

Partial list of public health/safety questions for Millennium Bulk Terminals Longview (MBTL) DEIS comment

Because of the health impacts that will be a direct result of the MBT project, we respectfully request that the Final EIS include a Health Impact Assessment that addresses the following questions and includes a public comment process.

I. Health Impacts of Diesel Particulate Matter (DPM)

1. How much DPM and toxins will people be exposed at 50 feet, 100 ft, 200 ft, etc. up to 2 miles from the tracks when a train goes by? We request this data to be shown in an easy-to-understand format, including maps with "pollution contours" (isopleths).
2. How much DPM and toxins will result from the ships, including ships that are at anchor (staging), at the dock, and in transit?
3. What will the impact of temperature inversion weather conditions be on air pollutants?
4. How many people live within 50 ft, 100 ft, 200 ft, 500 ft, 1000 ft, 1 mile, and 2 miles along the transportation routes from the Powder River Basin and the Uinta Basin to Longview, from there to the mouth of the Columbia River, from Longview back to the Powder River Basin via Stampede Pass, and from Longview back to the Uinta Basin via Oregon, including current and projected populations?
5. How many of the people living, going to school, or working within the distances above are children, including current and projected populations? Elderly? Have any form of pulmonary or cardiovascular disease?

6. How many increased asthma attacks, ER visits, and hospitalizations will result, including current and projected populations, and including under temperature inversion conditions? What is the economic cost? Who pays for the costs?
7. How many increased strokes will result, including current and projected populations, and including under temperature inversion conditions? What is the economic cost? Who pays for the costs?
8. How many increased myocardial infarctions (heart attacks) will result, including current and projected populations, and including under temperature inversion conditions? What is the economic cost? Who pays for the costs?
9. How many COPD exacerbations will result, including current and projected populations, and including under temperature inversion conditions? What is the economic cost? Who pays for the costs?
10. How much cancer will result, including current and projected populations? What is the economic cost? Who pays for the costs?
11. How much acrolein, acetaldehyde, formaldehyde, heavy metals (including but not limited to mercury, lead, and arsenic), 1,3-Butadiene, polycyclic aromatic hydrocarbons, or other toxins will be deposited cumulatively? This should be analyzed in a cumulative fashion, (i.e. additive) over the next 50 years (the operating life of the terminal).
12. What are the effects of chronic exposure of the above compounds on: Neonatal and childhood development? Neurodevelopmental disorders? Blood and lymphatic systems? Respiratory system? Cardiovascular system?

Reproduction? Cancer? What are the economic costs of these? Who pays the cost?

13. What is the cost of cleanup of the cumulative environmental contaminants? How effective is the cleanup? Who pays the cost?

14. Medical research comes forth at an intense pace. When new health impacts are inevitably identified or quantified, how can the public be assured that their health will be weighed in the balance of ongoing risks/benefits to MBTL operations?

15. How many people in Cowlitz County, in Longview and in the Highlands neighborhood have pediatric asthma, adult asthma, COPD, cardiovascular disease, diabetes, are under 18 or over 65 years of age, and/or live in poverty?

II. Health Impacts of Coal Dust

1. How much coal dust from the mining and transportation of coal can be expected along each section of the transportation corridors from the Powder River Basin and Uinta Basin to the proposed terminal and then to the mouth of the Columbia River?
2. How much accumulation will result after 50 years of transport or the operating life of the terminal?
3. How many children and adults can be expected to have increased risk of asthma and other respiratory diseases, including current and projected populations?
4. How many coal train derailments can be expected along the rail corridor per year of operation of the proposed export terminal?

5. What will be the effect of contamination from coal dust and spills on farmland along the rail corridor?
6. What will be the effect of contamination from coal dust and spills on grazing animals used for human consumption?
7. What will be the effect of contamination from coal dust and spills on fresh water supplies for humans and animals?
8. What will be the effect of contamination from coal dust and spills on marine habitat for fish and other seafood?
9. What is the cost of cleanup of the cumulative environmental contaminants? How effective is the cleanup? Who pays the cost?
10. How many people can be expected to be affected by the increased exposure to mercury and other heavy metal contaminants of coal, such as by cancer, including current and projected populations?
11. Medical research comes forth at an intense pace. When new health impacts are inevitably identified or quantified, how can the public be assured that their health will be weighed in the balance of ongoing risks/benefits to MBTL operations?
12. What is the loss of coal dust from residual dust still on the cars on the return journey back to the Powder River Basin and the Uinta Basin (so called "carryback coal")? How much of the "carryback coal" is expected to be lost in Cowlitz County in particular? If coal dust is, as is claimed by the proponents of the project, a near mine issue, is the terminal itself considered similar to a near mine site, with the coal lost from

loose residual coal matter still on the rail cars from which most of the coal has just been shaken loose and dumped at the terminal site?

