eliminate") significant adverse
19 impacts, and that "unavoidable and significant adverse environmental impacts could [not would]
20 remain." (EIS at S-41.)
21 63. The EIS itself expressly disavowed being a permitting "decision" document.
22 Given the speculative and inconclusive nature of the penultimate EIS conclusion, together with
23 the document's explicit disavowal of being a permitting "decision-document," Millennium had
24 no idea and received no prior notice that Ecology would subsequently use those same
25 inconclusive findings as the sole basis to deny its CWA section 401 certification "with
26 prejudice," especially since those findings were based on "indirect effects" from trains and

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1 vessels that are associated with all port projects of this nature on the lower Columbia.

2 64. To the contrary, Millennium's conversations with staff at the Governor's office
3 and with Ecology management at the highest levels led Millennium to believe subsequent
4 mitigation conversations would be forthcoming in accordance with normal permit and
5 environmental review processes.

6 65. Moreover, based on Ecology's past practice, Millennium was led to believe that
7 Ecology would certainly afford it an opportunity to sit down and discuss appropriate mitigation
8 after EIS publication but before Ecology finalized its permitting decisions, because that was both
9 Ecology and standard agency practice.

10 66. Although Millennium's conversations with Ecology officials and staff in the
11 Governor's office led Millennium to decide not to challenge the EIS—which Millennium knew
12 to be biased and fundamentally flawed in respects outside the water quality context—it made this
13 decision believing that it would be better served by meeting with Ecology to begin a series of
14 mitigation discussions prior to final Ecology permit decisions. The alternative was years of
15 litigation that, if successful, would only lead to another remand and years of additional process.
16 That alternative was no alternative at all.

17 67. Millennium had serious concerns with Ecology's EIS decision to evaluate human
18 health effects from diesel train emissions using a stationary source standard and a host of
19 unrealistic assumptions. Rather than engage in protracted litigation on the basis of that finding,
20 Millennium planned to persuade the agency to use more appropriate risk factors associated with
21 mobile source emissions in subsequent mitigation discussions.

22 68. But Millennium never got that opportunity. Instead, Ecology used that
23 scientifically flawed diesel emission and human health impact finding, among others, to
24 summarily veto Millennium's Project. Ecology used that flawed metric despite acknowledging
25 in the EIS itself that such use overestimated the actual risk to the surrounding area.

26 69. Similarly, Millennium had planned to work with Ecology to discuss ways in

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1 which it could mitigate the alleged impact of train emissions, for example by providing
2 mitigation for homeowners. Mitigation measures of that type (e.g., in-home filtration systems),
3 or others more directly involving the trains themselves, could have addressed Ecology's diesel
4 train emissions concerns, which were used instead as a pretext to deny the certification.
5 70. At the time Millennium made a decision not to challenge the EIS, it had
6 absolutely no notice whatsoever that Ecology was planning to invoke SEPA substantive
7 authority to deny the water quality certification with prejudice on the basis of non-water-quality
8 factors, because Ecology had never before used SEPA in that manner.
9 71. Millennium's decision not to appeal the EIS was also based on its numerous and
10 unequivocally favorable water quality findings.
11 72. In short, the SEPA and CWA "process" used by Defendants to deny Millennium a
12 CWA section 401 certification was fraudulent, denying Millennium the fundamental
13 administrative due process that the Company was due as a measure of "ordered liberty."
14 **Ecology Misused Its Authority Due to Its Anti-Coal Animus**
15 73. This was the first time in Ecology's history that it decided to deny a CWA section
16 401 certification *with prejudice* based on SEPA findings it made concerning interstate rail
17 capacity, train traffic (and its attendant effect on vehicular traffic), train emissions, vibrations and
18 noise, and train safety. All of these putative effects are an inevitable result of every cargo
19 transportation infrastructure project on the lower Columbia or anywhere else. Yet Ecology
20 singled out Millennium for special and punitive treatment.
21 74. Due to its animus towards the particular commodity that Millennium proposes to
22 handle on-site, and trans-ship to Asia, Defendants invented special rules and a unique and
23 unprecedented process for the evaluation of Millennium's section 401 certification application.
24 The U.S. and Washington State Constitutions prohibit this "class of one" approach.
25 75. Defendants' anti-coal and anti-Millennium animus is long-standing and derives
26 from Governor Inslee himself, who in a speech to the City Club in February of 2013, declared

