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January 30, 2023

File No.: 11- 5020-30

Via e-mail: christine_trefanenko@transmountain.com;
Emergency_Management@transmountain.com

Christine Trefanenko
Manager, Project Emergency Management
Trans Mountain

Dear Christine:

Re: *Trans Mountain's* Report on BC Environmental Assessment Office (EAO) Condition 35 about the Fate and Behaviour of Bitumen Research

I am writing at the request of the Islands Trust Executive Committee to offer comment on the draft Trans Mountain Report produced to fulfil BC Environmental Assessment Office (EAO) Certificate Condition 35. Thank you for inviting Islands Trust to review and comment on the draft Report. The Report sets out Trans Mountain's current and future research programs regarding the behaviour and recovery of heavy oils, and how Trans Mountain will work with spill responders to support the incorporation of the results of the research into their emergency preparedness plans and programs.

I feel it is important to state, as a priority message, that the Islands Trust Council has a history of opposing the Trans Mountain Pipeline Expansion Project, and island communities have voiced strong concerns about the impacts of an oil spill resulting from the project could have on their livelihoods and the ecology and cultural values of region. The values of this region demand a world-class research standard and associated response preparedness.



Diluted bitumen after about nine days of weathering at about 15°C. A lower temperature typical of the Salish Sea could increase thickness seen here.

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We appreciate the work done but remain concerned that there still may not be enough known about the fate and behaviour of diluted bitumen to fully inform the real-world spill response challenges associated with diluted bitumen in the Salish Sea.

As an example, the Report points to Trans Mountain studies that indicated conventional diluted bitumen remains floating for extended periods of time, and that diluted bitumen does not separate. While this may be the case, the Report does not spell out nuanced research details that would inform how a response to a spill of diluted bitumen might differ from other responses. For example, a [2018 report by the Fisheries and Oceans Canada's Canadian Science Advisory Secretariat](#) more helpfully offers specifics such as there are: *viscosity and density changes [happen] more rapidly for diluted bitumen compared to conventional oil products due to evaporation losses and high, heavy-end content of the weathered oil. These property changes mean that diluted bitumen may require a faster adaptation of routine response options for equipment (e.g., skimmers) designed for high-viscosity heavy oils.*

The 2020 study referenced in section 3.1.1 of the Report states: *"Results show that on average, the beach materials retained three times as much of the heavy conventional crude and oil sands-derived products compared to the light to medium crudes."* Given this concerning conclusion, the Report would have benefited from more detail about how these types of findings impact Trans Mountain's work with spill responders to prepare emergency preparedness plans and programs.

More than 12 years ago, the Islands Trust Council first raised concerns about the lack of science that informs oil spill response preparedness for unconventional oils in the Salish Sea (see attached). We remain concerned that the nature of spilled diluted bitumen and how it will weather and spread in the Salish Sea's complex coastal system (*i.e.*, archipelagos, currents, estuarine waters), could pose insurmountable spill response challenges. We are concerned that the findings from studies undertaken in laboratories will not translate to the changing weather and sea state conditions of the Salish Sea, resulting in uncertainties in response performance in oil recovery, waste handling, and shore treatments.

We acknowledge that Western Canada Response Corporation (WCMRC) has new vessels and equipment. This expanded capacity is essential and valued, and coastal communities have appreciated their efforts to engage. However, for spills of unconventional oils like diluted bitumen, there may be a need to prepare spill responders to respond more quickly and to use strategies and tactics than would otherwise be required for spills of other types of oil.

"In addition, it was not apparent in the Report that Trans Mountain has studied the challenges for on-water recovery, loading and off-loading to barges and temporary storage of sticky, thick, weathered bitumen that could inform future planning and investment decisions.

Communities need to have clarity about the operational challenges that will exist when a spill happens and the dilbit rapidly weathers. To establish a strong foundation of trust and confidence in response preparedness and coastal protection, operational challenges must be clarified based on recent research on the fate and behaviour of diluted bitumen and other oil-sand products being exported from the *Westridge Marine Terminal*.

Islands Trust is a special-purpose government representing over 30,000 people living within the Islands Trust Area and 10,000 non-resident property owners. The Islands Trust Area is located within Coast Salish territory and is the homeland of many Coast Salish Peoples who have called this place home since time immemorial.

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Islands Trust is responsible for preserving and protecting the Islands Trust Area's unique amenities and the environment through conservation-oriented land use planning and regulation, education, and cooperation with First Nations and other agencies. The Islands Trust Area covers the islands and waters between the British Columbia mainland and southern Vancouver Island. It includes 13 major islands and more than 450 smaller islands covering 5,200 square kilometres.

Thank you for considering this feedback.

Yours sincerely,



Peter Luckham

Chair, Islands Trust Council

pluckham@islandstrust.bc.ca

Attached: 2011 Islands Trust letter to Minister Lebel regarding unconventional oil response

cc: Bowen Island Municipal Council
San Juan County Council
Islands Trust Council
Islands Trust website

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November 2, 2011

File No.: FG/04

Via email: mintc@tc.gc.ca

The Honourable Denis Lebel
 Minister of Transport, Infrastructure and Communities
 Tower C - 330 Sparks St.
 Ottawa, Ontario, Canada K1A 0N5

Dear Minister Lebel:

Re: Request for information about current state of oil spill response preparedness for unconventional oils in the Salish Sea

On June 30, 2011, I wrote to you to express support for the establishment of a pilot project to undertake geographic response plans for oil spills for the Islands Trust Area on British Columbia's West Coast. Thank you for your August 31, 2011 response. We were pleased to learn that your department sees merit in the proposal. We continue to hope that a pilot project for the West Coast assigns priority to the Salish Sea, especially given your colleague Environment Minister Peter Kent's recent acknowledgement of the nationally important environmental values of this region.

