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December 17, 2013

Stephen Posner, Interim Manager
Energy Facility Site Evaluation Council
Post Office Box 43172
Olympia, Washington 98504-3172

Dear Mr. Posner:

Thank you for the opportunity to provide comments on the scope of the Environmental Impact Statement for the proposed Tesoro Savage Vancouver Energy Distribution Terminal Docket #EF-131590. This proposal is to construct and operate a crude oil-by-rail storage and loading facility at the Port of Vancouver.

The Department of Health's concerns for public health are enclosed. For each health topic we address in our comments, we ask that the Environmental Impact Statement include an analysis of potential impacts on the health of people in Washington State.

Our comments focus on public health impacts directly related to our scope of responsibility and express our concerns associated with the extraction, transport, storage, and subsequent burning of this oil. These impacts pertain to our state, but may have far-reaching public health implications.

The proposal involves transporting crude oil by train across Washington to the Port of Vancouver storage and loading facility site. For this reason, we ask that the scope of the Environmental Impact Statement include potential health impacts and prevention/mitigation strategies for the entire length of the statewide rail corridor in addition to those at the project site. We also ask that the Environmental Impact Statement address potential health impacts and risk reduction strategies in the Washington shipping lanes proposed for this project.

I urge the Energy Facility Site Evaluation Council to use a Health Impact Assessment for this project. A Health Impact Assessment is a tool that communities and decision-makers can use to objectively evaluate the potential health effects of a project before it is built. A Health Impact Assessment includes a process for bringing together public input and project-relevant data to make recommendations that minimize adverse health effects.

If you have questions about these comments or need technical assistance from our department during the Environmental Impact Statement scoping process, please contact Mark Soltman at 360-236-3012 or by email at mark.soltman@doh.wa.gov

Sincerely,

John Wiesman, DrPH, MPH
Secretary of Health

Enclosure

cc: Maryanne Guichard, Department of Health
Mark Soltman, Department of Health
Kitty Weisman, Department of Health
Dale Jensen, Department of Ecology

Washington State Department of Health Comments on the Environmental Impact Statement (EIA) for the Proposed Tesoro Savage Vancouver Energy Distribution Terminal Docket #EF-131590

Air Quality – Diesel Exhaust

Diesel exhaust from equipment, trains and ships at the port facility and along the railway corridor will increase air pollution and affect public health. Diesel exhaust contains particulate matter, nitrogen oxides, sulfur dioxide, and polycyclic aromatic hydrocarbon. It also contains known human carcinogens, such as benzene and formaldehyde. Diesel exhaust is a human carcinogen based on evidence linking it with lung and bladder cancers.

Diesel particulates can cause lung damage, worsen allergies and asthma, and increase the risk of lung and cardiovascular diseases. They can decrease lung function and increase susceptibility to respiratory infections. Fine particulate matter is associated with the development and worsening of respiratory and cardiovascular diseases, as well as lung cancer.

Within the Vancouver region specifically, oil-related transport and port activities will further degrade local air quality. According to the Washington State Department of Ecology, air pollution in the Vancouver area is already sufficiently high that the community is at risk of failing to meet federal air quality standards.

Air Quality – Passenger Vehicle Emissions

The project would substantially increase train traffic and cause truck and car traffic delays at train crossings, resulting in pollution from idling vehicles. Emissions from idling vehicles include volatile organic compounds, carbon monoxide, nitrogen oxides, particulate matter and carbon dioxide, which contributes to ocean acidification and climate change. Volatile organic compound exposure is linked to liver, kidney, and nervous system damage. Carbon monoxide exposure is linked to headache, dizziness, confusion, nausea, and neurological and cardiac complications.

Air Quality – Greenhouse Gas Emissions

The application states "the incremental effect of the project on global climate change is insignificant." We do not consider the increased contribution of 0.14 percent (136,000 metric tons a year) of Washington State's total greenhouse gas emissions as insignificant. The extraction, rail transport and proposed terminal operations will significantly increase greenhouse gas emissions responsible for predicted climate change impacts on public health. For example, climate change will affect the operation, maintenance, and water availability of drinking water systems in our state.

Recent climate projections suggest that significant adverse climate change impacts will occur as soon as 2033 under current carbon dioxide ($C0^2$) emission scenarios (Mora et.al., 2013). Observed ecological and weather pattern changes are already being attributed to climate change and the human release of $C0^2$ and other greenhouse gases. Direct human health effects from greenhouse gas emissions include increases in morbidity and mortality from extreme weather events, heat stress, and air pollution; resulting in respiratory and cardiovascular morbidity and mortality particularly in the young and in older adults (Githeko and Woodward). The extraction, transport and proposed port operations outlined in the proposed application will significantly

contribute to greenhouse gas emissions. As expressed in the application, port activities alone are predicted to increase state greenhouse gas emissions by 0.14% (136,000 metric tons).

Noise

We are concerned about the public health impacts from railway noise and port operations. The railway transport of oil will increase noise in communities along the railway corridor and at the port facility in Vancouver. According to the World Health Organization, "Excessive noise seriously harms human health and interferes with people's daily activities at school, at work, at home and during leisure time. Noise can disturb sleep, produce cardiovascular and psycho-physiological effects, reduce performance, and provoke annoyance responses and changes in social behavior." Studies have shown that as environmental noise increases, children's performance on tests of reading ability and memory decreases. Research also shows that noise from road traffic and airplanes can negatively affect cardiovascular health in adults, and may influence blood pressure in children. Studies have also found links between environmental noise exposure and feelings of well-being.

