

Technical Report **TR-21**

Vancouver Fraser Port Authority Development Permit Application

Consultation Summary – Westridge Marine Terminal

Appendix R



Email Invite for Marine Safety Outreach – December 2015

Subject: Trans Mountain Expansion Project (TMEP) Update and Marine Safety Information

Good Afternoon,

Below is updated information regarding the Trans Mountain Expansion Project (TMEP) and Marine Safety. As a valued stakeholder, you may have questions and are seeking an update or specific information about how the proposed Project will affect you. In the coming year we will share more information on the following topics:

- Tanker traffic increase and navigational safety
- Updates on expansion of facilities (e.g. Westridge Marine Terminal) and pipeline detailed design, construction plans and schedule
- Emergency Management Program enhancement for pipeline system (including Westridge Marine Terminal) and Western Canada Marine Response Corporation plans to enhance spill response program for BC's south coast.

All Project information will be shared through a variety of methods such as online at www.transmountain.com, in-person, and through other digital channels.

We greatly value the relationships we have developed in communities over the past 60 years of Trans Mountain Pipeline operations and we appreciate any opportunity to meet to hear from you directly.

If you would like a more in-depth update about the Project, or have any questions, please advise by reply email to: Suzanne_Rashed@transmountain.com.

Trans Mountain Expansion Project (TMEP) Update and Marine Safety Information

In December 2013 Trans Mountain applied to the National Energy Board (NEB) to expand the existing Trans Mountain Pipeline system capacity from 300,000 barrels a day to 890,000 barrels per day. Since that time, Trans Mountain and participants in the review process have provided information to the NEB and exchanged information through several rounds of information requests (some 18,000 questions), motions, evidence and responses, technical reports and consultation updates. The NEB will issue its recommendation to Governor in Council (Federal Cabinet) on whether or not to approve the proposed Project on May 20, 2016. The Federal Cabinet has up to three months to consider the NEB's report and decide whether or not to approve for Trans Mountain to proceed with the proposed Project; though other ancillary approvals are also required before construction could begin (including detailed routing and confirmation of condition compliance).

Should TMEP be approved, Trans Mountain proposes to commence construction in Q2/Q3 2017, with an in-service date between late 2018 and October 2019. As part of the TMEP, Trans Mountain has also sought approval under NEB Section 58 for early works (e.g. site preparation). If approved by the NEB, these early works (pre-construction) activities could commence as early as fall 2016.

Tanker Traffic and Marine Safety

As a result of the proposed Project, tanker traffic to Westridge Marine Terminal is expected to grow from approximately five tankers per month to 34. The size of tankers calling Westridge in future will not change and the largest tankers will remain Aframax-size vessels. These vessels will continue to use the well-established commercial shipping route between Vancouver Harbour and the Pacific Ocean through the Salish Sea. As part of the Project's development, a risk assessment was undertaken to determine the potential impact of the increase in Project-related vessels on navigable waterways. Trans Mountain then identified further precautionary risk control measures to mitigate risk due to increased tanker traffic. Some of these measures have already been put into place and are not dependant on the proposed Expansion Project. These include:

- Port Metro Vancouver will establish a shipping channel for East Burrard Inlet (east of Second

Project. These include:

- Port Metro Vancouver will establish a shipping channel for East Burrard Inlet (east of Second Narrows Bridge)
- Tug escort of laden tankers will be expanded to cover the entire tanker shipping route
- Pilot disembarkation will take place near Race Rocks and not at Victoria (pilots have now been trained to disembark by helicopter)
- Enhanced Situational Awareness techniques will be applied that will require:
 - Safety calls by pilots and masters of laden tankers
 - Notices to industry issued by Pacific Pilotage Authority
 - Tactical use of escort tug along shipping route
 - Boating safety engagement and awareness program led by Pacific Pilotage Authority
 - Encourage use of Automatic Identification System (AIS) and radar reflector by smaller vessels

Oil Spill Response Enhancements

Proposed response enhancements are based on the results of risk assessment, product testing, oil spill modelling and engagement, and would create an increased response area for the Salish Sea and Strait of Juan de Fuca.

Oil spill response enhancements will be implemented by Western Canada Marine Response (WCMRC) and will double WCMRC's response capacity while cutting in half the delivery time of existing planning standards. Establishing the enhanced regime entails:

- \$100 million investment in WCMRC
- Creation of 100 new jobs
- Establishing of five new response bases along shipping route – some bases will have 24/7/365 response capability

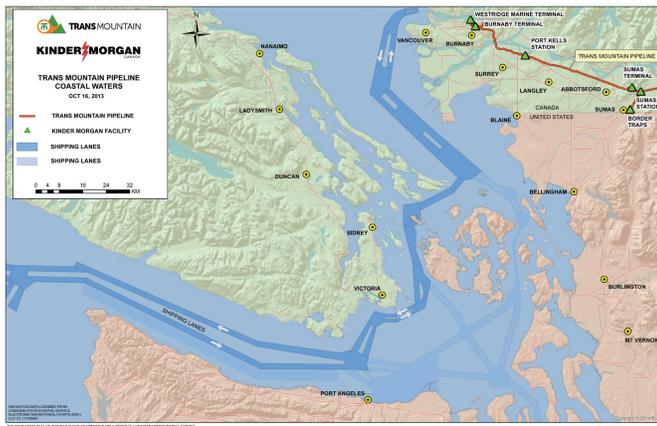
The benefits that would result from these proposed marine safety enhancements along with new information about risk and mitigation of oil behaviour would benefit not only Trans Mountain, but all marine waterway users.

We look forward to hearing from you.

MARINE SAFETY ENHANCEMENTS

Trans Mountain has safely loaded marine vessels with petroleum products since 1956. The region's already robust marine safety regime is well managed, with important risk controls for all traffic and for oil tankers in particular. Regulations and practices are established, implemented and monitored by Transport Canada, the Canadian Coast Guard, Pacific Pilotage Authority and Port Metro Vancouver. Highly-trained and qualified pilots ensure tankers navigate our local waters safely. Trans Mountain has proposed additional risk controls and enhancements that will build on the current marine safety regime.

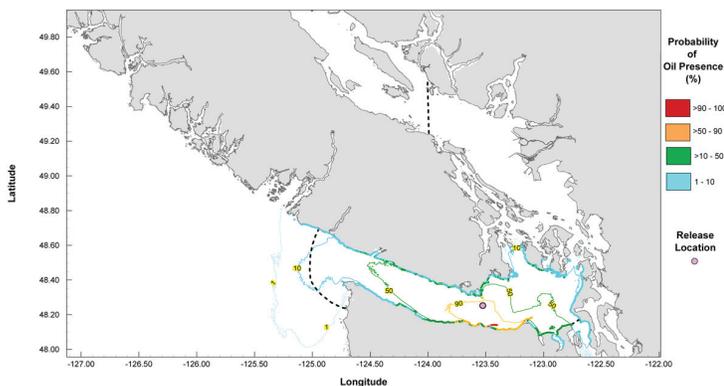
Tanker Traffic



Risk Assessment

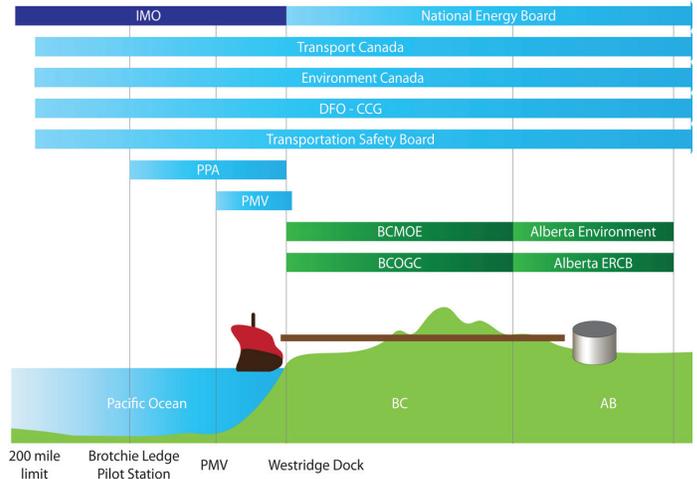
A risk assessment was undertaken to determine the potential impact of the increase in Project-related vessels on navigable waterways. Carried out by international experts in risk, the assessment was based upon:

