

Millennium Bulk Terminals—Longview Health Impact Assessment Steering Committee Meeting Summary November 14, 2016

INTRODUCTION

The Millennium Bulk Terminals—Longview (MBTL) Health Impact Assessment (HIA) Steering Committee (Committee) met on Monday, November 14, 2016, from 1:00 p.m. to 3:00 p.m. at the Longview Public Library. Meeting materials are available at <http://www.millenniumbulkeiswa.gov/hia-documentation.html>. The following members of the Committee were in attendance. Sixteen members of the public also attended.

- Neil Agren, Cowlitz 2 Fire & Rescue
- Stella Anderson, RN, Resident
- Octavio Camba, Lower Columbia College
- Dian Cooper, Family Health Center
- Sandra Davis, Resident
- Bryce Divine, Longview Commercial Fishing
- Gary Fredricks, Washington State University Extension Longview, Co-Chair
- Steve Kutz, RN, MPH, Cowlitz Indian Tribe
- Bob Little, Highlands Neighborhood, Co-Chair
- Jason Lundquist, International Longshore and Warehouse Union, Local 21
- Mary Jane Melink, Councilmember, City of Longview, and The Health Care Foundation, Co-Chair
- Kathleen Patton, Faith Community
- Ted Sprague, Cowlitz Economic Development Council
- Mike Wallin, Councilmember, City of Longview

Participants from Cowlitz County and the Washington State Department of Health (HIA co-lead agencies) also attended.

- Rad Cunningham, Epidemiologist, Washington State Department of Health, Healthy Community Design
- Nick Fazio, Assistant Long Range Planner, Cowlitz County Department of Building & Planning
- Michael O'Neill, Healthy Communities Lead, Cowlitz County Health & Human Services
- Jennifer Vines, M.D., Cowlitz County Health Officer, Cowlitz County Health & Human Services

WELCOME AND ANNOUNCEMENTS

Mr. Fazio welcomed everyone and reviewed the ground rules for the meeting, reminding attendees the meeting is a Committee work session for the Steering Committee. He noted that members of the public could observe and provide comments during the 15-minute comment

period at the end of the meeting or submit written comments on the comment forms provided. He announced that, contrary to the agenda, there would be no presentation by an HIA expert, because no presenters were available.

The Committee reviewed and approved the October 31, 2016 meeting summary and the Steering Committee Collaboration Agreement. These documents are available on the HIA website: <http://www.millenniumbulkeiswa.gov/hia-documentation.html>.

HIA PROJECT SCHEDULE

Mr. Fazio distributed the MBTL HIA Project Schedule for Committee review and comment. No comments were made.

PUBLIC INPUT PLAN

Mr. Fazio distributed a draft Public Input Plan, which the Committee reviewed. The Public Input Plan confirmed Mr. Fazio would act as the public comment handler and comments may be submitted directly to him. His contact information, as well as a blank comment form, will be posted to the HIA website. The Committee deliberated and approved the Public Input Plan with the caveat that it can be amended at a later date if the Committee would like to do so.

IDENTIFY WHICH SCIENTIFIC EXPERTS TO PRESENT AT FUTURE MEETINGS

The Committee discussed topics they would like learn more about at future meetings.

Mr. Cunningham shared that previously mentioned HIA experts are not available on Mondays and, therefore, were unable to present at today's meeting.

Ms. Cooper would like to hear about the current health burdens of the Longview community, particularly noise and water quality issues. She would also like to hear from someone who has experience with the HIA process.

Mr. Fredricks asked if everyone understood the current baseline of the communities' health. The consensus was that the group did not know of a health baseline for the community.

Mr. Wallin suggested the Committee hear from an air quality expert to better understand how air quality in the Longview community is monitored. He suggested the Southwest Clean Air Agency as a resource for presenters.

Ms. Cooper would like to learn more about the 135 living wage jobs expected to result from the MBTL project and how they will affect the health of the community. Mr. Cunningham responded that he is identifying an economist to present on the topic of how economic development directly relates to community health.

Ms. Davis suggested the Committee hear from Dr. Alice Sutter, a noise expert, on how noise affects mental health and stress.

Ms. Patton expressed an interest in hearing more about air quality and diesel particulates.

Ms. Davis asked if it would be possible to have a presentation made by someone who worked on the Oakland Health Study (*An Assessment of the Health and Safety Implications of Coal Transport through Oakland*, available at <http://www.millenniumbulkeiswa.gov/hia-documentation.html>).

Ms. Cooper would like to learn more about how water runoff from the property could affect water quality and fish in the Columbia River.

Mr. Lundquist suggested the Committee hear about rail traffic impacts associated with increased rail traffic.