Railroad Traffic – Access to Emergency Care

The number and length of proposed trains transporting the oil will affect local emergency response capabilities due to increased blockage of road crossings. This would increase the time it takes to reach patients in medical distress and/or the time it takes to transport them to hospitals. The additional train activity of this project may affect community access to emergency care, both pre-hospital emergency medical and hospital care. Both are essential components of our emergency care system. Any delays in responding to requests for emergency medical services – specifically responses to trauma, cardiac, and stroke-related incidents – can worsen patient outcomes. Patients in cardiac arrest are more likely to survive when paramedics or emergency medical technicians arrive quickly. Any delay in response also affects the emergency medical services providers' ability to quickly evaluate the patient's condition to best match their medical needs with the most appropriate hospital. When decisions on patient care are influenced by transport time rather than the best facility for the patient's condition, the likelihood of a poor outcome rises. Survival rates of trauma patients increase when the patient is taken to the right hospital in the right amount of time.

Spills – Drinking Water Systems and Supplies

Train derailment, oil-loading accidents, and oil storage leaks can lead to crude oil spills. Oil spills pose a significant public health risk to drinking water supplies. Many public drinking water system wells are located downstream of the proposed loading and storage facility, and along the main rail lines that would be used to transport oil across Washington State. The application does not address the potential threats to these public drinking water supplies and systems that could be affected by oil spills and/or derailments, such as the devastating spill that occurred in Lac-Megantic, Quebec, in July 2013.

The application identified only one Port well (#2) situated approximately 1.3 miles southeast of Area 300. Our GIS maps show three Port wells within the application area. The Port's wells #1 and #3 should be included in any revisions of the application report.

Many other Group A public water supplies are situated near the rail transport route along the Columbia River and across the state. We urge you to use our GIS data to map drinking water sources downstream of the proposed loading and storage facility and along the rail transport

route, and to assist with spill prevention and response planning. Our data shows location of drinking water wells and surface water intakes; wellhead protection areas to determine contaminant time of travel; and water system contact information. To obtain the GIS data, please contact Kitty Weisman at 360-236-3114 or Kitty.Weisman@doh.wa.gov.

We also urge you to make clear in your proposal the elevations of the proposed oil storage tanks at Port of Vancouver, with respect to 100-year and 500-year flood zones, and to ultimately site these storage facilities above the flood zone.

The project should include a spill prevention and response plan that includes the following:

1. Coordination with Department of Ecology Spills Program (Dale Jensen, spills program manager, 360-407-7450) on incorporating spill prevention and response best management practices into your project, including double-lined storage tanks, spill containment around storage tanks, spill prevention and response training for offloading and rail staff.
2. Spill response protocols that include notification to public drinking water supplies downstream of the Port of Vancouver and along the rail transport route.
3. Provision of boom equipment and training to first responders at key locations along the train transport route.
4. A spill mitigation plan that details how you will mitigate and remediate spill impacts in the event of a spill.

Train derailment and potential public health impacts

Beyond the impact on drinking water supplies, recent events highlight the potentially devastating effects of a train derailment on communities and the environment. Bakken crude oil contains toxic chemicals such as benzene that are highly volatile. A train derailment and subsequent oil spill could expose a community to toxins via inhalation, ingestion and dermal contact. Benzene is a known carcinogen and increases an individual's risk of developing leukemia, according to the Centers for Disease Control.

In the event of a derailment, fire is a serious direct threat to public health and the long-term well-being of the affected community. Due to the chemical properties of Bakken crude oil, it is more flammable than crude oil from other sources. This increased fire and explosion potential is a serious public health threat.

Railway Traffic – Pedestrian Safety

With increased train traffic, there is a corresponding rise in the risk of traffic- and pedestrian-related train collisions. These public health risks are greatest where railroad crossings are unprotected by train crossing signals, which is common in smaller communities.

Railway Traffic – Recreation

Increased rail traffic from oil transport will likely affect enjoyment and participation of recreational activities in urban and rural areas along the railway and in the areas near the port facility. The noise, vibrations, and traffic from the railway will likely diminish recreational access and enjoyment in these areas where residents now enjoy walking, boating, fishing, cycling, and other physical activities as part of a healthy lifestyle. The physical and psychological benefits of recreation are well documented, as are the detrimental aspects of limited physical activity.

Railroad traffic and community wellness impacts

Unit trains reaching a length of nearly 1.5 miles and traveling at reduced speeds through communities along the railroad corridor will block roadway crossings for approximately 15 to 20 minutes. Up to eight unit trains will cross the state daily under the proposed plan. The physical barrier these trains would create at road crossings in smaller communities will adversely affect daily life in the same manner as a major highway does.

In addition to blocking residential, commercial and pedestrian traffic, these blockages would cut off one portion of the community from another, potentially affecting local businesses, social and educational activities. These activities contribute to the health and well-being of a community and the social connectedness of the people who live there. Based on the World Health Organization definition of health-- "A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" -- consideration must also be given to impacts on mental health and well-being.

Due to evidence linking the built-environment to population health outcomes, it important that consideration of the public health impacts of this project also consider the social well-being of the communities that would be affected.