COMMUNITYWISE BELLINGHAM
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GPT/BNSF Custer Spur EIS Co-Lead Agencies January 19, 2013

**Request for the Study of Coal Storage and Transport: Uncertainty Around Fugitive Dust and Toxic Leachates Needs to be Addressed.**

Communitywise Bellingham (CWB) has been identified by the EIS Agencies as a Key Stakeholder. We have been active in developing research and suggesting process for the last two years. Our focus is local, Whatcom County and Bellingham. This is one in a series of comments on specific aspects of issues.

In our investigations, CWB has found no area with so many isolated indications of potential problems and so little comprehensive study than fugitive dust and leachates.[1] The discussion below is meant to introduce the broad range of related issues.

Communitywise respectfully requests that the co-lead agencies examine all aspects of coal dust and leachates including their toxicology as well as containment management strategies for the full cycle of storage and transport. Among the areas that various studies should examine are:

- Coal dust control during rail transport and unloading including enclosed or lidded cars;
- Coal dust from storage piles and conveyer systems including full negative pressure containment;
- Coal dust generated while loading ship holds including fully sealed, negative pressure containment;
- Coal leachates from loaded coal gondolas with surfactants applied—toxicology and volume;
- The mapping of sensitive wetlands, waters, and grasslands over or along which leachates will be drained;
- Coal storage leachates at Cherry Point in regard to groundwater intrusion as well as the closed spray system;
- Possibility of directing both regular and hydraulic overload wastewater into a separate watershed from CPAR;
- Existence of any GPT-size coal terminal anywhere in the world that does not have these problems;
- Measures to ensure system risks are borne by applicants and not by any third parties or the general public.

We also request that The GPT EIS identify the coal dust management systems with the highest level of environmental performance and determine its level of relative protection against fugitive coal dust for the CPAR and adjacent areas.

[1] CWB visited with the Institute of Environmental Toxicology at Huxley College of Environment, WWU in November of 2011, and discovered that the lack of comprehensive study was so pervasive that it would require research beyond the reach of our budget to begin answering even the most basic question.

We also ask for a study to examine SSA Marine's proposition that they can achieve a zero coal dust problem for the terminal site. This should include the development of an enforceable means that ensures that any risks are assumed by the developers and not the public at large. A fundamental component of such a mechanism, given the fragility of the nearby environments, would be a monitoring regime that totally shut down operations at the first sign of fugitive dust or leachates and kept the operation shut down until they were analyzed and repaired to the satisfaction of an independent agency.

**Discussion**

CWB has found that not only are there a wide variety of issues that have not been adequately studied, but there are also different corporate sensitivities about what control strategies are brought to bear on the problems. For example, the plans submitted for the Ambre Energy project on the Columbia River proposes a much higher level of focus on containment strategies than GPT. Their terminal operations are to be carried out in a negative pressure environment. This includes multiple, totally enclosed coal pile storage areas, ALL conveyer systems, and even their own water loading facilities with the goal of preventing the escape of fugitive coal dust. We do not have the expertise to know how well that process will work or hold up under normal use and maintenance, but it is hard not to see it as a higher level of commitment to environmental controls than GPT.

Plans submitted for GPT have none of these features.[2] Their plans follow in the main what many consider failed industry-wide control strategies like those at Westshore Terminals in Canada. It seems intuitively obvious that the Ambre approach has greater chance of success. Some features of the GPT plans could actually worsen typical coal dust problems. Examples are the higher volume coal loading snouts and the partial enclosure of coal piles could actually worsen typical coal dust problems.[3] The GPT EIS should therefore identify the systems with the highest level of environmental performance and determine its level of relative protection against fugitive coal dust for the CPAR and adjacent areas.