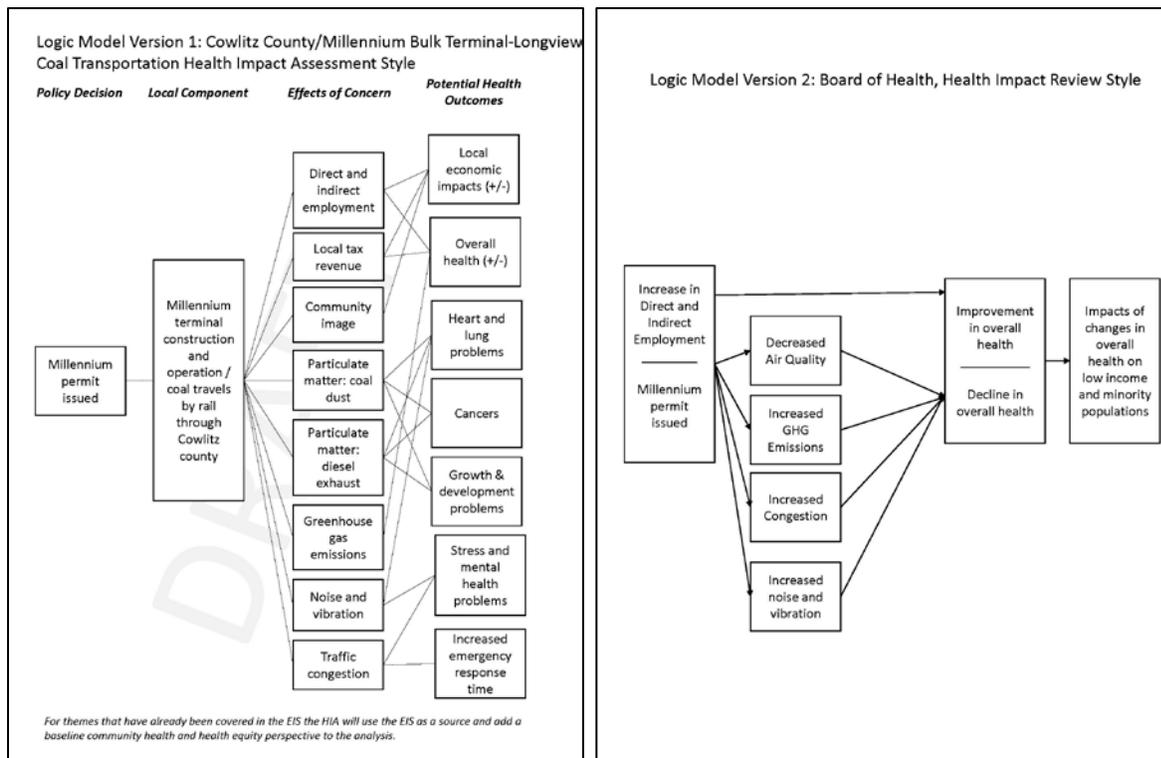
The following topics for presentation emerged from the Committee's discussion and were ranked in order of interest.

1. Air Quality/Respiratory Dust and Diesel Particulates – Identify the current air quality baseline and understand the impacts of the added train/ship traffic and diesel particulate matter; learn how particulate matter (PM) 2.5 affects the lungs.
2. Baseline Community Health Profile for Cowlitz County – Include current cancer and asthma rates, existing air pollution concerns, and children's health.
3. Economics – Identify the possible impacts from a surge in construction-related growth and decline during operations.
4. Rail – Discuss the traffic effects from increased rail traffic (possible presenting agencies include BNSF, Union Pacific, and the Washington Utilities and Transportation Commission).
5. Water Quality – Understand the possible effects of polluted runoff to the Columbia River.
6. Noise – Identify how noise can affect a community's mental health.

The co-chairs and Mr. Fazio will work together to identify and schedule speakers. Questions for invited speakers will be generated by the Committee.

WORKSHOP – LOGIC MODELS TO DEVELOP HIA QUESTIONS AND RESEARCH TOPICS

Mr. Cunningham distributed two example logic models for the Committee to refer to during the workshop.



The Committee broke into two discussion groups. Using the logic models as a guide, each group was tasked with developing research topic questions and identifying connections between project impacts and Cowlitz County health. The outcomes from the two groups are presented in Attachment A.

Following the logic model work session, the Steering Committee reviewed the results from each group and voted to rank topics of highest priority. These topics were:

- Air Quality Impacts
- Baseline Community Health Profile of Cowlitz County
- Economic Development Impacts
- Rail Traffic Impacts

Mr. O'Neill and Mr. Fazio will organize and prioritize the list of topics, based upon the Steering Committee's ranking. From this organized list, specific research questions will be generated for Mr. Cunningham.

PUBLIC COMMENT

Seven oral comments were presented at the end of the meeting during the public comment period. A total of 11 written comments were received for records (including written versions of the seven oral comments). A transcription of all comments is presented in Attachment B.

ACTION ITEMS

At the close of the meeting, the County and State representatives agreed to do the following.