III. Health Impacts of Noise Pollution

1. How loud are train engines? Squeaking wheels? Horn blasts? Federal regulations require that the horns sound at levels of 96 to 110 dBA measured at 100 feet for 15 to 20 seconds in advance of all public grade crossings. How loud are horn blasts at 50 feet, 100 ft, 200 ft, etc. up to 2 miles from the tracks? We request this data to be shown in an easy-to-understand format, including maps with "sound contours" (noise isopleths).
2. How much vibration does a coal train produce? How intense is this at 50 feet, 100 ft, 200 ft, etc. up to 2 miles from the tracks?
3. How many people live within 50 ft, 100 ft, 200 ft, 500 ft, 1000 ft, 1 mile, and 2 miles along the entire route from PRB to Longview and back to the PRB?
4. How much noise and/or vibration wakes an average person? A light sleeper?
5. How much noise or vibration distracts a working person? A concentrating student?
6. For each train along the entire route, how many at-grade crossings are there? How many horn blasts per crossing? How many horn blasts in total for a single train traveling from Montana to Longview? How many whistle blasts per day in all (x 16 trains)? How many of these are at night during sleeping hours (8 PM to 8 AM)?
7. For each train, including engine noise, vibration,

screeching wheels, and whistle blasts, how many people will be awakened, based on current and projected populations? How many children? How many adults? How many elderly? All calculations must include projected populations as well, since the terminal has an operating span of 50 years.

8. How many times per night will a person be awakened, from noise or vibration, who lives various distances from the tracks (including distances: 50 ft, 100 ft, 250 ft, 500 ft, 1000 ft, 0.5 miles, 1 miles, and 2 miles) in all areas and communities along the route to and from the PRB, including but not limited to Helena, Missoula, Spokane, Pasco, Camas, Hood River, Portland and Longview?

9. How many awakenings per night, including all people along the entire route up to 2 miles away from tracks, including all trains, based on current and projected populations?

10. Considering the noise and vibration, multiple awakenings and resultant fatigue, how many people may potentially have increased blood pressure, or elevated stress hormones, including current and projected populations?

11. What is the total economic cost of increased blood pressure, elevated stress hormones? Who pays for the economic costs?

12. Considering the noise and vibration, multiple awakenings and resultant fatigue, how many arrhythmias, or heart attacks could potentially result from the increased noise, including current and projected populations? What is the total economic cost of the arrhythmias, or heart attacks? Who pays for the economic costs?

13. Considering the noise and vibration, multiple awakenings and resultant fatigue, how many strokes could potentially

result from the increased noise, including current and projected populations? What is the total economic cost of the strokes? Who pays for the economic costs?

14. Considering the noise and vibration, multiple awakenings and resultant fatigue, how much increased mental disease may result from associated stress, including but not limited to: depression, mental instability, neurosis, hysteria, and psychosis, including current and projected populations? What is the potential economic cost of the increased mental disease? Who pays for the economic costs?

15. What is the potential impact of noise, vibration, multiple awakenings, and fatigue on childhood learning? On childhood test scores? What is the total economic cost of the learning impairment? Who pays for the economic costs?

16. What is the potential impact of noise, vibration, multiple awakenings, and fatigue on workplace performance? What is the total economic cost of the impaired workplace performance? Who pays for the economic costs?

17. How many increased traffic accidents may result from fatigue- associated sleep disturbance, including current and projected populations? What is the total economic cost of the accidents? Cost in terms of human morbidity? Who pays for the costs?

IV. Health Impacts of Delays in Emergency Medical Services

1. How many rail crossings are there along potential rail corridors from the Powder River Basin and the Unita Basin to Longview and back to the Powder River Basin and Unita Basin? How many of these are at-grade crossings? Why did you only select 44 at-grade crossings

in the state of Washington to review?

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 each of these crossings be blocked by the increased rail traffic en route to MBTL? Delay should be calculated for each crossing to account for differences in local circumstances.

5. How many times daily do EMS vehicles, including police, fire and medic units, cross rail lines? Please note that an ambulance often needs 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 MBTL (including actual blockage of the crossing, as well as alleviation of resultant congestion)? Please again note that an ambulance often 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 population as shown in relevant planning documents?

8. What crossings and locations are most likely to result in significant delays at crossings?

9. How often are there alternative crossings? How much time is lost to route through alternate crossings, rather than the shortest route?

10. Is there any current established 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 throughout the entire state of Washington?