- Analysis of current and future marine traffic
- Research and engagement with the local maritime community to identify hazards and review existing safety measures
- Product fate and behaviour testing to better understand the properties of heavy crude oils like diluted bitumen
- Spill modelling (2D and 3D modelling to understand where oil travels and how it interacts with the marine environment in the event it is spilled)

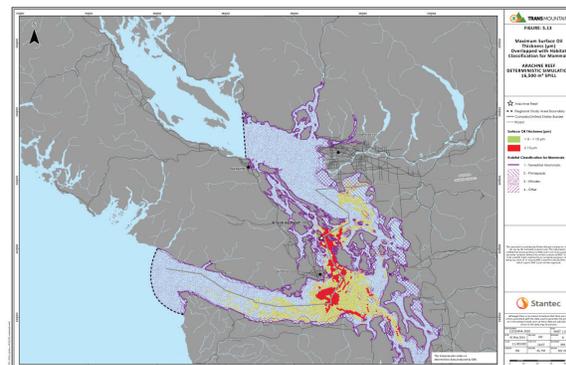


Stochastic modelling 2-D modelling to understand where the oil might go in the event of a spill

Regulatory Oversight of Crude Oil Transport Operations



Tanker traffic to Westridge Marine Terminal is expected to grow from approximately five tankers per month to 34. The size of tankers calling at Westridge in future will not change and the largest tankers will remain Aframax-size vessels. These vessels will continue to use the well-established commercial shipping route between Vancouver Harbour and the Pacific Ocean through the Salish Sea.



Deterministic modelling 3-D modelling to understand interactions of the oil after a specific release – fate of the oil in the marine environment

MARINE SAFETY ENHANCEMENTS CONT'D

Proposed Measures to Mitigate Risk

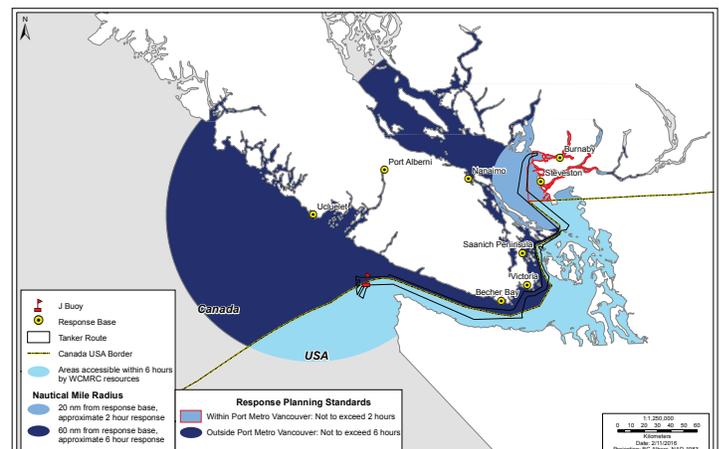
Trans Mountain has identified further precautionary risk control measures that will mitigate risk due to increased tanker traffic. Some of these measures have already been put into place and are not dependant on the proposed Expansion Project. These include:

- Port Metro Vancouver will establish a shipping channel for East Burrard Inlet (east of Second Narrows Bridge)
- Laden tanker tug escort will be expanded to cover the entire tanker shipping route through the Strait of Georgia and between Race Rocks and the J Buoy at the western entrance to Juan de Fuca Strait (consistent with Final Argument – section 8.3, Social Aspects of Marine Shipping ESA)
- Pilot disembarkation will take place near Race Rocks instead of Victoria (pilots have now been trained to disembark by helicopter)
- Enhanced Situational Awareness techniques will be applied that will require:
 - o Safety calls by pilots and masters of laden tankers
 - o Notices to industry issued by Pacific Pilotage Authority
 - o Tactical use of escort tug along shipping route
 - o Boating safety engagement and awareness program led by Pacific Pilotage Authority
 - o Encourage use of Automatic Identification System (AIS) and radar reflector by smaller vessels

Oil Spill Response Enhancements

Proposed response enhancements are based on the results of risk assessment, product testing, oil spill modelling and engagement, and would create an increased response area for the Salish Sea and Strait of Juan de Fuca. Enhancements will be implemented by Western Canada Marine Response Corporation (WCMRC) and will double WCMRC's response capacity while cutting in half the delivery time of existing planning standards. Establishing the enhanced regime entails:

- More than \$150 million investment in WCMRC
- Creation of more than 100 new jobs
- Establishing five new response bases and adding new vessels at strategic locations along BC's southern shipping lane. Three of the bases call for 24/7 operations, including a new Vancouver Harbour base.



Enhanced Spill Response: Reduced minimum response times



For more information, visit www.wcmrc.com.

The benefits that would result from these proposed marine safety enhancements along with new information about risk and mitigation of oil behaviour would benefit not only Trans Mountain, but all marine waterway users.

CONTACT US:
Trans Mountain Expansion Project

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Safety on the Water

*A cautious mariner will avoid crossing close ahead of a large ship.
If a small boat breaks down, a large ship has little chance of avoiding it.*



SHIPS CAN'T STOP IMMEDIATELY – large ships require more space

Collision Regulations take priority at all times – be completely familiar with these Rules of the Road and any local regulations

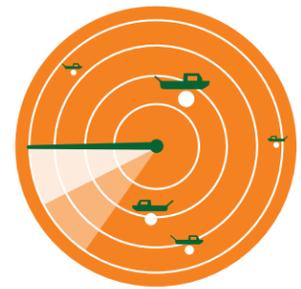
SAFETY TIPS



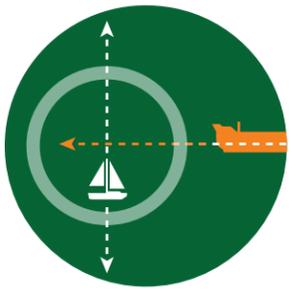
- Maintain a lookout by sight and sound. Sounding five short and rapid blasts is a warning signal



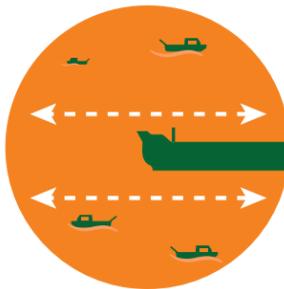
- Make sure the required navigational lights are displayed



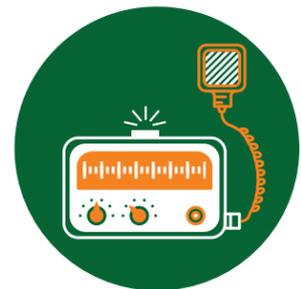
- Consider fitting your small craft with AIS (Automatic Identification System) or a radar reflector to be more visible to large vessels



- When in a shipping lane or designated traffic separation scheme, be aware of large ships; cross shipping lanes at a 90-degree angle and keep clear of large ships



- If fishing is allowed in a shipping lane or designated traffic separation scheme, keep as near to the outer edge as possible and leave the centre of the channel open for large ship traffic



- Keep a listening watch on the appropriate VHF channel and set your AIS (if fitted) for information on other ship movements in the area

Trans Mountain has been operating at Westridge Marine Terminal for six decades safely due in part to the stringent precautions we put in place.

Close collaboration between Pilotage Authorities, Transport Canada, the Canadian Coast Guard and the Port of Vancouver ensures vessels navigate our waters safely, guided by highly qualified local pilots.

For more information on marine safety go to: transmountain.com/marine

 info@transmountain.com

 1.866.514.6700

 transmountain.com

 @TransMtn

 youtube.com/transmtn

 soundcloud.com/transmountain

"The Collision Regulations" of Canada Shipping Act 2001 can be found at:
http://laws-lois.justice.gc.ca/eng/regulations/C.R.C.,_c._1416

All images are for graphic representation only.