- Post the following items to the HIA website:
 - Final Steering Committee Collaboration Agreement
 - summary of the October 31 Steering Committee meeting
 - blank public comment form
 - Mr. Fazio's contact information
- Use today's workshop outcomes to organize HIA topics and identify questions for research.
- Schedule presenters for upcoming Steering Committee meetings.

Steering Committee members were asked to complete the following before the November 28, 2016 meeting:

- Review the MBTL HIA project schedule
- Review the draft summary for the November 14 Steering Committee meeting

In addition, the Steering Committee co-chairs will coordinate with Mr. Fazio to create the agenda for the November 28 meeting.

SCHEDULE OF UPCOMING STEERING COMMITTEE MEETINGS

- Monday, November 28, 2016, 1:00 p.m. to 3:00 p.m., Cowlitz County Training Center (The Boat House)
- Monday, December 12, 2016, 1:00 p.m. to 3:00 p.m., Cowlitz County Training Center (The Boat House)

Attachment A

Possible Research Topics Developed during a Brainstorming Session by the Steering Committee for the Health Impact Assessment

During the November 14, 2016, Health Impact Assessment Steering Committee meeting, the Steering Committee broke into two discussion groups. Each group was tasked with developing research topic questions and identifying connections between project impacts and Cowlitz County health. The outcomes from the two groups were as follows.

Air Quality

- What is the effect of decreased air quality on youth and young people?
- What about the effects of decreased air quality on other “special populations” (elderly, pregnant women, children and people with preexisting respiratory illness)?
- How will decreased air quality affect people over the course of their lifetime, as they age from young children into older adults?
- How will the decrease in air quality affect asthmatics? And other people with preexisting respiratory illnesses? Will this project impact their ability to breathe?
- Where do prevailing winds come from? Will they carry pollution into certain neighborhoods? How far will winds carry dust and other particulate matter? Do the winds carry particulate straight to schools, hospitals and neighborhoods?
- What are the long term effects of Coal dust exposure? Is it like asbestos in terms of illness is not apparent, even after a few years in some cases?
- What about smokers in the area? How will they be impacted by poor air quality? Do we have a smoking program to try and head off some of this illness at the pass?
- How much of an increase above current levels of diesel particulates and other small particulates will there be? What impact will that increase have on health?
- What will the impact on air quality be as a result from traffic congestion due to increased rail use? Will people be adversely affected by the extra smog and vehicle emissions?

Populations

- How many schools are within a 2 mile radius of the tracks?
- How many schools are within a 3 mile radius of the tracks?
- How will these youth be insured?
- What about children born into a polluted environment. What type of pre-natal and neo-natal complications will arise?
- How will the most “proximate” populations be impacted? Especially those living in the Highlands neighborhood and other homes right by Washington Way.
- In areas of the most impact, will things get better or worse? What about in the nice areas of town?
- What is the net impact on the most affected areas?

Economics

- Will those that can afford to leave do so? Will people who cannot afford to leave be left with no option for moving away from pollution and nuisance?
- Will the project bring in other businesses? Or will the project drive other businesses away?
- How will this affect the unemployment rate?
- Where will the extra tax money go? Does it go to the County? Does it get split up between agencies, jurisdictions, the State or the Federal government?
- How does and increased tax base improve health?
- Will there even be an increase in tax base?
- What health-related amenities or services are even funded by taxes?
- Who funds the Community Health Centers?
- Does economic prosperity positively affect health? Does it affect health for all or health for just the ones engaged with the economic prosperity?
- Will economic prosperity trickle down or translate to the Highlands neighborhood?
- What types of jobs are here in Cowlitz County? What is the job breakdown by industry? Is Cowlitz County going to remain a town built on industry? Is it even that way today? Isn't the economy of the future in services and knowledge?
- What will happen if Millennium goes bankrupt? Or decides to leave?
- What jobs are going to be here in the future and will those be impacted by the terminal?
- What does it mean for health in regards to an industry tax base vs. a residential tax base?
- Are there tax incentives that Millennium is getting for construction, operation or otherwise? Are we actually paying to have Millennium come here? What type of tax loopholes are they using to not pay their fair share? Are they getting tax cuts from the County? Will there be industrial tax holidays or exemptions on machinery purchases, raw materials etc.?
- How many of the projected jobs will come from the area, or even the USA? Will professional level jobs come from this country or will they bring in professionals from other countries with larger coal industries such as Australia, the U.K. and China?
- How viable is the coal industry? Will we still be using coal in 20 or 30 years? What will happen to all those "coal" jobs? Do they have a contingency plan so that the county doesn't experience a shock if something happens? What accountability to the community does Millennium have?
- What is our baseline job status? What are current rates of unemployment, poverty, insured rate etc.?
- Will there be an increase in local tax revenue? How will this contribute to infrastructure and projects that support health?
- What is the economic impact of increased river traffic and how does that affect health?
- Would there be more economic benefits from a different project in the same location (ie. like riverfront commercial/residential development, or non-harmful industry)?
- May we look at before/after examples similar communities where a coal terminal has been built – what were the economic impacts in those places? Did those communities become more or less healthy?
- What is the economic analysis that includes 135 direct jobs? Can we measure the impact of indirect jobs as well?
- What are the economic impacts specific to Highlands neighborhood residents?
- How will rail traffic impact existing businesses and the economy?