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, support for additional paramedics, medivac services, etc.?) What percent of the total cost will the project applicant pay for grade separation at crossings, etc.?)

16. How many rail crossing accidents, injuries, and deaths will be attributable to increased rail traffic en route to MBTL?

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 across the states of Washington and Oregon over the lifetime of the project?

19. Where are the likely sites of these derailments, and are any of these potentially dangerous or inadequately designed rail lines in major population densities?

V. Health Impacts to Drinking Water

1. Does the Wellhead Protection Program (WHPP area) for the City of Longview's Mint Farm Wellfield encompass the project area? Does the project lie within and above the 6-month WHPP Source area? The 1-year WHPP Source Area? The 5-Year WHPP Source area? The 10-year WHPP Source Area? Does water from those Source Areas flow beneath the project area en route to city wells?

2. What impact will pre-operation wicking and compression have on the movement of surface water? On the movement of legacy pollutants like benzene and arsenic? Can that ultimately impact the quality of groundwater?

2. What is the relationship of the unconfined aquifer to the deep aquifer depicted in the technical reports? What is the relationship to the drinking water source?

3. What is the tidal influence on the Columbia River at the project area and how will that affect movement of waterborne pollutants discharged at the project site?

4. What will be the influence of MBTL's heavy pumping of private wells during the dry season (for purposes of dust suppression) on City of Longview wells?

5. What contaminants and pollutants can be expected to flow into to the Columbia River as treated wastewater, untreated surface water or overflow from storms? Diesel pollution, toxic coal dust, fuel spills? Abestos, lead and arsenic from demolition projects ? Leaks and spills from associated barges, tugs, Panamax-class and Handymax-class vessels?

6. What is the transit time from the Columbia River to the deep aquifer that serves as the drinking water source for residents of Longview?

6. Who will pay if the drinking water source for the City of Longview is contaminated with pollutants as a result of this project and must be permanently replaced? What is the cost of temporary purchase or replacement of drinking water for residents?

7. Will you identify by name and location all domestic and municipal water systems that could be harmed with a derailment and spill of coal trains and/or coal vessel fire and fuel spill. How many people are served by those systems? Who will pay for monitoring and cleanup when and if other municipal drinking water sources are fouled in Washington? In Oregon? In Idaho? In Montana?

VI. Environmental Justice Impacts

1. What will be the cost to culture, tradition and food sources for First Nations if mercury accumulate in water (from blow-back from coal-fired power plants in Asia) and result in harm to salmon?

2. What are the impacts of mercury neurotoxicity and who is most likely to suffer?

3. What will be the impacts to traditional culture and foods if this project leads to a decrease in the number of salmon and other fish available for harvest?

4. Whose access to tribal treaty fishing sites will be lost, made more difficult or result in injury because of the increasing number of long unit trains on the UP and BNSF lines?

5. Will you analyze all census tracts running 2 miles along all rail corridors, all vessel corridors, including rail and vessel corridors in Cowlitz County and in Longview, for health impacts from this project that may be experienced by

communities of color and low income communities, children under 18, adults 65 and over, and individuals with pre-existing disease including pediatric asthma, adult asthma, COPD, cardiovascular disease, and diabetes?

VI. Health Impacts of Climate Change

1. What will be the human health impacts to climate change under a scenario with MBTL activities resulting in 27 million metric tons/year net CO₂ emissions (see Greenhouse Gas Appendix Table 47)? With 3.2 million metric tons/year? With 37.6 million metric tons of Co₂ emitted between 2018 and 2038?

What could be the impact on Cowlitz County and Washington residents and fire fighters from forest fires, smoke, injury, death and dislocation?

What are the impacts from increased heat, increased ozone levels and degraded air quality? How will this impact pediatric populations? Adults over 65? Those with pre-existing disease like asthma, bronchitis, COPD? Who will most suffer? Who will pay?

What will be the health impacts of severe weather, including heavy rain, wind storms and landslides that lead to dislocation, injury and death? Who will pay?

What will be the impacts from increasing rates West Nile Virus and Lymes disease in Cowlitz County? In Washington? Who will pay?

Will there be disproportionate and adverse effects on low income communities and communities of color? If so, what will they be?

Health Impacts of Surfactants

Which chemical surfactants will be used? Which chemicals will be applied by workers, deposited along the transportation corridors and in communities around the coal pile, from blowing dust and leaching by rainwater. What are the human and environmental impacts of exposures? Have chemical compounds such as GE Powertreat, designed for use on Powder River Coal (and known to be a serious skin, eye and lung irritant), been tested for chronic toxicity? Have these compounds been tested for longer term human and environmental health impacts?