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that if Millennium's Project were approved, Washington State would be unrecognizable within the lives of our children and our children's children due to climate change. During his first press conference as Governor, Inslee discussed his concerns about the "ramifications" of "burn[ing] the enormous amounts of Powder River Basin coal that are exported through our ports." He called permitting those exports "the largest decision we will be making as a state . . . certainly during my lifetime and nothing comes close to it."[1] Because of the Governor's interest in the Project, Director Bellon briefed the Governor on a regular and frequent basis about Millennium's application and Ecology's administrative process.

76. In June 2016, following publication of the State's Draft EIS, Bellon reiterated the State of Washington's goal of being a national and global leader in opposing the use of carbon-based fuels, and argued that if Washington, Oregon, and California show leadership, then "others will fall in line."

77. With these views in mind, and well before the EIS was finalized, Director Bellon instructed her public relations ("PR") staff to develop talking points singling out Millennium's Project as "the biggest coal project in North America," and as "not a simple project" because the commodity at issue was coal. Ecology's PR department (i) branded the Project as a wetlands destroyer, even though the wetlands were degraded and the agency had previously permitted other projects impacting the same or greater number of wetlands acres, and (ii) expressed undue concerns about contamination from a cleanup that Ecology itself was overseeing.

78. Both her PR department and Director Bellon herself took to Twitter to tweet negatively about the Project. Defendants did not even pretend to be even-handed, discussing only what they considered to be the negative findings in the EIS, and neglecting to discuss the many EIS findings of "no significant impact," much less opportunities for mitigation. Ecology's

[1] Jessica Goad, *Governor Inslee Calls Coal Exports "The Largest Decision We Will Be Making as a State from a Carbon Pollution Standpoint,"* THINKPROGRESS (Jan. 22, 2013, 7:56 PM), https://thinkprogress.org/governor-inslee-calls-coal-exports-the-largest-decision-we-will-be-making-as-a-state-from-a-carbon-9c73e7ba1079/.

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tweets were part of a carefully calculated and purposeful PR strategy to malign the Project and foment public opposition.

79. In fact, after reviewing press reports following issuance of the EIS, Ecology staff sent a congratulatory email to themselves, exclaiming that "their social media strategy worked brilliantly."

80. Although she tweeted extensively about Millennium's Project and its certification request, Director Bellon did not tweet about any other certification decisions.

81. Director Bellon and Ecology also used Twitter to speculate about the new GHGs the EIS predicted would be emitted as a result of train and vessel transportation of the coal that Millennium proposes to trans-ship:

82. In tweeting about the Project, Director Bellon made no mention of the fact that the independent third party consultants hired to prepare the EIS concluded that Millennium's Project would actually *reduce* GHG emissions. Ecology went so far as to make sure that those findings did not get included in the Final EIS text.

83. Although Defendants have not discussed other water quality certification applications on Twitter, they have tweeted frequently about the Millennium Project:

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84. In addition, Director Bellon has "liked" responses to her tweet regarding the Denial, even those which profess to oppose the commodity that Millennium seeks to export:

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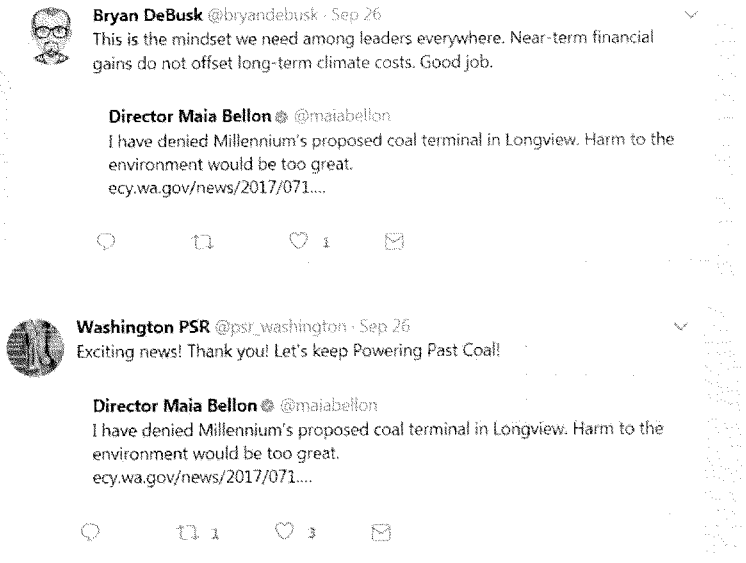