Livability/Quality of Life/Identity

- What about transportation funding? Will it be impacted by Millennium?
- How does transit make us healthier? Will RiverCities Transit be funded better or more consistently with this project? Will transit services be disrupted, either during construction or after during operation? Will transit serve the project site? Are there plans for bike infrastructure to go to Millennium?
- How will our community image be affected? Will the project negatively impact tourism and visitors to the area? Will our recreation economy be put in jeopardy?
- Will housing values increase or decrease?
- How will this affect future desirability? Will Longview become a more livable place or a less livable place? Will young people want to move out in higher proportions to escape industry and pollution?
- How will the identity of a “coal town” affect our collective health? What about our civic pride? Does that have an effect on mental or emotional health?
- Will the project lead to increased rents? What will be done about the housing crisis in Cowlitz County? If the project plans on hiring all these new people, where will they live? Will Cowlitz County find a way to accommodate them? Where are the new houses or apartments?
- Will low income renters be affected by rising rents?
- What is Cowlitz County’s role as a bedroom community for metro Portland? Will it remain a bedroom community for Portland if the terminal gets built? What type of community do we want to be? Will we be able to attract young families with kids to the area of the coal terminal is built? Will everyone by-pass Cowlitz County in favor of Clark County?
- Company stewardship of community
- Are recreational opportunities enhanced or diminished (e.g. walking trails, recreational boat use, etc.)
- Community Image – economic impact of having largest coal terminal in west coast – will this attract or deter other businesses/industry from locating here – will it keep people from living in the community and contributing to tax base
- Consequences of new employment on utilization of existing infrastructure (e.g. schools, medical, etc)
- How will increased rail traffic affect emergency response time? What will the impacts be in neighboring communities that access St. Johns for emergencies (include 911 call data from Rainier and surrounding areas accessing St. Johns)?
- Will traffic congestion increase from higher rail use and what is that impact on health?

Other

- What will happen to our neighborhoods and economy if there is a problem with the Coal Terminal (like an explosion or accident)? What will happen if there is a perceived problem, even if the problem never happens?
- Can we look at other country’s health systems? How do they address coal related respiratory illness? Do they have these large coal facilities? What was their public process like? Did people have the chance to review the environmental impacts and health impacts for the coal terminal in Australia? Or was it built before there was an awareness? Were people locked out of public participation for these projects in other countries that are up and running?

- What about development adjacent to other coal terminals? Can we look at other examples worldwide to identify if they are building housing and developing urban spaces next to these terminals?
- What are the potential impacts of climate change on Cowlitz County residents, their health and the linkage to increased CO2 from project?
- How will increased light pollution affect people?
- How does train and brake noise affect our health? Will we be able to sleep at night? Will there be a reprieve or will we be dealing with the stress of 24-hour continuous operation?
- Are there any potential concerns for farmland in Woodland or other areas that could be exposed to pollutants? Could these pollutants impact food production and therefore our health?
- What will be the contamination impact on rivers and other nearby waters be like? Will pollutants or coal dust blow-off the stockpiles and cause health impacts to our drinking water and fish we eat?
- What are the cumulative impacts of the accumulation of pollutants over the life cycle of the project?
- Do we need a cost-benefit analysis of increased health care costs from more disease burden versus reduced health costs from increased economic prosperity?
- What are the health impacts in Kalama & Woodland that are subject to environmental exposure?

Corporate Responsibility/Environment

- How will the site be cleaned up after use? What will prevent pollutants from being left behind? If abandoned, what potential health impacts will result from the brownfield site?

Mental Health

- What are the impacts on depression and mental health from increased employment?

Attachment B

Public Comments Received at the November 14, 2016, Health Impact Assessment Steering Committee Meeting

Eleven comments were received during the public comment period at the end of the November 14, 2016, Health Impact Assessment Steering Committee meeting. Below is a transcription of the seven oral comments heard during the public comment period. The additional four comments were received as written comments and are transcribed below.

