

May 25, 2015

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City of Vancouver

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Assistant Director Engineering – Environmental Protection
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City of Burnaby

Dear Messrs. Stevens and Mr. Dattani:

Re: Health impacts from a major spill of diluted bitumen in the Burrard Inlet

We write in response to your request on behalf of the cities of Burnaby and Vancouver for an assessment of the Trans Mountain Pipeline Expansion Project proposal and application currently before the National Energy Board:

1. What are the top 3-5 concerns/issues from the local health authorities related to public health and emergency response that the National Energy Board should consider in its assessment of the Trans Mountain application?
2. What will the health authorities require as minimum monitoring and follow-up from Kinder Morgan Canada to determine if the ambient conditions have “normalized”?
3. Have the risks and impacts to public health been adequately assessed and addressed by Trans Mountain in their application?

As Chief Medical Health Officers of the Vancouver Coastal and Fraser Health Authorities, we are responsible for providing evidence-based expert opinions on public health issues, advising on strategies to address public health issues and directing public health responses to protect the health of the public.

This request came with a very short time line. As a result this letter provides only very high level responses to the questions, which are based on the expert opinion of our Medical Health Officers. A more comprehensive, robust response would require time and resources not currently available.

In August 2014, Medical Health Officers for Fraser Health and Vancouver Coastal Health jointly produced a document titled: *“Guidance to Metro Vancouver and Fraser Valley Municipalities to Assist in Reviewing the Trans Mountain Pipeline Expansion Project from a Public Health Perspective”*. This document, which included a literature review on the health impacts of oil spills, was sent to local and regional governments in the Lower Mainland. We refer you to this document as it contains the concerns and information gaps identified by the health authorities regarding the project proposal. While the project proponent has released additional information since, our overall assessment has not changed. Also of relevance is the Vancouver Coastal Health response, dated April 22 2014, to the call for comments by the Transport Canada Tanker Safety Panel regarding the marine transportation of hazardous and

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noxious substances. This letter was shared with the City of Vancouver. Two recent events in the Vancouver Harbour – the dockside chemical fire in a container, and the MV Marathassa- English Bay fuel spill – also support the issues we have previously identified.

Given the above background context, we provide the following observations specifically focused on the scenario of a large oil spill event in the Burrard Inlet

- A. **The need to model a large oil spill event in the Burrard Inlet.** Because the proponent does not believe it is a credible risk, the proponent has not modeled the consequences of a large oil spill in the Burrard Inlet. We believe this is a critical omission. Even if such an event is as extremely unlikely as the proponent believes, and we cannot verify this conclusion, the public health consequences of such an event could be very significant, given the large and densely populated communities surrounding the Burrard Inlet. Our literature review indicates that health impacts from large spills are possible and concerning. The screening level air dispersion modeling commissioned by Metro Vancouver also supports the need for further detailed analysis of the public health consequences following a large spill in the Burrard Inlet.
- B. **The need to use a systems approach to assess the adequacy of spill prevention, response, and mitigation.** A multitude of agencies with overlapping jurisdictions responded to the recent MV Marathassa fuel spill. The incident highlighted the fact that spill prevention, response, and mitigation depends on the correct and competent performance of many players, their interactions, as well as the adequacy of the supporting legislative framework. In our guidance document we recommended that “a systems theory based oil spills risk analysis of this project be undertaken that encompasses all the elements underlying the project such as legislation, governmental oversight, local community capacity, as well as private organizations throughout the supply chain”. We are not aware that such **systems wide** vulnerability and risk analyses have taken place for possible spills in the Burrard Inlet and as well in the Fraser River that may arise from the project
- C. **The capacity to monitor specific chemical substances released following a large oil spill and to track their dispersion in real time.** The recent chemical fire in a container inside Port Metro Vancouver showed the potential complexity in managing large emergency events involving chemical release in a densely populated area with extensive mixed land uses. Public health decisions in response to such an incident may include but are not limited to evacuation orders, shelter in place advisories, air quality advisories, or simply general public health messaging regarding the incident. The capacity to quickly identify and track the chemical substances being released is important for evidence based and timely public health decisions to ensure the health and well being of the public. The health authorities do not have the capacity for monitoring chemicals released following a large oil spill. It is not known whether or not the designated lead response agency, West Coast Marine Spill Response Corporation (WCMSRC), or the pipeline operator has such capacity locally. The Metro Vancouver commissioned air dispersion modelling suggests that the concentrations of the released petroleum chemicals will be highest in the first hour or two following the spill. It is not certain whether such air monitoring equipment, even if available, can be deployed quickly enough to be useful for assisting the initial public health and safety decisions.
- D. **The need to include the local health authorities in the spill notification protocols.** We stated in both the guidance document and our comments to the Tanker Safety Panel that local public health authorities should be included in the spill / incident notification protocols. At the time of the 2007 Westridge Burnaby spill, Fraser Health first heard about the incident from the news media. In the

case of the recent MV Marathassa fuel spill, Vancouver Coastal Health was indirectly notified through the City of Vancouver more than 12 hours after the event. We have not seen a comprehensive emergency response plan from the proponent, which includes how the proponent intends to work/communicate with health authorities and other agencies, and how it intends to assess and monitor exposure in the event of a spill and to share all the information necessary to make timely public health and safety decisions.

- E. **The need for human activities and habitat baseline data to facilitate remediation decisions.** In order to determine whether ambient conditions have “normalized” after a spill, we stated in the guidance document that “post-spill remediation objective should be ideally to bring the levels of spilled-product-attributable contaminants of potential concern (COPC) in soil, soil vapour, sediment, surface/ground water, drinking water and ambient/indoor air to background levels for the area of impact (i.e., the levels observed or expected for the impacted area prior to the spill event).” A challenge to determining whether levels have returned to background is the lack of baseline data. For a spill in the Burrard Inlet, the required baseline data need to include information about the potential population exposed, the social environment, and the physical environment parameters discussed above. The baseline information should also include data for example on the levels and types of First Nations and non First Nations cultural and recreational use of Burrard Inlet beaches and water, as well as the baseline conditions of the recreational, commercial, and First Nations fishery in the area. The lack of baseline data gathering for current human activities in the Burrard Inlet will make remediation end point determinations following a large spill very difficult as well as contentious.

In conclusion, we continue to believe there are significant information gaps with respect to public health protection in the Trans Mountain Pipeline Expansion Project proposal as submitted to the NEB. In particular, and especially given the recent MV Marathassa fuel spill incident, it is reasonable to expect that a proposal of this magnitude will include a comprehensive set of health impact assessments of the impact of possible major spills at locations along both the land and marine routes, particularly in densely populated urban environments, even if a spill is judged “not credible” in those locations. Again, for more information, we refer you to the literature review and guidance document that the health authorities previously provided to the local and regional governments.

Sincerely,



Patricia Daly MD, FRCPC
Chief Medical Health Officer
Vancouver Coastal Health



Victoria Lee, MD MPH MBA CCFP FRCPC
Chief Medical Health Officer
Fraser Health

CC: Perry Kendall, Provincial Health Officer