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Appendix T



APPENDIX T

ENGAGEMENT RESOURCES TABLE FOR APPLICABLE STAKEHOLDERS AND COMMUNITIES WHO PARTICIPATED IN NEB PROCESS

No.	Organization	Application to Participate	Information Requests ("IRs"), Letters and Motions	Evidence Submitted	Written Argument-in-Chief and Reply and Comments/Proposed Draft Conditions	Oral Summary Argument
Intervenor						
1.	City of Burnaby	<u>C69-0 - City of Burnaby - Application to Participate (A56896)</u>	<p><u>C69-01 - City of Burnaby - Letter from Ratcliff - Company for City of Burnaby re Trans Mountain Expansion Project (A59299)</u></p> <p><u>C69-02 - City of Burnaby - Letter to National Energy Board re- deadline for Information Requests No. 1 to Trans Mountain Pipeline ULC (A59706)</u></p> <p><u>C69-03 - City of Burnaby - Response to the Notice of Motion of Robyn Allan dated April 14, 2014 (A59804)</u></p> <p><u>C69-04 - City of Burnaby - City of Burnaby Information Request No. 1 to Trans Mountain (A60151)</u></p> <p><u>C69-05 - City of Burnaby - LT City of Burnaby to NEB re- oral hearing for Notice of Motion (A60457)</u></p> <p><u>C69-06 - City of Burnaby - LT City of Burnaby to NEB re- response to City of Vancouver Notice of Motion (A60604)</u></p> <p><u>C69-07 - City of Burnaby - City of Burnaby to NEB re- response to Notice of Motion of Trans Mountain - Information Request Extension (A60679)</u></p> <p><u>C69-08 - City of Burnaby - City of Burnaby to NEB re- Trans Mountain Response to NEB Information Request (A61063)</u></p> <p><u>C69-09 - City of Burnaby - City of Burnaby to NEB re- response to Trans Mountain June 17, 2014 letter (A61209)</u></p> <p><u>C69-10 - City of Burnaby - Notice of Motion on Trans Mountain's response to IR No. 1 (A61506)</u></p> <p><u>C69-11 - City of Burnaby - LT to NEB re- Notice of Motion of Robyn Allan dated July 4, 2014 (A61585)</u></p> <p><u>C69-12 - City of Burnaby - Reply to Trans Mountain Response to Notice of Motion (A61803)</u></p> <p><u>C69-13 - City of Burnaby to NEB re- access to Burnaby lands (A62026)</u></p> <p><u>C69-14 - City of Burnaby to NEB re- interpretation of s. 73(a) of the NEB Act (A62110)</u></p>	<p><u>C69-44 - City of Burnaby - Evidence of the City of Burnaby (A70266)</u></p> <p><u>C69-52 - City of Burnaby - Affidavits Adopting Evidence (A72202)</u></p> <p><u>C69-53 - City of Burnaby - NEB re- striking of evidence (A72437)</u></p> <p><u>C69-58 - City of Burnaby - Reply to Notice of Motion on the Replacement Evidence IRs (A73680)</u></p> <p><u>C69-59 - City of Burnaby - Supplemental Written Evidence regarding Replacement Evidence (A74432)</u></p> <p><u>C69-60 - City of Burnaby - Affidavit of Dipak Dattani - adopting supplemental evidence (A74739)</u></p>	<p><u>C69-61 - City of Burnaby - Final Argument (A75080)</u></p>	<p><u>C69-45 - City of Burnaby - Notice of Intention to Provide Oral Summary Argument (A70791)</u></p> <p><u>C69-51 - City of Burnaby - LT to NEB re- number of representatives at oral hearing (A71732)</u></p> <p><u>C69-56 - City of Burnaby - Notice of Intent to Provide Oral Summary Argument (A73488)</u></p> <p><u>C69-62 - City of Burnaby - Order to Vary Ruling No. 89 re Hearing List (A75194)</u></p> <p><u>C69-63 - City of Burnaby - Speaker and Exhibit Information for Oral Argument (A75195)</u></p>

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1. (cont'd)	See above	See above	<p><u>C69-15 - City of Burnaby - Notice of Constitutional Question (A62123)</u></p> <p><u>C69-16 - City of Burnaby - Response to Trans Mountain's Notice of Motion dated August 1, 2014 (A62220)</u></p> <p><u>C69-17 - City of Burnaby to NEB re TMP ULC's Notice of Motion of August 1, 2014 (A62365)</u></p> <p><u>C69-18 - City of Burnaby - Letter to NEB re TMP ULC's Notice of Motion of September 3, 2014 (A62636)</u></p> <p><u>C69-19 - City of Burnaby - Letter to NEB re Trans Mountain Notice of Motion (A62728)</u></p> <p><u>C69-20 - City of Burnaby to National Energy Board re- Trans Mountain Notice of Motion dated September 3, 2014 (A62936)</u></p> <p><u>C69-21 - City of Burnaby - NEB re TMP ULC's Motion of 2014-09-26 (A63078)</u></p> <p><u>C69-22 - City of Burnaby to NEB re Clarification of NEB Statement (A63202)</u></p> <p><u>C69-23 - City of Burnaby - Authorities to the Response of the City of Burnaby (A63306)</u></p> <p><u>C69-24 - City of Burnaby - Response of the City of Burnaby (A63311)</u></p> <p><u>C69-25 - City of Burnaby - Affidavit of Dipak Dattani sworn October 6, 2014 (A63312)</u></p> <p><u>C69-26 - City of Burnaby to NEB re TMP Reply of October 7, 2014 (A63397)</u></p> <p><u>C69-27 - City of Burnaby - City of Burnaby to NEB re- Policing and Remediation Costs (A64828)</u></p> <p><u>C69-28 - City of Burnaby - Letter to NEB re Support for Notice of Motion of Robyn Allan (A64869)</u></p> <p><u>C69-29 - City of Burnaby - Letter to NEB re- Support for Notice of Motion of the Province (A64931)</u></p> <p><u>C69-30 - City of Burnaby Information Request No. 2 to Trans Mountain (A65391)</u></p> <p><u>C69-31 - City of Burnaby Notice of Motion - advertising costs (A65502)</u></p> <p><u>C69-32 - City of Burnaby - Reply to Trans Mountain Response to Notice of Motion dated January 22, 2015 (A65766)</u></p>	See above	See above	See above
			<p style="text-align: center;">Page T-2</p> <p><u>C69-33 - City of Burnaby - Information Request on TERMPOL Report (A66279)</u></p>			

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1. (cont'd)	See above	See above	<p><u>C69-35 - City of Burnaby - Reply to TM Response to Notice of Motion re IR No. 2 (A68931)</u></p> <p><u>C69-36 - City of Burnaby - Notice of Motion TERMPOL IR 2(b) (A69121)</u></p> <p><u>C69-37 - City of Burnaby - Information Request 2(c) to Trans Mountain (A69409)</u></p> <p><u>C69-38 - City of Burnaby - Reply to TERMPOL Information Request (A69482)</u></p> <p><u>C69-39 - City of Burnaby - Notice of Motion re Information Request 2(c) (A69558)</u></p> <p><u>C69-40 - City of Burnaby - Reply to Notice of Motion IR 2(c) (A69652)</u></p> <p><u>C69-41 - City of Burnaby - IR No 2(d) (A69818)</u></p> <p><u>C69-42 - City of Burnaby - Notice of Motion to Compel Adequate Responses - IR 2(d) (A70043)</u></p> <p><u>C69-43 - City of Burnaby - Reply - Notice of Motion to Compel Adequate Responses - IR No. 2(d) (A70136)</u></p> <p><u>C69-46 - City of Burnaby Information Requests to Natural Resources Canada, Department of Fisheries and Ocean and Vancouver Fraser Port Authority (A70836)</u></p> <p><u>C69-47 - City of Burnaby - Responses to Information Requests of City of Vancouver and Trans Mountain (A71238)</u></p> <p><u>C69-48 - City of Burnaby Notice of Motion Information Requests to NRCan and DFO (A71393)</u></p> <p><u>C69-49 - City of Burnaby Responses to National Energy Board Information Requests (A71475)</u></p> <p><u>C69-50 - City of Burnaby Reply to NRCan and DFO responses to motions (A71629)</u></p> <p><u>C69-54 - City of Burnaby - Response to Notices of Motion of Vancouver and TWN (A72607)</u></p> <p><u>C69-55 - City of Burnaby - Information Requests to Trans Mountain's Replacement Evidence (A73295)</u></p> <p><u>C69-57 - City of Burnaby - Notice of Motion to Compel Full and Adequate Responses to Information Requests to Trans Mountain Re- Replacement Evidence (A73538)</u></p>	See above	See above	See above