85. In contrast, Director Bellon did not "like" any tweets opposing or questioning the Denial.

86. During the six years it took Ecology to complete the EIS, Defendants got into the op-ed business to stir public opposition. Ecology subscribed to numerous newsletters and news alert services which identified each and every time Director Bellon, Millennium, the Project, and Ecology were mentioned in a news article. Whenever there was a positive story about the Project, Ecology responded with letters to the editor and its own op-eds maligning the Project. However, when Project opponents wrote op-eds denigrating the Project, Ecology staff circulated them internally and issued no external response.

87. During the comment period on the section 401 certification, Ecology offered to assist private interest groups opposing the Project in uploading their comments to Ecology's

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website. Ecology staff did not reach out to groups supporting the Project to do the same.

88. Defendants imposed rigorous and unprecedented controls totally preventing Millennium from engaging with the third party consultants hired to prepare the EIS. At the same time, Ecology worked behind the scenes to alter and omit favorable findings and conclusions contained in the consultants' original work product associated with diesel emissions, GHG emissions, and cancer risk from train traffic.

89. At or about the time that Ecology issued its Denial, Millennium and its outside consultants contacted Ecology staff on several occasions to inquire about air quality modeling and to request assistance in the Company's pursuit of other State issued permits. Individual Ecology staff communicated to Millennium that they were not sure whether Ecology could provide such regulatory assistance in light of the section 401 Denial.

90. Those telephone conversations and emails were promptly followed by a letter personally authored by Director Bellon, declaring that Ecology would no longer consider issuing any permits for the CET, and would no longer provide any regulatory assistance in connection with the vetoed CET Project. On October 23, 2017, Director Bellon personally sent a letter to Kristin Gaines, Millennium's Vice President for Environmental Affairs, concluding that in light of the section 401 certification Denial and the agency's SEPA findings, Ecology would likely be precluded from approving other applications. *See* Exhibit C, attached hereto. Director Bellon therefore decided that while "Ecology cannot prevent Millennium from future filings[,] Ecology staff will not be spending time on permit preparation related to Millennium's additional applications for the coal export terminal." Director Bellon concluded her extraordinary letter by demanding that all future questions regarding permit applications (or regulatory assistance of any kind associated with the CET) be directed to her attorney.

91. Director Bellon's bias is perhaps best laid bare in her most recent letter to Congress about the Project, where she claims that the Project will "devastate" the Columbia River and cause it "irreparable harm." Nothing in either the 13,600-page EIS or the CWA

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1 section 401 Denial supports such hyperbolic and scientifically baseless statements, even if
2 Ecology's Denial contained equally false statements. *See* letter from Maia Bellon to Senator
3 Barrasso dated August 15, 2018 (attached as Exhibit D).
4 92. Although Ecology assured the Board in the administrative appeal that it did not
5 deny the certification *with prejudice* on the basis of water quality or CWA concerns, Director
6 Bellon's recent letter to Senator Barrasso falsely and misleadingly declared that the denial was
7 due to the fact that "Millennium failed to meet existing water quality standards." Ecology's
8 Denial Order made no such finding, and its EIS made many findings to the contrary.
9 93. Millennium has been harmed by Ecology's actions and bias. It has suffered years
10 of permitting delay and has spent tens of millions of dollars participating in the protracted
11 administrative and appeals processes.