Verbal Comments

1. **John Flynn, Kalama, Washington** – *I retired from Union Pacific Railroad in September of 2010 after a 37-year career in the track department. I originally hired out as a track laborer and over the years worked my way up to Manager Track Maintenance and Manager Special Projects, focusing on construction, maintenance, and inspection of track. The last two years of my career was spent living and working out of Helper, Utah, on the double track between Price and Provo, Utah, over the Wasatch Mountains. I can attest from personal experience and observation to the presence of coal and coal dust along the right of way lost in shipment from coal trains. There were three coal loading facilities serviced by Union Pacific and Utah Railway along this route at Price, Castle Gate, and Schofield, Utah, where coal was loaded into unit trains for shipment to various destinations. Not only does coal and coal dust lost from gondolas during transit have a negative impact on the track structure resulting in fouled ballast and subsequent degraded track geometry, I also believe it has a significant harmful effect on the surrounding environment, not only to the soil and water but to the species that live in that environment, whether they be animal or human. In support of that opinion I submit two articles. First is a photo chronology of coal along the BNSF right of way near Columbia Hills State Park adjacent to the Columbia River east of Dallesport, Washington. Not only does the chronology demonstrate the presence of coal along the right of way and the river, it also shows a BNSF contracted hi-rail vacuum truck attempting to remove coal and coal dust from the track and shoreline near Horsethief Butte. In my opinion this attempt to remove coal dust and coal from the right of way near publicly accessed locations in the Columbia River Gorge is an attempt by BNSF to hide the fact from the public that coal is lost from open topped gondolas all along the transit route of unit coal trains from the source mines to the point of destination. Not only is coal lost from the top of the cars but also coal dust is lost from the bottom of the cars, particularly the bottom discharge gondolas. Secondly I submit a BNSF Statement on Surface Transportation Board Coal Dust Decision, which has been in effect since October 2011. In this article, available on the BNSF website, are responses to frequently asked questions regarding mitigation of coal dust loss, shipper requirements to comply with the Load Profile Template, and to apply a surfactant to reduce coal and coal dust loss in transit by 85%. Despite these mitigation measures an estimated 500 pounds of coal is lost per car in transit from the mine source to the point of destination. With an average of 120 cars per unit train that equates to 30 tons of coal lost along the railroad right of way per train. If there are eight loaded trains per day projected to be shipped to this proposed facility that equates to 240 tons of coal per day or 87,600 tons of coal per year distributed along the railroad right of way and into the surrounding air, soil, and water. BNSF is currently being sued in federal court for allowing coal and coal dust to enter waterways, especially the Columbia River along their track in violation of the Clean Water Act. When coal is exposed to water it leeches contaminants of lead, mercury, arsenic, cadmium, barium, chromium, and selenium into the water, which is harmful to aquatic species as well as to humans. In addition, the coal dust and diesel particulate matter from these coal trains consist of 50% black*

carbon containing silica that can cause asthma and emphysema. In sufficient concentrations these contaminants lead to black lung disease and lung cancer resulting in death. Based on this documented evidence and with concern for the health and wellbeing of your fellow citizens I urge you to take opposition to this proposed coal terminal.

2. **John Steppert, Longview, Washington** – *I live in Longview. Does this committee understand that each day 8 trains of coal will dump their loads? Only one third of the conveyor unloading system is covered. The MBTL project just from coal dust alone is a health impact. How many of you have read Oakland HIA?*
3. **Chris Turner, Longview, Washington** – *As we speak, the Sierra Club, Friends of the Gorge, and many other organizations are suing BNSF Railroad for violating the Clean Water Act due to the pollution from coal dust into the Washington waterways. (Primarily the Columbia River Gorge National Scenic Area.) Wasco County, this last week, denied a permit application to allow Union Pacific Railroad to expand their rail system by double tracking 4.02 miles in the Columbia River Gorge National Scenic Area. This Union Pacific rail expansion would have: 1) Allowed more than 50% variances to the buffer zones and setbacks. 2) Placed train tracks in the buffer zones right next to the Columbia River. 3) Would have allowed coal cars to expel coal dust/sledge directly into the Columbia River Gorge National Scenic Area. 4) Used the Gorge as a train yard, train parking lot. 5) Disconnected state parks from recreation areas. 6) Filled in wetlands that couldn't be mitigated within the Gorge. 7.) Compromised access to the Columbia River. 8) Blocked scenic views from view points and the roadway. 9) Increased rail traffic, number of trains, and length of trains. The Millennium DEIS is calling for expansion of the rail lines. Longview railway junction is already in the process to add extra rail capacity. Per the DEIS, without increasing the capacity of our rail lines, in the near future, Millennium's eight trains a day would overburden the system. Without relieving the bottleneck through the Columbia Gorge, including Mosier, the increased capacity in Longview will be useless. The Columbia River Gorge, National Scenic Area is undeniably the most direct route from the mines to Longview. Unfortunately, the Gorge is geologically unsuited because of the lack of buildable space to expand the tracks. Union Pacific Railway has admitted that approximately 500 lbs. of coal/coal dust per rail car is lost during shipment. That's 62,500 pounds per (125-car) train. Millennium will run eight coal trains per day. That will be 500,000 pounds of coal lost a day. That's 15,000,000 pounds a month. That's 180,000,000 pounds per year. Even though the trains have had hundreds of miles of expelling coal dust/sledge, there is still pollution above the trigger limits when they reach Longview. At the Port, more coal dust and contaminants will be lost to the ground, groundwater, air, and the Columbia River. Even in the Millennium's DEIS, it admits that the coal dust will blow 1,000 feet into the river. Causing vegetation to lose sunlight and the fish to strangle on the coal dust. What businessman would allow the loss of a third to a half of his product during shipment? No other product that we have to deal with is shipped by rail in open containers with absolutely no way to mitigate the pollution effects or prevent the loss of the product. Mitigation methods to prevent fugitive coal dust emissions are not effective such as: 1) Rail car covers – Approximately 7% of dust leaks out of the bottom-unloading cars in transit. 2) Load Profiling and treatment with surfactants – Topping agents may have negative aquatic and environmental effects. Surfactants can boost the ability of coal pollutants to enter the environment. Surfactants in the best of circumstances may reduce fugitive emissions by only 85%. Fugitive coal dust has been shown to cause derailment by depositing dust on the tracks degrading the rail bed. 3) Fully enclosed facilities – Increase risk of explosions. They do not eliminate the pollution from railcars waiting to be unloaded or coal dust when loading the vessels. There are apparent deficiencies in our studying the Millennium Bulk Coal Project. 1) An Air Quality Monitoring Station needs to be built close to the Kalama Industrial Area. The monitoring station in Longview is just too far away to be useful. 2) There needs to be an*