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2.	City of North Vancouver	<u>C73-0 - City of North Vancouver - Application to Participate (A57555)</u>	<p><u>C73-01 - City of North Vancouver - City of North Vancouver Information Request to Trans Mountain (A65341)</u></p> <p><u>C73-02 - City of North Vancouver - Information Request to Trans Mountain- TERMPOL Report (A66290)</u></p> <p><u>C73-03 - City of North Vancouver - Notice of Motion re Adequacy of IR responses (A66991)</u></p> <p><u>C73-04 - City of North Vancouver - Adequacy of Response TERMPOL IRs (A69120)</u></p> <p><u>C73-05 - City of North Vancouver - Affidavit of North Shore Emergency Management (A70222)</u></p> <p><u>C73-08 - City of North Vancouver - Affidavit of M. Hunter (A71934)</u></p>	<u>C73-06 - City of North Vancouver - Written Evidence (A70223)</u>	<u>C73-10 - City of North Vancouver - Final Argument in Chief (A75033)</u>	<p><u>C73-07 - City of North Vancouver - Notice to provide oral summary argument (A70907)</u></p> <p><u>C73-09 - City of North Vancouver - Notice of Intent to Provide Oral Summary Argument (A73583)</u></p> <p><u>C73-11 - City of North Vancouver - Letter to NEB re- Oral Hearing Representatives (A75214)</u></p>
3.	City of Port Moody	<u>C74-0 - City of Port Moody - Application to Participate (A58046)</u>	<p><u>C74-01 - City of Port Moody Information Request No.1 to Trans Mountain (A60272)</u></p> <p><u>C74-02 - City of Port Moody - Letter to NEB Regarding IR No.1 Response Adequacy (A61500)</u></p> <p><u>C74-03 - City of Port Moody - Letter of Support re Province of BC Notice of Motion #2 dated Dec 5, 2014 (A65086)</u></p> <p><u>C74-04 - City of Port Moody - Information Request No.2 to Trans Mountain (A65400)</u></p> <p><u>C74-05 - City of Port Moody - TERMPOL Information Request to Trans Mountain (A66245)</u></p> <p><u>C74-06 - City of Port Moody - Notice of Motion regarding Response to City's IR No.2 (A66990)</u></p> <p><u>C74-07 - City of Port Moody - Reply to Trans Mountain's Response to City's Notice of Motion on IR No.2 (A68863)</u></p> <p><u>C74-08 - City of Port Moody - Notice of Motion regarding Response to City's TERMPOL (A69114)</u></p> <p><u>C74-09 - City of Port Moody - Reply to Trans Mountain's Response on City's Notice of Motion on TERMPOL IR (A69480)</u></p> <p><u>C74-15 - City of Port Moody - Affidavits (A71152)</u></p>	<p><u>C74-10 - City of Port Moody - Evidence (A70219)</u></p> <p><u>C74-11 - City of Port Moody - Evidence (A70255)</u></p> <p><u>C74-12 - City of Port Moody - Evidence (A70284)</u></p>	<u>C74-18 - City of Port Moody - Final Argument (A75073)</u>	<p><u>C74-14 - City of Port Moody - Notice to provide oral summary argument (A70754)</u></p> <p><u>C74-16 - City of Port Moody - Notice of intent to provide oral summary argument (A73555)</u></p> <p><u>C74-17 - City of Port Moody - Letter - Attendance to Oral Summary Argument (A74767)</u></p>

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No.	Organization	Application to Participate	Information Requests ("IRs"), Letters and Motions	Evidence Submitted	Written Argument-in-Chief and Reply and Comments/Proposed Draft Conditions	Oral Summary Argument
3. (cont'd)	City of Port Moody	<u>C74-0 - City of Port Moody - Application to Participate (A58046)</u>	<u>C74-19 - City of Port Moody - Authorities for the City of Port Moody (A75081)</u>			
4.	City of Vancouver	<u>C77-0 - City of Vancouver - Application to Participate (A57557)</u>	<p><u>C77-01 - City of Vancouver - Response to Notice of Motion by Robyn Allan dated April 14, 2014 (A59812)</u></p> <p><u>C77-02 - City of Vancouver - Response to Notices of Motion to Extend Statutory Timeline (A59887)</u></p> <p><u>C77-03 - City of Vancouver - Information Request No. 1 to Trans Mountain Pipeline ULC (A60323)</u></p> <p><u>C77-04 - City of Vancouver - Notice of Motion Re Expanding the List of Issues (A60478)</u></p> <p><u>C77-05 - City of Vancouver - Letter in Support of Quamby et al Notice of Motion for an Oral Hearing dated May 15, 2014 (A60595)</u></p> <p><u>C77-06 - City of Vancouver - Reply to Trans Mountain Response to City of Vancouver Notice of Motion dated May 26, 2014 (A60847)</u></p> <p><u>C77-07 - City of Vancouver - Trans Mountain Responses to City of Vancouver Information Requests (A61340)</u></p> <p><u>C77-08 - City of Vancouver - Objection to Comments of Canadian Association of Petroleum Producers (A61399)</u></p> <p><u>C77-09 - City of Vancouver - Response in Support of Robyn Allan Notice of Motion dated June 23, 2014 (A61488)</u></p> <p><u>C77-10 - City of Vancouver - Notice of Motion to Compel Full and Adequate IR Responses (A61527)</u></p> <p><u>C77-11 - City of Vancouver - Reply to Trans Mountain Response - Notice of Motion dated July 4, 2014 (A61810)</u></p> <p><u>C77-12 - City of Vancouver - Letter regarding response to Trans Mountain Notice of Motion dated 1 August 2014 (A62193)</u></p> <p><u>C77-13 - City of Vancouver - Notice of Motion to Review October 2 Decision (A63318)</u></p>	<p><u>C77-27 - City of Vancouver - Written Evidence - Part 1 (A70261)</u></p> <p><u>C77-27A - City of Vancouver - Written Evidence - Part 1A (A70283)</u></p> <p><u>C77-28 - City of Vancouver - Written Evidence - Part 2 (A70254)</u></p> <p><u>C77-29 City of Vancouver - Written Evidence - Part 3 (A70260)</u></p> <p><u>C77-30 - City of Vancouver - Written Evidence - Part 4 (A70264)</u></p> <p><u>C77-31 - City of Vancouver - Written Evidence - Part 5 (A70285)</u></p> <p><u>C77-44 - City of Vancouver - Affidavits of City of Vancouver adopting Written Evidence (A72205)</u></p> <p><u>C77-45 - City of Vancouver - Affidavits of City of Vancouver adopting Written Evidence (A72246)</u></p> <p><u>C77-53 - City of Vancouver - Supplemental Written Evidence (A74402)</u></p> <p><u>C77-54 - City of Vancouver - Supplemental Written Evidence (A74406)</u></p> <p><u>C77-55 - City of Vancouver - Letter - Request to File Revised Evidence (A74443)</u></p> <p><u>C77-60 - City of Vancouver - Affidavits of adopting Supplemental Written Evidence (A74730)</u></p>	<u>C77-61 - City of Vancouver - Written Argument (A75082)</u>	<p><u>C77-37 - City of Vancouver - Notice of Intention to provide Oral Summary Argument (A70849)</u></p> <p><u>C77-51 - City of Vancouver - Notice of Intent to Provide Oral Summary Argument (A73694)</u></p>

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ENGAGEMENT RESOURCES TABLE FOR APPLICABLE STAKEHOLDERS AND COMMUNITIES WHO PARTICIPATED IN NEB PROCESS