12 **VII. CLAIMS FOR RELIEF**

13 **CLAIM I**

14 ***Defendants' Denial Order Is Arbitrary, Capricious And Contrary To Law Under The APA***

15 94. Millennium re-alleges and incorporates all prior allegations.
16 95. Under the Washington APA, RCW 34.05.570(3)(b), Washington courts are
17 obligated to grant relief when an agency has acted in an unconstitutional manner or outside of its
18 statutory authority or jurisdiction, engaged in an unlawful procedure, erroneously interpreted or
19 applied the law, or otherwise been arbitrary and capricious. The Denial Order, as affirmed by
20 the Board, should be invalidated on all of these grounds.
21 96. Within the CWA's comprehensive statutory scheme, Congress delineated a
22 specific role for states. Section 401 of the CWA, 33 U.S.C. § 1341(a), provides that states have
23 authority to grant or deny a water quality certification based solely on factors enumerated by the
24 statute. The sole question for a state to consider in deciding whether to certify a project under
25 CWA section 401 is whether the state has reasonable assurances that the potential discharge
26

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1 "will comply with the applicable provisions of 1311, 1312, 1313, 1316, and 1317." 33 U.S.C. §
2 1341. The enumerated CWA sections listed in section 401(a)(1) are exclusive and do not endow
3 states with plenary power to deny water quality certifications on other grounds.

4 97. Defendants' Denial, on its face, applies criteria to the CWA certification that go
5 beyond the criteria that CWA section 401(a)(1) allows Defendants to consider. Defendants
6 based their Denial on SEPA, including "air quality," "impacts to vehicle traffic," "noise and
7 vibration" that might expose "residences" to noise impacts, impacts to "social and community
8 resources," "adverse effects on rail transportation," "rail safety," increased vessel traffic on the
9 Columbia River, "cultural resources," "tribal resources," and "water rights." Defendants
10 arbitrarily applied these impermissible criteria while ignoring the favorable findings in the EIS
11 that the proposed Project would not result in any unavoidable, significant and adverse impacts to
12 water quality, aquatic biota, fish, and wetlands.

13 98. Defendants' Denial is barred by 33 U.S.C. § 1341, because it is based on SEPA,
14 not on the criteria set forth in CWA section 401, and is premised on impacts unrelated to water
15 quality.

16 99. Defendants also violated the APA because their conduct constitutes an arbitrary
17 departure from well-established past administrative practice. RCW 34.050.570(3)(c). Ecology
18 applied a certification standard and process that it singularly developed for Millennium's CET.
19 It demanded a level of information that no other project has been required to submit, moved the
20 "goal posts" that Millennium was required to reach, and ultimately based its Denial on factors
21 other than water quality considerations.

22 100. Ecology's customary practice, shared by every other state, has been to deny water
23 quality certifications without prejudice in situations where the agency has not first issued the
24 applicant a written letter indicating what was required, and what was missing, for the agency to
25 make a certification decision. Because certification denials function in effect as project vetoes,
26 state environmental agencies—including Ecology—typically afford applicants for this necessary

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1 state authorization a reasonable opportunity to provide additional information or make necessary
2 changes before denying a water quality certification "with prejudice."
3 101. Ecology—as an administrative state agency—must review a certification request
4 using its established practice, procedure and standards, and thus must be free from political
5 considerations. It is required by law to provide Millennium the process it is due under the
6 federal and state constitutions, and to treat Millennium as it would any other project certification
7 applicant under CWA section 401.
8 102. Ecology has not, in the past 45 years, issued a denial with prejudice for a water
9 quality certification application.
10 103. Ecology has not, in the past 45 years, used SEPA to deny a water quality
11 certification.
12 104. Ecology has not issued any regulatory guidance, policy, or rule explaining the
13 standards for denying a water quality certification application with prejudice.
14 105. Ecology has not developed any guidance or regulations on the use of SEPA to
15 deny a water quality certification.
16 106. Unexplained agency action inconsistent with well-established practice is arbitrary.
17 *FCC v. Fox Television Stations, Inc.*, 567 U.S. 239 (2012).
18 107. Defendants used an unlawful procedure and unlawful decision-making process,
19 failing to follow the prescriptions in CWA section 401(a)(1) and RCW 43.21C.110(1)(a).
20 108. Defendants impermissibly used SEPA to deny a SEPA-exempt action. Water
21 quality certifications are exempt from SEPA under a regulation issued by Ecology. WAC 197-
22 11-800(a). Actions that are categorically exempt under rules adopted by Ecology may not be
23 conditioned or denied under SEPA. RCW 43.21C.110(1)(a).
24 109. Defendants improperly used the EIS as a decision-making document, even though
25 the EIS explicitly stated that it could not be used as such.
26 110. Defendants used the EIS to deny the certification even though the EIS did not

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1 unequivocally conclude that the identified significant adverse effects could not be mitigated.