increased number of water quality test locations in the Columbia River. 3) The Columbia River Gorge, National Scenic Area should be included in this DEIS report. The Gorge area has some of the most direct impacts of this whole project. 4) Monitoring coal dust emissions over the trigger limits in Longview will only confirm their existence. However, since there are not any appropriate mitigation methods to correct this issue, the Millennium Coal Terminal should be denied. Please read the document "An Assessment of the Health and Safety Implications of Coal Transport through Oakland June 14, 2016". It documents the technical health hazards of coal dust and gives an accurate assessment of the dangers of living with a bulk coal terminal. Their summary notes: Increased hazardous air pollutants, increased mortality, an inability to meet air quality standards. The study area of Millennium's DEIS acts as though the rail cars are just dropped in Longview. It ignores the direct impacts to communities along the rail route and our beautiful Columbia River Gorge National Scenic Area.

4. **Kim Metzger, Kalama, Washington** – I want this Health Impact Assessment to examine exposure to arsenic and other hazardous toxic pollutants. Who is most vulnerable to the impacts of arsenic and who will pay? Please help us answer these questions. I'm going to read directly from an article on the HIA website: *An Assessment of the Health and Safety Implications of Coal Transport through Oakland*. All citations can be found there. "Arsenic. Arsenic, also a component of coal, affects many organ systems. Exposure can occur through contaminated water or by inhalation. Some of these toxic effects occur with chronic, low levels of exposure. For this reason, government agencies in several countries have progressively decreased the maximum allowable dose of arsenic in drinking water. There are a few promising treatment methods. IARC has listed arsenic as a human carcinogen since 1980. Arsenic is unique in that it is the only known chemical carcinogen for which there is strong evidence of cancer risk by both inhalation and ingestion. Arsenic exposure is associated with a number of tumor types including skin cancer, bladder cancer, and lung cancer. Arsenic also has deleterious effects on the nervous system. Long-term exposure may result in neurobehavioral effects in adolescents. The problem may be more severe if lead exposure is also present. Arsenic peripheral neuropathy, including sensory loss, pain and muscle weakness, is well-described. Children's intellectual function can be decreased by arsenic exposure. Arsenic is a reproductive toxin, exposures leading to fetal loss and premature delivery. Studies have documented a relationship between arsenic exposure and diabetes. A U.S. study concluded that even low levels of inorganic arsenic may play an important role in increasing the incidence of type 2 diabetes. Long-term exposure to arsenic may also increase carotid atherosclerosis. Long-term exposure to arsenic also results in an increasing incidence of respiratory disease, including chronic bronchitis. Many of arsenic's toxic effects occur at relatively low levels of exposure. The most vulnerable populations include the very young, pregnant women, those who are also exposed to lead and those who have risk factors for or a family history of Type 2 diabetes mellitus. Please include this information in the HIA Study. Thank you.
5. **Linda and Larry Horst, Kelso, Washington** – We request the Health Impact Assessment address the following questions: 1) How many rail crossings are there along the rail corridors that will be used by 16 coal trains coming into MBT and leaving MBT within Cowlitz County? 2) How many of these rail crossings are unprotected? 3) What are the costs to provide protective barriers at these crossings and who will bear these costs? 4) How often and for how long will these crossings be blocked by the increased rail traffic en route to MBT? Delay should be calculated for each crossing to account for differences. 5) How many times daily do EMS vehicles, including police, fire and medic units, cross rail lines? An ambulance may need to cross twice to get a patient to a hospital. 6) What will be the cumulative and per incident delay in access to these services caused by rail traffic en route to MBT (including actual blockage of the crossing, as well as alleviation of resultant congestion)? Please again note that an ambulance needs to cross twice to get a patient to a hospital. 7) How many people