No.	Organization	Application to Participate	Information Requests ("IRs"), Letters and Motions	Evidence Submitted	Written Argument-in-Chief and Reply and Comments/Proposed Draft Conditions	Oral Summary Argument
4. (cont'd)	See above	See above	<p><u>C77-14 - City of Vancouver - Response to Notice of Motion by Robyn Allan dated November 23, 2014 (A64742)</u></p> <p><u>C77-15 - City of Vancouver - Response in Support of Province of BC Notice of Motion dated December 5, 2014 (A64956)</u></p> <p><u>C77-16 - City of Vancouver - Information Request No. 2 to Trans Mountain Pipeline ULC (A65435)</u></p> <p><u>C77-17 - City of Vancouver - Information Request No. 3 to Trans Mountain Pipeline ULC (TERMPOL) (A66289)</u></p> <p><u>C77-18 - City of Vancouver - Notice of Motion to Compel Full and Adequate Responses to IR No. 2 (A66992)</u></p> <p><u>C77-19 - City of Vancouver - Response to Notice of Motion by Trans Mountain dated February 27, 2015 (A68341)</u></p> <p><u>C77-20 - City of Vancouver - Reply on the Motion to Compel Full and Adequate Responses to IR No. 2 (A68937)</u></p> <p><u>C77-21 - City of Vancouver - Notice of Motion to Compel Full and Adequate Responses to IR No. 3 (TERMPOL) (A69118)</u></p> <p><u>C77-22 - City of Vancouver - Letter of Clarification concerning Reply filed March 17, 2015 on the Notice of Motion to Compel Full and Adequate Responses to IR No. 2 (A69147)</u></p>	See above	See above	See above

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ENGAGEMENT RESOURCES TABLE FOR APPLICABLE STAKEHOLDERS AND COMMUNITIES WHO PARTICIPATED IN NEB PROCESS

No.	Organization	Application to Participate	Information Requests ("IRs"), Letters and Motions	Evidence Submitted	Written Argument-in-Chief and Reply and Comments/Proposed Draft Conditions	Oral Summary Argument
5. (cont'd)	See above	See above	<p><u>C77-23 - City of Vancouver - Information Request No. 2c to Trans Mountain Pipeline ULC (A69407)</u></p> <p><u>C77-24 - City of Vancouver - Reply on the Motion to Compel Full and Adequate Responses to the TERMPOL IRs (A69481)</u></p> <p><u>C77-25 - City of Vancouver - Notice of Motion to Compel Full and Adequate Responses to IR No. 2(c) (A69555)</u></p> <p><u>C77-26 - City of Vancouver - Reply on Motion to Compel Full and Adequate Responses to IR No. 2(c) (A69656)</u></p> <p><u>C77-32 - City of Vancouver - Information Request to Transport Canada (A70817)</u></p> <p><u>C77-33 - City of Vancouver - Information Request to Fisheries and Oceans Canada (A70818)</u></p> <p><u>C77-34 - City of Vancouver - Information Request to Environment Canada (A70824)</u></p> <p><u>C77-35 - City of Vancouver - Information Request to Washington State Department of Ecology (A70828)</u></p> <p><u>C77-36 - City of Vancouver - Information Request to City of Burnaby (A70833)</u></p> <p><u>C77-38 - City of Vancouver - Response to Metro Vancouver Information Request to City of Vancouver (A71195)</u></p> <p><u>C77-39 - City of Vancouver - Motion on Inadequacy of IR Responses from Transport Canada (A71388)</u></p> <p><u>C77-40 - City of Vancouver - Motion on Inadequacy of IR Responses from Fisheries and Oceans Canada (A71389)</u></p> <p><u>C77-41 - City of Vancouver - Response to NEB Information Requests to the Tsleil-Waututh Nation, City of Vancouver and City of Burnaby (A71469)</u></p> <p><u>C77-42 - City of Vancouver - Reply to Department of Fisheries and Oceans' Response to the Motion to Compel Full and Adequate Responses (A71680)</u></p> <p><u>C77-43 - City of Vancouver - Reply to Transport Canada's Response to the Motion to Compel Full and Adequate Responses (A71682)</u></p>	See above	See above	See above

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ENGAGEMENT RESOURCES TABLE FOR APPLICABLE STAKEHOLDERS AND COMMUNITIES WHO PARTICIPATED IN NEB PROCESS

No.	Organization	Application to Participate	Information Requests ("IRs"), Letters and Motions	Evidence Submitted	Written Argument-in-Chief and Reply and Comments/Proposed Draft Conditions	Oral Summary Argument
5. (cont'd)	See above	See above	<p><u>C77-46 - City of Vancouver - Notice of Motion on Reply Evidence and Procedural Steps arising from striking of Kelly Evidence (A72435)</u></p> <p><u>C77-47 - City of Vancouver - Response to Notice of Motion of Tsleil-Waututh Nation on Reply Evidence (A72625)</u></p> <p><u>C77-48 - City of Vancouver - Reply Letter on Notice of Motion dated September 4, 2015 (A72743)</u></p> <p><u>C77-49 - City of Vancouver - Information Request No. 4 to Trans Mountain Pipeline ULC (A73298)</u></p> <p><u>C77-50 - City of Vancouver - Motion to Compel Full and Adequate Responses from Trans-Mountain to IRs about its Replacement Evidence (A73542)</u></p> <p><u>C77-52 - City of Vancouver - Reply to the Motions to compel full and adequate responses from Trans Mountain to IRs about its replacement evidence (A73726)</u></p> <p><u>C77-56 - City of Vancouver - Information Request (A74522)</u></p> <p><u>C77-57 - City of Vancouver - Response to Trans Mountain Information Request (A74640)</u></p> <p><u>C77-58 - City of Vancouver - Response to Motion of Trans Mountain Pipeline ULC (A74668)</u></p> <p><u>C77-59 - City of Vancouver - Response to Notice of Motion of Living Oceans Society and Raincoast Conservation Foundation dated December 9, 2015 (A74673)</u></p> <p><u>C77-62 - City of Vancouver - Letter regarding DNV Technical Memo (A75462)</u></p>	See above	See above	See above
6.	District of North Vancouver	<u>C106-0 - District of North Vancouver - Application to Participate (A58484)</u>	<p><u>C106-01 - District of North Vancouver - District of North Van - Support for Allan Motion (A60114)</u></p> <p><u>C106-02 - District of North Vancouver - District of North Vancouver - Information Request No. 1 (A60300)</u></p> <p><u>C106-03 - District of North Vancouver - Support for BC Motion (A64939)</u></p> <p><u>C106-04 - District of North Vancouver - IR#2 (A65444)</u></p> <p><u>C106-05 - District of North Vancouver - IR#3 - TERMPOL (A66294)</u></p>	<u>C106-08 - District of North Vancouver - Evidence (A70300)</u>	<u>C106-11 - District of North Vancouver - Final Argument (A75089)</u>	<p><u>C106-09 - District of North Vancouver - Notice to Provide Oral Summary Argument (A70816)</u></p> <p><u>C106-10 - District of North Vancouver - Notice of Intent to Provide Oral Summary Argument (A73429)</u></p>

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ENGAGEMENT RESOURCES TABLE FOR APPLICABLE STAKEHOLDERS AND COMMUNITIES WHO PARTICIPATED IN NEB PROCESS

