

October 1, 2013

To: Millennium Bulk Terminals-Longview EIS Co-Leads
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Re: Environmental Impact Statement Scoping Comment for Proposed Millennium Bulk Terminals at Longview, WA

I live in Bellingham, WA. I'm a native of the Pacific Northwest (born in Portland, OR). I've enjoyed outdoor activities, especially hiking and fishing, most of my life. I value the regional community, and I want to see it flourish. I also value the unique outdoor environment in this part of the country, and I want to see it protected for generations to come. I am deeply worried for many, many reasons about the harm both to the community and to the environment that would be caused by the proposed coal terminals. In this comment I want to focus on just one cause for my worry.

Along with other toxic heavy metals, such as mercury, lead, cadmium, and arsenic, Powder River Basin coal contains a significant amount of selenium. I am especially concerned about toxic effects of selenium on aquatic species and waterfowl in the vicinity of the proposed Millennium terminals and along the route of transport from Powder River Basin to the Pacific Coast. Transport of coal by train, storage at the terminal, and loading on to ships will release coal and coal dust onto the ground, into the air, and into water. While the selenium content of coal is less than that of some of the other heavy metals, it is also toxic in smaller amounts.

The New York Times ("Mutated Trout Raise New Concerns Near Mine Sites," Leslie Kaufman, February 22, 1012), reports that selenium contamination of just a few parts per billion can cause lethal deformities in a high percentage of the offspring of fish and also waterfowl. A simple Google search for "Selenium Toxicity in Fish and Wildlife" turns up scores of articles by researchers worldwide, including the US Fish and Wildlife Service, the US Bureau of Reclamation, and others.

In the Columbia River estuary, I am particularly worried about the effects of selenium poisoning on Dungeness crabs, salmon, and sturgeon. It also seems certain that the introduction of selenium into the marine environment and from there into the food chain will potentially affect all species. Some species, especially shellfish, have the capacity to "bioaccumulate" elements

such as selenium, thereby greatly increasing the potential for toxic effects for themselves and for any species that consumes them. In addition, because selenium is a naturally occurring element, and because it also can be introduced into the environment by other human activities, it may already be present in background levels that are toxic or that will leave little leeway for further contamination before toxic levels are reached.

For these reasons, I want the environmental impact statement to:

1. Determine existing background selenium levels in all areas that will be subject to coal dust accumulation both in the vicinity of the proposed terminals at Longview and along the rail route(s) from the Powder River Basin. This should include, though not be limited to, watershed areas along the Columbia River, all other riparian areas, and land and marine areas vulnerable to wind-borne coal dust in the vicinity of the proposed terminal and along the rail route(s) from the Powder River Basin.
2. Determine future “background” accumulations of selenium in all these areas that can be expected from current and planned and proposed future activities, including rail transport of coal along the route(s) to destinations other than the proposed terminal at Longview.
3. Determine existing and expected future background accumulations of selenium in watersheds of river systems where migratory fish, including salmon and steelhead, will travel upriver from areas with selenium accumulation, spawn, and die, thereby transporting selenium contamination upriver into the watershed.
4. Determine existing and expected future background levels of selenium in all aquatic and terrestrial species that will be subject to direct absorption from coal and coal dust from contaminated land or water, and/or absorption through consumption of selenium bearing animal or plant organisms.
5. Determine rates of bioaccumulation of selenium in both aquatic and terrestrial species that will consume and be consumed by other organisms as part of the food chain and the ecosystem.
6. Determine vulnerabilities to selenium toxicity of all threatened and endangered species, both aquatic and terrestrial, that may be subjected to increased selenium levels from coal and coal dust generated by the proposed project. Again, I refer to all aspects of the transport, storage, and handling of coal from the Powder River Basin to the proposed terminal at Longview, as well as its transport by sea from the proposed terminal.
7. Determine the economic impact of increased mortality of aquatic species resulting from increased selenium levels in all areas affected by the transport, storage, and handling of coal and coal dust from the proposed project.
8. Include in calculations of the quantity and range of coal dust dispersal and accumulation the prevailing wind patterns along the rail routes and in the vicinity of Longview. This must include the regularly occurring strong, east winds from the Columbia River Gorge, as well as the frequent, strong southwest winds common to the region.
9. Include in the calculation of the accumulations of selenium the amount that will be carried back in the atmosphere from the sites where the coal will be burned.
10. Determine vulnerability to selenium toxicity and rates of bioaccumulation in salmon that consume aquatic species that will be subject to increased selenium levels in all areas affected by transport, storage, and handling of coal.