2 111. Defendants used the EIS to deny the certification in violation of RCW 43.21C.060
3 and WAC 197-11-660(f)(ii), which require the agency to determine that reasonable mitigation
4 measures are insufficient to mitigate an identified impact. The EIS "talked around" but
5 specifically did not conclude that reasonable mitigation measures would be insufficient to
6 mitigate the significant adverse effects found in the EIS.

7 112. Director Bellon used her position of authority as a bully pulpit to foment and
8 increase public opposition to the Project in a manner that was biased and inimical to what is
9 expected of a public officer charged with enforcing the rule of law. A decision animated by bias
10 is an arbitrary and capricious decision prohibited by the APA.

11 113. Defendants also denied the certification under SEPA without providing
12 Millennium with any notice of their intent to do so, and without providing Millennium any
13 opportunity to propose and negotiate reasonable mitigation. Ecology's actions deprived
14 Millennium of its procedural and substantive due process rights guaranteed under both the U.S.
15 and Washington State Constitutions.

16 114. For all these reasons, Defendants' actions should be set aside under RCW
17 34.05.570(c).

18 **CLAIM II**

19 ***Liability For Violation Of Constitutional Rights Under 42 U.S.C. § 1983***

20 115. Millennium re-alleges and incorporates all prior allegations.

21 116. "Every person who, under color of any statute, ordinance, regulation, custom, or
22 usage, of any State, subjects, or causes to be subjected, any citizen of the United States or other
23 person within the jurisdiction thereof to the deprivation of any rights, privileges, or immunities
24 secured by the Constitution and laws, shall be liable to the party injured in an action at law, suit
25 in equity, or other proper proceeding for redress." 42 U.S.C. § 1983.

26

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1 117. The Denial Order violates rights secured by the Constitution and laws of the
2 United States and State of Washington, and was issued by Director Bellon, who was acting under
3 color of law.
4 118. Millennium has a cognizable property interest in its certification application.
5 Millennium's section 401 certification application constitutes a protected property interest
6 because there are articulable standards that constrain Ecology's decision-making process.
7 Ecology's discretion to deny Millennium's section 401 certification is substantially limited by
8 both CWA section 401(a)(1) and RCW 43.21C.110(1)(a).
9 119. Millennium has a cognizable property interest in an impartial review of its CWA
10 section 401 application and in otherwise receiving the due process guaranteed under the laws of
11 the United States and the State of Washington.
12 120. Millennium's Project has garnered both intense political opposition and
13 significant public support. Some of the opposition has resulted from Director Bellon's and
14 Ecology's public lobbying through social media, public speeches, and Congressional testimony.
15 The intense political opposition to the Project, and both the Governor's and the Director's
16 personal animus towards coal and Millennium's Project, directly influenced Director Bellon's
17 decision to deny the certification *with prejudice*. As a result, Millennium did not receive an
18 impartial review of its CWA section 401 application.
19 121. The right to an impartial decision maker is a right implicit in the concept of
20 ordered liberty. *Maytown Sand & Gravel LLC v. Thurston County* (Wash. Sup. Ct. 2018).
21 Director Bellon was not an impartial decision maker.
22 122. Director Bellon and her PR staff engaged in a social media strategy that singled
23 out and maligned the Project.
24 123. Ecology and Director Bellon prevented Millennium from working with the
25 agency's third party consultants, while altering and omitting favorable findings and conclusions
26 contained in the consultants' original work product.

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124. Director Bellon then had her staff pretend to work with Millennium to gather water quality information to make a "reasonable assurance determination" under 40 C.F.R. § 121.2(a), while she worked behind the scenes with her senior officers and with the Governor's office, to permanently deny the certification under SEPA.