No.	Organization	Application to Participate	Information Requests ("IRs"), Letters and Motions	Evidence Submitted	Written Argument-in-Chief and Reply and Comments/Proposed Draft Conditions	Oral Summary Argument
6. (cont'd)	See above	See above	<p><u>C106-06 - District of North Vancouver - Motion re Adequacy of Responses to IR#2 (A67001)</u></p> <p><u>C106-07 - District of North Vancouver - Motion re. Adequacy of Responses to IR#2 (A68928)</u></p>	See above	See above	See above
7.	District of West Vancouver	<u>C107-0 - District of West Vancouver - Application to Participate (A58562)</u>	<p><u>C107-01 - District of West Vancouver - Letter in Support of Allan Notice of Motion and City of Burnaby Response to Allan Notice of Motion (A59903)</u></p> <p><u>C107-02 - District of West Vancouver - Information Request No.1 to Trans Mountain (A60282)</u></p> <p><u>C107-03 - District of West Vancouver - Letter in Support of City of Vancouver Notice of Motion of May 16, 2014 (A60633)</u></p> <p><u>C107-04 - District of West Vancouver - Notice of Motion re Responses to IR No.1 (A61534)</u></p> <p><u>C107-05 - District of West Vancouver - Reply to Trans Mountain Response re Adequate IR No.1 (A61843)</u></p> <p><u>C107-06 - District of West Vancouver - Letter of Support- Province of BC Notice of Motion of Dec 5, 2014 (A64961)</u></p> <p><u>C107-07 - District of West Vancouver - Information Request No.2 (A65399)</u></p> <p><u>C107-08 - District of West Vancouver - TERMPOL Information Request (A66297)</u></p> <p><u>C107-09 - District of West Vancouver - Motion re IR No. 2 (A67019)</u></p> <p><u>C107-10 - District of West Vancouver - Affidavit of Dorit Mason (A70221)</u></p> <p><u>C107-12 - District of West Vancouver - Letter of Support for City of Vancouver and Tsleil-Waututh Nation Motions re TM Reply Evidence (A72619)</u></p>		<u>C107-14 - District of West Vancouver - Final Argument in Chief (A75047)</u>	<p><u>C107-11 - District of West Vancouver - Notice to Provide Oral Summary Argument (A70868)</u></p> <p><u>C107-13 - District of West Vancouver - Notice to Provide Oral Summary Argument (A73704)</u></p>

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ENGAGEMENT RESOURCES TABLE FOR APPLICABLE STAKEHOLDERS AND COMMUNITIES WHO PARTICIPATED IN NEB PROCESS

No.	Organization	Application to Participate	Information Requests ("IRs"), Letters and Motions	Evidence Submitted	Written Argument-in-Chief and Reply and Comments/Proposed Draft Conditions	Oral Summary Argument
8.	Fisheries and Oceans Canada and the Canada Coast Guard	<u>C97-0 - Department Fisheries and Oceans - Application To Participate (A58347)</u>	<p><u>C97-1 - Fisheries and Oceans Canada - Response to NEB Information Request #1 (A63372)</u></p> <p><u>C97-3 - Fisheries and Oceans Canada - Responses to Information Requests from the National Energy Board (A71467)</u></p> <p><u>C97-4 - Department Fisheries and Oceans - Responses to Motions to Compel regarding Responses to Information Requests from other Intervenors (A71594)</u></p> <p><u>C97-5 - Fisheries and Oceans Canada (DFO) - Responses to Motions to Compel regarding Responses to Information Requests from other Intervenors (A71606)</u></p> <p><u>C97-6 - Department Fisheries and Oceans - Removal of incorrectly filed document (A71769)</u></p> <p><u>C97-7 - Fisheries and Oceans Canada - Follow-up Responses to NEB Ruling No. 85 (A71909)</u></p> <p><u>C97-8 - Fisheries and Oceans Canada - Affidavits Adopting Written Evidence (A72172)</u></p>	<p><u>C97-2 - Fisheries and Oceans Canada and the Canadian Coast Guard - Written Evidence (A70242)</u></p>	<p><u>C97-9 - Fisheries and Oceans Canada and the Canadian Coast Guard - Written Argument-in-Chief (A75070)</u></p>	
9.	Metro Vancouver	<u>C234-0 - Metro Vancouver - Application to Participate (A57762)</u>	<p><u>C234-01 - Metro Vancouver - Metro Vancouver Information Request No.1 to Trans Mountain (A60239)</u></p> <p><u>C234-02 - Metro Vancouver - Notice of Motion Related to Metro Vancouver's IR No.1 (A61532)</u></p>	<p><u>C234-07 - Metro Vancouver - Written Evidence and Exhibits (A70262)</u></p> <p><u>C234-07-36 - Metro Vancouver - Metro Vancouver Exhibit 34 - 3 Replacement (A70383)</u></p>	<p><u>C234-23 - Metro Vancouver - Written Argument (A75092)</u></p>	<p><u>C234-09 - Metro Vancouver Notice to Provide Oral Summary Argument (A70794)</u></p> <p><u>C234-20 - Metro Vancouver - Notice of Intent to Provide Oral Argument (A73665)</u></p>

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ENGAGEMENT RESOURCES TABLE FOR APPLICABLE STAKEHOLDERS AND COMMUNITIES WHO PARTICIPATED IN NEB PROCESS

No.	Organization	Application to Participate	Information Requests ("IRs"), Letters and Motions	Evidence Submitted	Written Argument-in-Chief and Reply and Comments/Proposed Draft Conditions	Oral Summary Argument
8. (cont'd)	See above	See above	<p><u>C234-03 - Metro Vancouver - Response to TM's Letter re Notice of Motion - Adequate IR Responses (A61824)</u></p> <p><u>C234-04 - Metro Vancouver - Notice of Motion from Metro Vancouver (A63376)</u></p> <p><u>C234-05 - Metro Vancouver Information Request No.2 (A65411)</u></p> <p><u>C234-06 - Metro Vancouver - Notice of Motion - IR No.2 (A66980)</u></p> <p><u>C234-08 - Metro Vancouver Information Request for the City of Vancouver (A70793)</u></p> <p><u>C234-10 - Metro Vancouver Information Request to Simon Fraser University (A70819)</u></p> <p><u>C234-12 - Metro Vancouver - Response to Trans Mountain's IRs (A71183)</u></p> <p><u>C234-16 - Metro Vancouver - Notice of Motion in Response to NEB Letter dated 15-09-10 (A72626)</u></p> <p><u>C234-18 - Metro Vancouver - Motion of Inadequate Response to Replacement Evidence (A73541)</u></p> <p><u>C234-19 - Metro Vancouver Information Request to Trans Mountain's Reply Evidence (A73622)</u></p> <p><u>C234-22 - Metro Vancouver - Additional Affidavits (A74697)</u></p>	<p><u>C234-11 - Metro Vancouver - Revised Evidence C234-7-31 Exhibit #30 (A70910)</u></p> <p><u>C234-13 - Metro Vancouver - Affidavits for Metro Vancouver Written Evidence (A72186)</u></p> <p><u>C234-14 - Metro Vancouver - Evidence Prepared by Mr. Kelly (A72390)</u></p> <p><u>C234-15 - Metro Vancouver - Revised C234-7-31 Exhibit #30 Zoetica Report (A72392)</u></p> <p><u>C234-17 - Metro Vancouver - Information Request- Replacement Evidence (A73291)</u></p> <p><u>C234-21 - Metro Vancouver - Supplemental Written Evidence Related to TM's Replacement Evidence (A74358)</u></p>	See above	<u>C234-24 - Metro Vancouver - Letter of Request for Additional Participants at the Oral Hearing (A75143)</u>
10.	Province of British Columbia	<p><u>C289-0 - Province of British Columbia - Application to Participate (A57275)</u></p> <p><u>C289-01 - Province of British Columbia - British Columbia Ministry of Justice Intervenor Contact Information Update (A59622)</u></p>	<p><u>C289-02 - Province of British Columbia - Information Request 1 (A60286)</u></p> <p><u>C289-03 - Province of B.C. - Notice of Motion on Trans Mountain Inadequacy of IR No. 1 Responses (A61531)</u></p> <p><u>C289-04 - Province of BC - Motion Reply regarding inadequate responses to information requests (A61806)</u></p> <p><u>C289-05 - Province of British Columbia - Response to Trans Mountain Notice of Motion dated August 1, 2014 (A62181)</u></p> <p><u>C289-06 - Province of B.C. - Notice of Motion #2 (A64829)</u></p> <p><u>C289-07 - Province of BC - Province of BC Notice of Motion #2 Reply Submissions (A65050)</u></p>	<u>C289-13 - Province of BC - Final Argument (A75025)</u>	<u>C289-10 - Province of British Columbia - Notice of Intent to Provide Oral Summary Argument (A70765)</u>	

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ENGAGEMENT RESOURCES TABLE FOR APPLICABLE STAKEHOLDERS AND COMMUNITIES WHO PARTICIPATED IN NEB PROCESS