are affected at each crossing, based on current and projected populations? 8) What crossings and locations are most likely to result insignificant delays at crossings? Are there environmental equity impacts? 9) How often and where are there alternative crossings? How much time is lost to route through alternate crossings, rather than the shortest route? 10) Is there any current system to alert EMS vehicles of impending crossing closures? 11) How much would such a system cost and who would bear the cost of developing such systems? 12) How does backed up traffic at crossings and the dispersion of that traffic effect EMS response times? 13) How often and to what severity will these delays in EMS response times lead to delays in care and to otherwise avoidable outcomes such as death or permanent disability? 14) What is the amount of healthcare cost attributable to patients receiving delayed EMS services as a result of increased rail traffic? 15) How will the project applicant mitigate these impacts (grade separation at crossings, construction of new hospitals, and support for additional paramedics, medivac services, etc.?) Would Cowlitz County residents bear some or all of these costs? 16) How many rail crossing accidents, injuries, and deaths will be attributable to increased rail traffic en route to MBT? 17) What is the anticipated cost of these accidents, including anticipated litigation and long term care costs? 18) How many coal train derailments would be anticipated to occur over time? 19) Where are the likely sites of these derailments, and do any of these potentially dangerous or inadequately designed rail lines or bridges threaten the health of our community or our Columbia River?

6. **George Robertson, Longview, Washington** – *I have lived in Longview since 1969. This is the most fabulous recreation area in the whole country. The Columbia River is a big part of that. My son owned a sailboat at the Yacht club and we would race once a month from the buoy at Stella up around Walker Is. Large ships were always a problem as you had to maneuver around them and turn in to their wakes, or get overturned. I have seen wakes as big 4-5 ft. Sport fishermen are also affected by the wakes. Another problem with Wakes is shoreline erosion. I have articles from the Daily Hew going back to Jan 4th 2004 up to Aug 11th 2016, showing homeowners on Puget Is. Losing land to ship traffic. I remember they had to build a new road at the Julia Butler Hanson wildlife Sanctuary because of Wake erosion. Now you want to add an additional 5 ships a day. I'm sure the ships you are talking about will be much bigger and heavier than previous ones. The heavier the ship, the bigger the wake. I remember seeing one child almost get washed away at Willow Grove by a wake, luckily her father caught her in time. Can you guarantee that you won't be causing massive shoreline erosion by these ships?*
7. **Katie Frei, Longview, Washington** – *I have lived in the lowlands of Longview near Mint Valley for 39 years. I have always exercised. I eat my fruits and vegetables, I don't eat sugar, and I have never ever smoked. I was completely taken off guard in 2012 when I was diagnosed with stage four lung cancer – stage four meaning the tumor in m lung is inoperable and the cancer had spread to my spine. There is no cure, only treatment. The cancer has now spread to both lungs, my abdomen, liver and breasts. I have had 25 cycles of chemo. Chemo is nasty and I wouldn't wish this treatment on anyone. Cancer is a disease that affects more than the individual; it affects the entire family and many more. Lung cancer kills more people than breast, prostate, and colon cancer combined, it alone accounts for 27 percent of all cancer deaths and lung cancer can be directly related to air pollution. Air pollution is worse than second hand smoke. Nonsmoking lung cancer is pollution and affecting younger people. Treating lung cancer is extremely expensive in the U.S. where illness is a for profit business. I take one prescription that costs \$13,000 a month. Add the cost of scans, lab work and doctor visits and it's overwhelming. It pays to keep the air clean and people healthy. I want you to be aware that in other, more socially developed countries, where health care is considered a basic human right my medication is much less expensive, or even free. I have attended several meetings related to health and the transport of coal. I have yet to hear any oncologist, pediatrician, nurse or physician assistant*

who is in favor of the transport or burning of coal and who is not concerned about the mortality and morbidity the pollution will cause. Several trains loaded with coal will be passing through the residential area of the Highlands daily. Coal cars lose dust, and that dust contains carcinogens. The many Diesel engines needed to move coal to the terminal will be polluting the air with particulate matter known to penetrate deep into the lung fields, causing inflammation there, and the crossing into the bloodstream and throughout the body – even crossing the placental barrier and interrupting the developing child. This pollution is associated with asthma, breast cancer, lung cancer, neural development disorders in children, heart disease stroke and COPD. The coal dust and air pollution will settle where the children of the highlands play. Coal dust is known to travel by wind throughout a 10 mile radius, so it will be in my backyard and maybe your backyard as well. The most basic needs of children are clean air, clean water, clean food, shelter and the love of adults. If this project is blocked, we can help secure the basic needs and save hundreds of thousands of dollars in health care costs. There is no profit to be made by the transportation and burning of coal. Especially considering the health of the most vulnerable among us.