Today, I am writing to you on behalf of Islands Trust Council to request information about the current state of oil spill response preparedness for the heavy unconventional oils (diluted bitumen and syncrude) currently being shipped in tankers from Westridge Marine Terminal in Burnaby, British Columbia.

We understand that unconventional oil products, if spilled, may pose extreme challenges for effective clean-up as they are much heavier and stickier than conventional types of oil from drilled wells. We understand that very little is known about how these products will behave in the marine environment.

Some questions our staff has suggested are important:

1. Is there enough known about the fate and effects of unconventional oil in estuarine (brackish and/or sediment-laden waters) and ocean saline waters to predict how diluted bitumen or unconventional oils will behave in the Salish Sea?
 - a. If so, is there a technical ability to track unconventional oil as it moves in the estuarine and ocean saline waters of the Salish Sea? How might this change given anticipated climate change impacts including increased storms?
 - b. Will the products stay near the surface, suspend in the water column, or sink to the seabed?
2. In the event that spilled unconventional oil sinks, what plans exist to find and remove it from the vibrant habitat on the seabed of the Salish Sea?

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- a. If submerged oil cannot be removed from the seabed, what are the expected effects of the submerged oil on the health of marine wildlife and the people who depend on them and how long are these effects expected to last?
3. What will be the impacts of the condensate component of diluted bitumen?
 - a. What are the inhalation risks from the fumes of evaporating condensate to first responders, the public and wildlife?
 - b. Will the rapid evaporation of the condensate component of diluted bitumen delay on-water response for responder safety reasons (e.g. fire, explosion, inhalation risks)?
 - c. Will the condensate component of diluted bitumen promote penetration of the product into coarse shore sediments and, once evaporated, leave behind the difficult-to-remove bitumen?
 4. Will existing spill response technology be effective at booming, skimming, and recovering unconventional oil from the water and from shore sediments of the Salish Sea?
 - a. What research and development has been done to assess the usefulness of current response equipment to a spill of unconventional oil?
 - b. Has a spill response gap analysis been completed to show when and where existing spill response technologies will not be effective in containing unconventional oil products? If so, does this analysis include increased storm surge scenarios?
 - c. If effective technology exists, have response organizations invested in sufficient booms, skimmers, pumps, and beach flushing/deluge systems and waste storage suitable for handling a large spill of unconventional oil in the Salish Sea?
 - d. Has there been an assessment of how much beach cleaning chemical application would be required along shorelines to make the weathered unconventional oil less sticky and more recoverable? What effects could use of these chemicals have on ecosystems and human health?
 5. Are special protocols and practices in place to ensure effective treatment of wildlife oiled by unconventional oil?

Please provide us with information about Transport Canada's plans for assessing unconventional oil spill preparedness, and its plans to develop appropriate responses in collaboration with other federal departments, spill response organizations, the Canadian Coast Guard and industry.

Overview of Islands Trust

The Islands Trust is a federation of independent local governments that represents 25,000 people living within the Islands Trust Area. The area covers the islands and waters between the British Columbia mainland and southern Vancouver Island. It includes 13 major and more than 450 smaller islands covering 5,200 square kilometres. The Islands Trust has a legislated responsibility, through the *Islands Trust Act*, to cooperate with others to preserve and protect the unique environment and amenities of the Islands Trust Area, for the benefit of all British Columbians.

Policy 3.1.9 of the Islands Trust Policy Statement, approved by the British Columbia Minister of Municipal Affairs in 1994, states:

Trust Council encourages actions and programs of other government agencies which:

- *place priority on the side of protection for Trust Area ecosystems when judgment must be exercised,*
- *protect the diversity of native species and habitats in the Trust Area, and*
- *prevent pollution of the air, land and fresh and marine waters of the Trust Area.*

The Honourable Denis Lebel
November 2, 2011
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Under our legislated mandate, the Islands Trust Council has had an interest in marine health and oil spill issues since 1979. The Islands Trust's concerns about marine protection naturally extend to oil spill prevention and preparedness.

Thank you for your attention to this request. We look forward to your response.

Sincerely,



Sheila Malcolmson
Chair, Islands Trust Council

cc: Islands Trust Council
The Honourable Peter Kent, Minister of the Environment
The Honourable Keith Ashfield, Minister of Fisheries and Oceans
The Honourable Terry Lake, BC Minister of the Environment
Islands Trust Area MPs
Islands Trust Area MLAs
Islands Trust Area First Nations
Local governments around the Salish Sea including San Juan County
Marc Grégoire, Commissioner of the Canadian Coast Guard
Kevin Gardner, President, Western Canada Marine Response Corporation
Ian Anderson, President, Kinder Morgan
Stephen Brown, President, Chamber of Shipping of British Columbia
John Lewis, President, Regional Advisory Council on Oil Spill Response, Pacific Region
Islands Trust website