No.	Organization	Application to Participate	Information Requests ("IRs"), Letters and Motions	Evidence Submitted	Written Argument-in-Chief and Reply and Comments/Proposed Draft Conditions	Oral Summary Argument
9. (cont'd)	See above	See above	<p><u>C289-08 - Province of BC - Information Request #2 (A65429)</u></p> <p><u>C289-09 - Province of BC - TERMPOL Information Request (A66276)</u></p> <p><u>C289-11 - Province of British Columbia - Response to Living Oceans Society Notice of Motion dated June 22, 2015 (A70974)</u></p> <p><u>C289-12 - Province of British Columbia - Intervenor Information Requests to the Province of British Columbia (A71164)</u></p>	See above	See above	
11.	Village of Belcarra	<u>C369-0 - Village of Belcarra - Application to Participate (A57864)</u>	<p><u>C369-1 - Village of Belcarra - Information Request No 1 (A60137)</u></p> <p><u>C369-2 - Village of Belcarra - Notice of Motion Regarding Information Request No. 1 (A61583)</u></p> <p><u>C369-3 - Village of Belcarra - TMEP Information Request No. 2 (A62648)</u></p> <p><u>C369-4 - Village of Belcarra - Request to Withdraw Filing (A62704)</u></p> <p><u>C369-5 - Village of Belcarra - TMEP Information Request No. 2 (A63436)</u></p>	<u>C369-6 - Village of Belcarra - Written Evidence (A70183)</u>		
Commenters						
12.	Health Canada	<u>Health Canada Application to Participate (A3T3F2)</u>	Health Canada - Letter Of Comment (A71748) 08/11/2015			
13.	Pacific Pilotage Authority	<u>Pacific Pilotage Authority - Application To Participate (A70139)</u>	Pacific Pilotage Authority - Letter of Comment (Filing ID <u>A4Q7T1</u>). 06/19/2015			

Technical Report **TR-21**

Vancouver Fraser Port Authority Development Permit Application

Consultation Summary – Westridge Marine Terminal

Appendix U



TABLE U-1

ISSUES SUMMARY AND RESOLUTIONS TABLE FOR APPLICABLE STAKEHOLDERS AND COMMUNITIES WHO PARTICIPATED IN NEB PROCESS

ID	Issue/Concern	Source of Issue	Issue Description	Trans Mountain's Response	Addressed with NEB Condition or TMEP Commitment (Filing ID A77045)	Ongoing Resolution Strategy
City of Burnaby						
1.1	Terminal - Opportunities for Engagement	City of Burnaby Final Argument (Filing ID A75080)	<ul style="list-style-type: none"> The Project has not garnered the necessary community support 	<ul style="list-style-type: none"> Trans Mountain remains committed to open and transparent dialogue with stakeholders who are potentially impacted by the Project. Interests and/or concerns identified during ongoing engagement with stakeholders will be reviewed and incorporated into Project planning and development as appropriate, prior to construction and in compliance with the filing of relevant National Energy Board certificate conditions. 	<ul style="list-style-type: none"> NEB Decision, Section 4.2 Views of the Board: The Board regards engaging the public as an essential and ongoing activity throughout the Project's entire lifespan. Thorough and effective consultation requires a process that must provide timely, appropriate and effective opportunities for all potentially affected parties to learn about the Project, provide their comments and concerns, and to discuss how Trans Mountain could address them. The Board is of the view that Trans Mountain has developed and implemented a broadly based public consultation program, offering numerous venues and opportunities for the public, landowners, governments and other stakeholders to learn about the Project, and to provide their views and concerns to the company. Since a company's relationship with directly affected stakeholders will continue for several decades throughout the lifecycle of a project, it is critical for all parties to recognize and understand their respective roles and responsibilities for achieving effective dialogue during consultation, including those offered outside of the NEB hearing process. The Board expects affected parties, including municipalities, to engage with Trans Mountain by communicating their concerns to the company and making themselves available to discuss potential solutions. The Board observes with regret that not all municipalities accepted the opportunity to engage with the Trans Mountain effectively. In particular, the City of Burnaby declined a number of opportunities to engage with Trans Mountain. The Board is of the view that when municipalities decline opportunities to engage, this diminishes the quality of information available to both the company and the Board, and creates the potential that less than satisfactory solutions to municipal concerns may be the result. 	<ul style="list-style-type: none"> Trans Mountain will continue to request that City of Burnaby re-engage on plans for the Project. Trans Mountain has issued an updated draft Terms of Reference to all municipal governments along the expansion route, inviting them to participate in TWGs and to review and comment on the draft Terms of Reference. Trans Mountain continues to share information and invite input, particularly with those who may be impacted by the Project.
1.2	Terminal – Socio - Economic Benefit/Impact - Financial	City of Burnaby Final Argument (Filing ID A75080)	<ul style="list-style-type: none"> Impact to community infrastructure and ongoing operation, as well as the costs associated with this. Economic impacts to businesses 	<ul style="list-style-type: none"> Trans Mountain will continue to offer to consult with BC municipalities and regional districts on the following matters: <ul style="list-style-type: none"> The process to negotiate and pay for land 	<ul style="list-style-type: none"> NEB Decision, Section 6.1.8 - the Board notes that Trans Mountain has provided several commitments to address the concerns of participants related to crossing methods, traffic control during construction, crossing depths, future developments, and potential impact to existing infrastructure. 	<ul style="list-style-type: none"> Trans Mountain continues to engage with stakeholders around multiple aspects of the Project, including ongoing engagement on ERPs and directly with neighbours

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ISSUES SUMMARY AND RESOLUTIONS TABLE FOR APPLICABLE STAKEHOLDERS AND COMMUNITIES WHO PARTICIPATED IN NEB PROCESS

ID	Issue/Concern	Source of Issue	Issue Description	Trans Mountain's Response	Addressed with NEB Condition or TMEP Commitment (Filing ID A77045)	Ongoing Resolution Strategy
			<p>affected by construction.</p> <ul style="list-style-type: none"> Costs incurred to municipality in the event of a spill. 	<p>rights on fee simple municipal lands and municipally owned roads required by the Project.</p> <ul style="list-style-type: none"> The process to determine modifications and the costs thereof to municipal infrastructure required to accommodate the Project, including staff and consultants' time for design and monitoring of construction. The process to identify mitigation options to accommodate known future municipal developments and infrastructure. The development of a process by which Trans Mountain and municipalities or regional districts agree to resolve issues and disputes. The design and implementation of municipal or regional district utility and infrastructure crossings to meet regulatory requirements and implement standard industry practices. The process by which Trans Mountain, municipalities and regional districts will proactively work together during operations to develop ways to more efficiently meet regulatory requirements, protect public safety, and ensure pipeline integrity. 	<p>The Board expects Trans Mountain to work with municipalities and utility companies during detailed engineering and construction to address these concerns.</p> <ul style="list-style-type: none"> NEB Decision, Section 13.3.2 - Trans Mountain has committed to pay for the full cost to clean up any spill from the Project, and has agreed to pay the full costs of a spill, even if it exceeds Trans Mountain's insurance. In the case of a spill, malfunction or incident from the Project, Trans Mountain must pay for the full cost of cleaning up and remediating any damages caused. NEB Condition 13 - Socio-Economic Effects Monitoring Plan Trans Mountain must file with the NEB for approval, at least 6 months prior to commencing construction, a plan for monitoring potential adverse socio-economic effects of the Project during construction. 	<p>(including businesses) to share information and seek input to our detailed construction plans to minimize impact to neighbours during construction.</p> <ul style="list-style-type: none"> Trans Mountain conducted a public information session for Burnaby stakeholders in January 2017, and will provide targeted construction updates in Q2/Q3 2017 for the local business community Trans Mountain has committed that it is not our intent to be a financial burden on municipalities. If a local government believes it is in a situation of net loss, Trans Mountain will meet and discuss outstanding concerns or costs. This applies to both the existing pipeline and the expanded pipeline. Trans Mountain will continue to request the City of Burnaby re-engage on plans for the Project. Trans Mountain has issued an updated draft Terms of Reference to all municipal governments along the expansion route, inviting them to participate in TWGs and to review and comment on the draft Terms of Reference.
1.3	Marine – Tanker Safety – Risk Management	City of Burnaby Final Argument (Filing ID A75080)	<ul style="list-style-type: none"> Increased risk and consequences of spills and accidents as a result of the Project, including Westridge Marine Terminal Increased risk and consequence of a marine spill with the Project. The financial, environmental and 	<ul style="list-style-type: none"> Kinder Morgan Canada Inc., as the operator of the Trans Mountain Pipeline, and its employees, contractors, subcontractors and agents, as part of the commitment to provide a spill prevention and response system, will apply "best efforts" to the prevention of spills, and if unavoidable, to the mitigation of spills on the 	<ul style="list-style-type: none"> NEB Condition 126 – Emergency Response Plan for Westridge marine Terminal Trans Mountain must file with the NEB at least 6 months prior to commencing operations at Westridge Marine Terminal, an updated ERP for the Westridge Marine Terminal NEB Condition 129 - Final terminal risk assessments Trans Mountain must file with the NEB for approval, at least 3 months 	<ul style="list-style-type: none"> Trans Mountain is committed to meeting NEB Condition 129 and NEB Condition 133. Trans Mountain continues a robust engagement program on Emergency Management topics