Coal is a toxic substance and the many effects of wind borne fugitive dust and water borne leachates from coal storage piles have long been observed. Coal storage piles exist in many different environments from mines to shipping terminals to power plants. They are stored adjacent to salt water, fresh water (streams or lakes), wetlands and dry land environments. In some fresh water instances, select aquatic plants grow bloom while others die; in others the abrasive effect of dust particles damages aquatic plants. Cautionary signs concerning potential consequences of wind and water borne coal byproducts abound. Photographs of the barren landscapes where coal transport or storage has been present for decades document the importance of these issues. No attention has been given in GPT plans to the toxic leachates from storage piles at Cherry Point nor the 136-acre feet of coal in each open-top train exposed to the heavy rains of the Pacific Northwest.

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[2] Both will capture fugitive dust at the stage of the tandem dumpers unloading trains. This has become a standard feature not only to reduce dust problems but also to reduce product loss.

[3] The rate of injection from the conveyor system into the open cargo hold of a cape-size vessels generate the bulk of fugitive dust directly over the water, potentially creating an aquatic dead zone such as that at the Westshore coal export terminal in British Columbia. GPT plans call for higher volumes and faster injection rates to speed ship loading. In the absence of needed topographically correct wind tunnel tests, we suggest that the simple experiment of placing an open cardboard box of ash out in a wind storm will indicate the potential for turbulence and wind vortexes that could potentially distribute fugitive dust further and in more dense plumes with any partial enclosure scheme.

We are aware, however, that there is no proven technology at any coal terminal of this scale anywhere in the world. We understand that the proponents claim this can be done, and they are the ones that can do it (even if their control proposals seem to fall far short of others).

The proponents say they are willing to bet that they can have a zero coal dust problem solution. Then, if the permit is to be issued, it needs to be conditioned on the developers assuming the full risks of the bet they are willing to take. Nobody wants an "ah well, there used to be a good Salish Sea fishery" moment sometime in the future.

That is why we ask for a study to examine this proposition and develop an enforceable means that ensures that any risks (be it they are simply wrong or that controls deteriorate in effectiveness over time) are assumed by the developers and not the public at large. A fundamental component of such a mechanism, given the fragility of the nearby environments, would be a monitoring regime that totally shut down operations at the first sign of fugitive dust or leachates and kept the operation shut down until they were analyzed and repaired to the satisfaction of an independent agency. Another important component would be to establish a bonding or other mechanism to hold the financial entities behind this project fiscally responsible for any damages so that they cannot shift the burden of risk onto the taxpayer by the use of limited liability subsidiaries.

**Coal Train Transport**

The one industry study we located on fugitive dust from coal trains may be the basis of industry claims that "most" fugitive dust comes off in the early part of the trip. It is a small study that does not include adverse environments like high winds, but it does establish a few important factors to guide future study. First is the obvious corollary to the fact that "most" coal dust escapes early which means "some" coal dust continues to escape. The study also identified factors which most affect that further escape: (1) acceleration and deceleration; and (2) passing trains on adjacent tracks. This is important because the 1,100+ mile rail corridor from PRB to Cherry Point is a single-line mainline. This is very unlike the major 3- and 4-track mainline corridors the coal now takes to power plants in the East and South. With a single line mainline there are closely spaced sidings to handle traffic with a 24/7 orchestrated stopping, starting and passing regime—the worst case for fugitive coal dust.

There has been no rigorous independent study of the techniques that the industry now presents as "having solved the dust problem." The shaping the tops of coal car loads and then spraying it with one of several surfactants has reduced problems near the mines, but the misshaped tops of many cars that pass through Bellingham clearly indicate shifting loads. GPT plans to transport 53 million shorts tons a year through Bellingham - about the same tonnage of rail freight that now goes to the entire State of Washington (including container export terminals). Plans for allowing that capacity to pass through Bellingham involve one or more additional sidings here.

Any Bellingham sidings as well as the required Samish siding extension will routinely store open-topped coal trains with leachates draining directly through the ballast and rip rap into the Salish Sea. The same Salish Sea situation exists for much of the route South of Seattle and then for rivers, lakes, wetlands and other sensitive areas as the route heads back east up the Columbia from Vancouver WA.