11. Determine capacity for bioaccumulation of selenium in salmon that will be subjected to increased levels due to the transport, storage, and handling of coal and the impact on upriver species both aquatic and terrestrial that will consume these salmon after they have migrated upriver, spawned, and died. Since salmon provide the principal source of nutrition for plants and wildlife in Pacific Northwest watersheds, this implies virtually all wildlife in watersheds with runs of salmon and steelhead that may be subjected to selenium toxicity from the proposed project.
12. Determine economic impact of increased selenium levels for commercial, recreational, cultural, and tourism activities associated with oysters, crabs, and other shellfish. Evaluate this impact in the light of current and expected levels of bacteria contamination and ocean acidification, factors already recognized as threatening shellfish populations and thus impacting the human activities associated with them.
13. Base calculations of selenium accumulations on expected rates of coal and coal-dust dispersal from transport by train, storage and handling at the proposed terminal, and subsequent transport from the terminal by ship.
14. Base additional calculations on the amounts of coal and coal dust that will predictably escape due to mishaps caused by acts of nature and human error. These include, among other things, floods, earthquakes, train derailments and accidents, and shipping accidents. (There have been several train derailments with spilled coal in the national news in the short time since the application for the terminal at Longview was submitted. There was also a major collision of a coal transport ship with the loading dock at the coal terminal in Vancouver, BC, with major damage to the dock and coal spilled into the water [cf. The Vancouver Sun 12/8/12]).
15. Include in the analysis selenium and other heavy metals introduced into the environment by escapement of water used to cool coal piles and lessen the amount of dust picked up by wind.
16. Include in the analysis the coal dust blown off train cars by wind as they wait on sidings, especially along shorelines. Based on siding locations and wind patterns, certain could thus experience heavier than average exposure and accumulation. Returning train cars must also be counted, since they do not empty completely. This is true particularly in winter when the coal arriving from Wyoming is still frozen and tends to remain on the inside surfaces of the car when emptied.
17. Measure the effects of selenium accumulation on shellfish and other aquatic species in the context of increasing ocean acidification and bacterial contamination.
18. Analyze the above effects in the context of cumulative effects based upon total emissions of heavy metals not only from domestic emissions associated with this proposal but also with the atmospheric deposition burden of transport back to the U.S. from end use sites, and that also in terms of the cumulative deposition via atmospheric transport from increase in worldwide coal use.
19. The analysis must incorporate the project-specific and also cumulative effects on carbon dioxide emissions, not only on global warming-climate change, but also on OCEAN ACIDITY increases. Increases in ocean acidity will not only adversely affect all shellfish and calcium-dependent species, but may well lead to increased release of toxic heavy metals from ocean sediments and bedrock.

20. A similar analysis must be undertaken with regard to near-shore and deep oceanic sediment adsorbed anthropogenic pollutants that may be increasingly released as ocean acidity changes.
21. The *in toto* effect of all the above must be related to the survival and fecundity of all threatened and endangered species, state or federal that occur in the affected ecosystems which of course are worldwide. That analysis must also be extended to all species of commercial interest.
22. Assess the above impacts of selenium toxicity associated with coal transport, storage, and handling in a comprehensive, programmatic environmental impact statement that includes all coal terminals proposed in the Pacific Northwest.

I believe the concept of “mitigation” for these impacts is misguided. Many potentially affected species are already under stress and suffering declining populations due to various forms of toxic pollution and environmental degradation. These include species familiar to people in the Pacific Northwest -- oysters, orca whales, salmon (Chinook, chum, sockeye, and Coho in different locations), as well dozens more on the state and federal threatened and endangered species lists: American white pelicans, brown pelicans, bull trout, steelhead (various locations), Rockfish (several varieties), fishers, sea turtles (green, leatherback, loggerhead), whales (blue, fin, humpback, orca, North Pacific right, sei, and sperm), sandhill cranes, and sea otters, to name some. To risk further declines and potential extinction of these species by allowing a project which will surely result in increased introduction of toxic substances into the environment is simply unacceptable. The same applies to negative impacts on human health. The only reasonable approach is to speak of *guaranteed prevention*. Given the current, available means of transport, storage, and handling of coal and the established record of this activity, we believe that guaranteed prevention is not honestly possible. Any company or its representative that would offer such a guarantee could not possibly be doing so in good faith. The true costs involved in transporting, storing, handling, and using coal *safely and cleanly*, if this were even possible, would be simply too great for there to be any profit in it. I include in the true cost the so-called “external costs,” which typically are borne by communities, the general public, and the environment rather than the coal industry. The potential cost to human health and the environment from the accumulation and toxicity of selenium, along with that of other heavy metals, must be included in the assessment. If it is, we believe it will be obvious there is no satisfactory way the effects can be “mitigated.”

There are many alternatives to building a coal-export terminal at Longview that will work much better to help the local and regional economies, create good jobs, protect public health, and preserve the unique environment along the Columbia River, and along the rail route from Wyoming to Washington state. Longview, Cowlitz County, and the state of Washington should stay on course with existing initiatives to lessen rather than increase pollution in the Columbia River, protect existing jobs associated with shellfish harvesting and fishing, stop our use of coal for generating electrical power, and support research and development of wind and solar energy.

Thank you,
R.J.