125. Director Bellon ordered her staff to issue the Denial Order even though Ecology had never before: (a) denied a water quality certification "with prejudice"; (b) denied a water quality certification using SEPA; (c) denied a water quality certification using non-water-quality effects found in an EIS; or (d) vetoed a project using SEPA without providing the applicant notice of its intent to do so, and an opportunity to be heard on the applicant's willingness and ability to provide mitigation.

126. After issuing the Denial Order, Director Bellon demonstrated further bias by writing to demand that the Company not seek any further assistance from her staff in pursuing its constitutionally protected right to apply for permits from other agencies. Director Bellon declared that "Ecology staff will not be spending time on permit preparation related to Millennium's additional applications for the coal export terminal," and directed all future questions to her attorney.

127. More recently, Director Bellon provided Congress with testimony about Millennium's Project, grossly distorting the conclusions found in Ecology's EIS. Director Bellon falsely and misleadingly told Congress that she denied the certification because her agency found that the Project would not meet applicable water quality standards, while the Denial Order made no such determination. Indeed, her staff and her attorneys assured the Board that Ecology's decision to deny the certification with prejudice was unrelated to the water quality considerations identified in section III of the Denial Order, and was made instead exclusively under SEPA.

128. Ecology's and Director Bellon's actions "shock[] the conscience and interfere[] with rights that are implicit in the concept of ordered liberty." *Maytown Sand & Gravel.* Because

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1 decisions like this one (which was made in a climate of intense political pressure) are more
2 susceptible to an abuse of authority, they "require[] a higher degree of judicial scrutiny than is
3 normally appropriate for administrative action." *Polygon Corp. v. City of Seattle*, 90 Wn.2d 59,
4 578 P.2d 1309, 1315 (1978).
5 129. For all these reasons, Ecology's Denial constitutes a deprivation of rights
6 actionable under 42 U.S.C. § 1983.
7 **CLAIM III**
8 ***Millennium Is Entitled To Relief Under RCW 64.40***
9 130. Millennium re-alleges and incorporates all prior allegations.
10 131. This claim has been brought within the 30-day statute of limitations provided
11 under RCW 64.40.030.
12 132. Ecology's actions were arbitrary and capricious, and exceeded lawful authority.
13 133. Millennium has a property interest in real property in the State of Washington.
14 The Company sought a governmental approval required from Ecology before it could improve
15 and put its real property to use, and that certification was denied "with prejudice."
16 134. Ecology's decision limits the use of Millennium's property in excess of lawful
17 authority. Without Ecology's CWA section 401 certification, Millennium is precluded from
18 obtaining necessary federal permits, and prohibited from constructing or operating its proposed
19 CET.
20 135. Ecology knew or should have known that its actions were unlawful and exceeded
21 the extent of its authority under CWA section 401(a)(1) and RCW 43.21C.110(1)(a), and were
22 unconstitutional.
23 136. Millennium has incurred damages as a result of the improper certification denial,
24 including costs associated with the ensuing permitting delay. Millennium has also incurred
25 attorneys' fees and associated litigation costs as a result of Ecology's improper certification
26 denial and is entitled to reimbursement under RCW 64.40.030.

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VIII. PRAYER FOR RELIEF

WHEREFORE, Millennium requests that the Court:

A. Enter a declaratory judgment reaffirming and declaring that:

1. Defendants unlawfully applied SEPA to a CWA section 401 certification decision and exceeded their authority under the CWA and SEPA;
2. Defendants violated the Washington APA;
3. Defendants acted unlawfully and violated Millennium's due process and equal protection rights;
4. Defendants' Denial is a product of biased and prejudiced decision-making;
5. Defendants have waived their certification rights under CWA section 401.

B. Enjoin:

1. Defendants from denying Millennium's certification request with prejudice;
2. Defendants from using SEPA substantive authority to deny Millennium's CWA section 401 certification;
3. Defendants from continuing to delay issuance of the certification if the Denial is remanded for continued considerations;
4. Defendants from refusing to process CET permit applications and from refusing to provide the regulatory assistance routinely afforded all permit applicants.

C. Award it damages and attorneys' fees and costs as authorized under RCW 64.40 and 42 U.S.C. § 1988(b).

D. And award such other and further relief as this Court deems just and proper.

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DATED: September 5, 2018.