Written Comments

8. **Mary Lyons, President, Landowners and Citizens for a Safe Community – Fire!** *This HIA should address fires and analyze how these may cause burn injuries and respiratory problems, even dislocation and death, for individuals working in and living near the terminal. It should also study impacts to people living along the rail route, including low-income individuals and communities, minority populations, and individuals with pre-existing respiratory disease. I will submit citations supporting my testimony to the HIA Steering Committee. MBT will be dealing with a hazardous type of coal. Powder River Basin (PRB) coal is notorious for the hazard it presents regarding fires and explosions. This was a conclusion by NIOSH following an investigation into the deaths of two firefighters. They were killed in an explosion when trying to put out a fire of PRB coal. Self-combustion of coal presents a fire risk⁸ and this is an even greater problem with PRB coal which is twice as likely to self-combust than other types of coal.^{6, 9} It will not only smolder and catch fire while in storage piles at power plants and coal terminals, but has been known to be delivered to a power plant with the rail car or barge partially on fire. PRB coal dust is also a fire hazard. Sparks from machinery and heat from conveyor belts have caused major coal dust fires and explosions. The potential for fires along the entire rail route is also a concern. BNSF has stated that coal dust deposits have caused fires in areas where coal dust has accumulated¹⁵ (BNSF Railway). A fire department in Wyoming has found that coal fires along railroad tracks account for at least 50% of the department's summer call volume. Operators familiar with the unique requirements of burning PRB coal say that it's not a case of "if" there will be a PRB coal fire, it's 'when.' The 2013 report "The Human Health Effects of Rail Transport of Coal through Multnomah County, Oregon" states: 'Powder River Basin coal may be particularly susceptible to spontaneous combustion as a result of its chemical composition. According to discussions between mining and energy companies that handle Powder River Basin coal, there have been reports of fires in railcars and barges transporting this type of coal. Given coal's combustibility, fires and attendant injuries and property damage could also occur as a result of a train collision.' For these reasons, please include Fire Risks at the terminal, in neighborhoods close to the terminal, and along the rail lines in Cowlitz County. Thank you.*
9. **Linda and Kirk Leonard, Kalama, Washington** – *We are residents of Kalama and have a view of the Columbia River and the BNSF rail lines. This location was chosen for our retirement home and we have lived here 13 years. The Millennium Bulk Terminal proposal will impact our health and safety in the coming years if allowed to proceed. Coal dust typically contains toxics such as mercury, lead, arsenic and crystalline silica. There are no proven methods to eliminate or reduce the emission of*

these pollutants to a safe level. This means our air quality will be severely compromised. Are we willing to allow that to happen? Millennium proposed to transport 44 million metric tons of coal annually from the Powder River Basin if this project is allowed to continue. Everyone has a right to a safe environment and clean air. This project needs to be stopped. I request that the HIA study areas such as Watson, Point Roberts, Seward and Newport News which have coal terminals and see how the levels of coal dust deposition and illnesses including respiratory illnesses have changed with the operation of the terminals. Additionally, please study the existing pollution impacts from the Westshore Terminals and the coal export terminal at Roberts Bank, Delta BC on the US / Canadian border to identify potential or likely impacts from the Millennium proposal.

10. **John Filippelli, Kelso Washington** – *Diesel particulate matter, which now can be measured accurately as black carbon by a photometric method, is a preventable source of serious morbidity and mortality (and health care costs) in populations near roads, train tracks and industrial sources. Documented impacts include, but are not limited to, Lung Cancer, Cardiovascular Events (Heart Attacks and Strokes) Pulmonary problems (Asthma and Emphysema) , and Neurodevelopmental problems in children leading to significant loss of intellectual functioning of all kinds. We have the ability to prevent disease and death by preventing dangerous exposures. Please incorporate recent and groundbreaking peer-reviewed literature into this HIA. This includes: “CCEH Study – Polyaromatic Hydrocarbons in Urban Air” (Federica Perera et al 1996). “Air Pollution in Mexico City” (Lilian Calderon-Guarcidenas). “Study Of Effects on Mortality of Diesel Emission Control Ordinances in Japan,” (Yorifuji and Kashima, 2016). “Fertility and recent Systematic Review (Frutos et al, 2016, Fleischer et al, 2014) which confirms strong associations between increased inhaled TRAP measured as either PM2.5s or Black Carbon, and adverse birth outcomes: Decreased birth weights; Increased preterm births; Increased miscarriages; and Decreased fertility. An October 2016 study by Rebecca Nachman related to these outcomes and correlated with increases in PM2.5 exposure.*
11. **Gary Wallace, Kalama, Washington** – *I request that our local group reference the attached study; done for Oakland, CA. and very pertinent to this area’s future, it addresses many aspects. Due to the length of the report, I have attached only the Executive Summary, listings of the Panelists, Acknowledgements, Endorsements, Table of Contents (of the entire document) and only the beginning of Chapter 1 as an example of the quality and scope of this current (June 2016), timely and applicable study.*