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NJ SPOTLIGHT
NEWS, ISSUES AND INSIGHT FOR NEW JERSEY

MOVE IN CONGRESS TO WEAKEN CLEAN WATER ACT COULD HAVE BIG IMPACT IN NEW JERSEY

TOM JOHNSON | AUGUST 16, 2018

Opponents of PennEast pipeline say if law is revamped, it would make it 'extremely difficult' to fight such projects

There is a move underway in Congress to revamp a key section of the federal Clean Water Act, a step that could undermine the ability of states to block energy and big infrastructure projects.

The legislation, to be taken up by the Senate Environment and Public Works Committee today, would weaken Section 401 of the CWA, a provision that allows states to determine if such projects comply with water-quality standards.

The tool has been used by states, including New York, which denied a permit to the 120-mile interstate Constitution pipeline over water-quality concerns. Many opponents of the PennEast pipeline in New Jersey are hoping the state Department of Environmental Protection will take similar action here.

But Senate Republicans and industry lobbyists have argued the states are using the 401 process to delay or stall projects, including natural-gas pipelines.

Barrasso: Some states abusing law to delay projects

"The water quality certification process is being abused by a few states in order to delay important projects," said Sen. John Barrasso, a Republican who drafted the bill to revamp that section of the law. "This kind of obstruction is about politics, not water quality," he said in a press release announcing the bill. Barrasso, of Wyoming, is the chairman of the Senate committee.

The legislation would clarify several aspects of the state certification process, including specifying that the scope of the review is limited to water-quality impacts only and affording states only 90 days after they receive an initial application to request more information.

The proposal is already on the radar screen of environmental organizations, including those which have spent years opposing the PennEast pipeline.

The $1 billion project would begin in Luzerne County, Pa. and cross under the Delaware River before ending in Mercer County. The 118-mile pipeline would cross more than 200 waterways in the state as well as through 56 acres of wetlands.

It's 'probably the most effective tool we have'

"If this bill happens, it will make it extremely difficult to fight these dangerous projects," said Jeff Tittel, director of the New Jersey Sierra Club. "It (the Section 401 review) is probably the most effective tool we have to fight these projects.

PennEast originally filed for the necessary water-quality permit with the DEP in April 2017, but the agency refused to review the application, saying it was lacking detailed information about

environmental impacts. PennEast could not provide the data because property owners along the route refused to allow the company access to their land.

Tom Gilbert, campaign director for ReThink Energy NJ, said the legislation is clearly an effort to trample states' rights. "We're very concerned it is an attempt to curtail longstanding state authority to protect their waters," he said.

But critics say states hostile to fossil fuels use the certification process to block projects they don't like.

"Some states have chosen to exercise their authority under Section 401 in ways that exceed the bounds of the statue," according to a letter submitted by a couple dozen trade organizations to the committee. They include the American Petroleum Institute, the Edison Electric Institute, the Natural Gas Association, and others.

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WASHINGTON
BUILDING TRADES

LEE NEWGENT
EXECUTIVE SECRETARY

MARK MARTINEZ
PRESIDENT

Resolution in Support of the Millennium Bulk Terminals Project

Resolution 5-17

Whereas, the Longview/Kelso Building and Construction Trades Council believes that it has a duty, both as a representative of its Building Trades members and as a part of the Longview-Kelso community, to encourage local opportunities for jobs capable of supporting a family;

Whereas, the economic boom in construction and other industries found elsewhere in the state has not yet reached Cowlitz County;

Whereas, the loss of area employers such as Reynolds Aluminum and the decreases in the pulp and paper industry has caused a lack of suitable living-wage jobs;

Whereas, these losses have resulted in a decline in the tax revenue required to adequately fund our schools, parks, roads, and other essential services;

Whereas, Millennium will support more than 2,600 jobs during construction and a full-time complement of 300 family-wage positions once operations commence;

Whereas, Millennium approached the Building Trades to sign a Project Labor Agreement ensuring that the Millennium Bulk Terminals project is built Union;

Whereas, during construction Millennium Bulk Terminals will generate $37.2 million in state tax revenue and $5.9 million in county tax revenue;

Whereas, in addition to the need to use the resources that are the local hard-working men and women, the Longview/Kelso Building and Construction Trades Council also recognizes the need to maximize the resources available, such as deep water shipping capabilities and areas zoned for industrial use;

Whereas, Millennium Bulk Terminals is located on a 530-acre heavy industrial brownfield site that's been underutilized for more than a decade and that Millennium has spent over $25 million cleaning up;

Whereas, Millennium chose to use local Union contractors for the demolition and site clean-up at the industrial brownfield beyond what is covered by the Project Labor Agreement;

Whereas, Millennium has demonstrated its intent to be a part of the community since its arrival in Longview by being actively engaged in activities that address the social and economic challenges in Cowlitz County;

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Whereas, Millennium Bulk Terminals has been an active supporter and advocate for increased Career and Technical Education (CTE) in local schools;

Whereas, this community involvement and the all the potential benefits this facility will bring to the area has gained Millennium majority support in the local community;

Whereas, Millennium has gone above and beyond the local, state, and federal requirements while engaged in the permitting process; and

Whereas, applicants (such as Millennium Bulk Terminals), communities, and tradesmen and tradeswomen should not be subjected to a permitting process that has still not reached completion after over five years of evaluations, studies, meetings, hearings, and reviews because such a timeline discourages true public involvement, erodes predictability for local contractors and their skilled craft workers, and dissuades private infrastructure investments and the community benefits they provide;

Now therefore be it resolved, that the Washington State Building and Construction Trades Council reaffirms its strong support for Millennium and pledges to continue to work in all possible ways for the successful permitting and construction of the Millennium Bulk Terminals project; and

Be it further resolved, the Washington State Building and Construction Trades Council calls on all affiliated Locals and members to participate in all public review processes to push for a reliable permitting timeline that will show businesses they can flourish in Washington State, and also to advocate for the high environmental standards, the quality jobs, and the local and state revenues this project will bring; and

Be it finally resolved, that the Washington State Building and Construction Trades Council will continue to communicate their support to Governor Jay Inslee, the Washington State Legislature and Congressional Delegation, statewide elected officials, and relevant federal, state and local government agencies.

Adopted August 11, 2017

opeiu8/afl-cio

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September 20, 2018

The Honorable John Barrasso
Chairman
Committee on Environment and Public Works
United States Senate
Washington, DC 20510

Re: Hearing to Examine Implementation of Clean Water Act Section 401 and S. 3303, the Water Quality Certification Improvement Act of 2018

Dear Chairman Barrasso:

On behalf of the Independent Petroleum Association of America (IPAA), thank you for your efforts to bring clarity to section 401 of the Clean Water Act through both your legislation and the committee hearing process.

IPAA's mission is to advocate for America's exploration and production segment of the oil and natural gas industry. Our goal is to ensure that members can develop and produce energy, which requires a robust, safe transportation system to deliver that energy to market.

The United States is leading the world in natural gas production, producing 78.9 billion cubic feet per day in 2017. Even as natural gas production has increased, the United States has reduced its carbon footprint more than any other nation in the world. Energy-related carbon emissions in the United States hit a 25-year low in 2017, a fact that can be directly linked to increased natural gas use for power generation. Electricity generation has turned increasingly to natural gas as a preferred means of generating power, with benefits of reduced emissions, efficiency, a critical companion to increased reliance on renewable energy, and reduced costs to electricity consumers.

Owing to this increased use of clean, affordable natural gas, the United States is expanding its economy, creating new American manufacturing jobs, and protecting the environment by using energy more cleanly and efficiently than ever before. Today, as the world's leading energy superpower, the United States is now in the unique position to export this clean, reliable energy source to our friends and allies and improve life for people and developing nations around the world.

IPAA members have encouraged this demand with technology that has tapped America's abundant natural gas reserves, and they continue with efforts to meet this demand in a safe manner. Construction of much-needed pipeline capacity will be stifled without a reasonable way to stop the overreach by some state regulatory agencies, as outlined in testimony and the letter submitted for the record by the Interstate Natural Gas Association of America. S. 3303 provides such an approach.

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