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ISSUES SUMMARY AND RESOLUTIONS TABLE FOR APPLICABLE STAKEHOLDERS AND COMMUNITIES WHO PARTICIPATED IN NEB PROCESS

ID	Issue/Concern	Source of Issue	Issue Description	Trans Mountain's Response	Addressed with NEB Condition or TMEP Commitment (Filing ID A77045)	Ongoing Resolution Strategy
			health impacts of a spill to the community.	<p>Project.</p> <ul style="list-style-type: none"> Trans Mountain noted in its evidence and in its Reply Argument that certain aspects of marine spill preparedness and response are not within its control to implement. Trans Mountain is responsible for the operation of the Westridge Marine Terminal and has committed to enhancing the EMP for this terminal as noted in Section 8.2.3 of Supplemental Filing No. 1. Trans Mountain has committed to provide substantial funding to ensure Western Canada Marine Response Corporation (WCMRC) has the ability to enhance its existing oil spill response program. Trans Mountain's \$150M commitment will enable WCMRC to significantly enhance its existing oil spill response capacity in the Salish Sea to: ensure a resident spill capacity of 20,000 tonnes in the region; decrease its response times to 36 hours for a 20,000 tonne spill with an initial response within 6 hours with a 2,500 tonne response package outside of Vancouver Fraser Port Authority (VFPA) boundaries, which would require: establishing of 5 new response bases; and hiring 100 new positions. 	<p>prior to applying for leave to open for each terminal, final risk assessments for the Edmonton Terminal West Tank Area, the Sumas Terminal, the Burnaby Terminal, and the Westridge Marine Terminal, respectively, including all implemented mitigation measures. Trans Mountain must demonstrate in each risk assessment that mitigation measures will reduce the risks to levels that are as low as reasonably practicable while complying with the Major Industrial Accidents Council of Canada (MIACC) criteria for risk acceptability. The Edmonton Terminal West Tank Area, Sumas Terminal, and Burnaby Terminal must include the elements listed in Condition 22.</p> <ul style="list-style-type: none"> NEB Condition 133 - Marine shipping-related commitments Trans Mountain must file with the NEB, at least 3 months prior to loading the first tanker at the Westridge Marine Terminal with oil transported by the Project, confirmation, signed by an officer of the company, that it has implemented or caused to be implemented the following commitments related to oil tanker traffic and enhanced oil spill response: <ul style="list-style-type: none"> Enhanced tug escort through developing a tug matrix and including it as part of Trans Mountain's Tanker Acceptance Standard. An enhanced marine oil spill response regime capable of delivering 20,000tonnes of capacity within 36 hours of notification, with dedicated resources staged within the study area 	through Project development.
1.4	Terminal - Emergency Response - Preparedness	City of Burnaby Final Argument (Filing ID A75080)	<ul style="list-style-type: none"> The ability for TMEP to respond in a timely manner and have the appropriate resources to respond to a pipeline incident. 	<ul style="list-style-type: none"> Trans Mountain has a comprehensive EMP in place that covers all aspects of mitigation, preparedness, response and recovery. Throughout the NEB's review, Trans Mountain submitted that as part of the Project, Trans Mountain would initiate an extensive consultation program for the development of the industry leading enhanced EMP. The enhanced EMP will use the existing robust EMP as a foundation and be expanded to meet the needs of the expansion project. The NEB requires ERPs to be in place, and publicly available on the Trans Mountain website prior 	<ul style="list-style-type: none"> NEB Condition 90 - Consultation on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 months prior to commencing construction, a consultation plan for its review of its ERPs and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). NEB Condition 117 - Reporting on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 years and 1 year prior to commencing operations, detailed updates for the company's review of its EMP (toward meeting the requirements of Condition 124). 	<ul style="list-style-type: none"> Trans Mountain continues to engage with stakeholders around multiple aspects of the Project, including ongoing engagement on ERPs to share information and seek input Trans Mountain has and will continue to invite City of Burnaby First Responders to participate in its Emergency Response engagement, training and exercises. Trans Mountain will continue to

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				<p>to operation.</p> <ul style="list-style-type: none"> Trans Mountain has mutual aid agreements in place along the pipeline corridor and with industry groups, including the newly formed Burrard Inlet Mutual Aid Group, formed with other oil terminal operators around Burrard Inlet. 	<ul style="list-style-type: none"> NEB Condition 124 - Implementing improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 6 months prior to commencing operations, a detailed summary of its review of its ERPs (as noted in Conditions 125 and 126) and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). This filing must include a description of changes made to Trans Mountain's EMP, as required under the National Energy Board Onshore Pipeline Regulations. 	<p>request the City of Burnaby re-engage on plans for the Project.</p> <ul style="list-style-type: none"> Trans Mountain has issued an updated draft Terms of Reference to all municipal governments along the expansion route, inviting them to participate in TWGs and to review and comment on the draft Terms of Reference.
1.5	Terminal - Environment - Air Emissions/ GHG	City of Burnaby Final Argument (Filing ID A75080)	<ul style="list-style-type: none"> Risks associated with operational air emissions at Westridge Marine Terminal 	<ul style="list-style-type: none"> Trans Mountain will consult on the Air Emissions Management Plan (AEMP) and the Fugitive Emissions Management Plan (FEMP) for the Westridge Marine Terminal with Metro Vancouver, Environment Canada, the FVRD, VFPA, BC Ministry of Environment, health authorities, and local municipalities prior to submission of these plans to the NEB. 	<ul style="list-style-type: none"> NEB Condition 52 - Air Emissions Management Plan for the Westridge Marine Terminal Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction at the Westridge Marine Terminal, an AEMP for the Westridge Marine Terminal... NEB Condition 53 - Fugitive Emissions Management Plan for the Westridge Marine Terminal Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction at the Westridge Marine Terminal, a FEMP for the Westridge Marine Terminal. 	<ul style="list-style-type: none"> Trans Mountain continues to engage with stakeholders around multiple aspects of the Project, to share information and seek input, including AEMPs Trans Mountain's draft EPPs have been posted in phases on its website for comment for a period of three months. Stakeholders are invited to provide their feedback through the website and TWG discussion. Trans Mountain will request stakeholders with specific environmental expertise, including the LFVAQCC, meet to review and provide input to draft Environmental Plans.
1.6	Marine – Tanker Safety Marine – Environment – Shoreline Erosion	City of Burnaby Final Argument (Filing ID A75080)	<ul style="list-style-type: none"> Increased tanker traffic in Burrard Inlet Tanker traffic will increase “wave wash” which impacts marine invertebrates, and could cause impacts to rivers at the mouth of Burrard Inlet that are crucial for migrating salmon, including the Capilano, Seymour and Indian Rivers. 	<ul style="list-style-type: none"> As stated in Trans Mountain's final argument, vessel wake associated with the transit of Project-related tankers and tugs has the potential to affect shoreline habitats and associated biota. However, Trans Mountain found that the predicted wave heights from vessel wake are not expected to be detectable from existing wave conditions along most of the shoreline in the Marine RSA. Specifically, Trans Mountain's evidence is that wake waves 		<ul style="list-style-type: none"> The VFPA Information Guide dictates speeds for which vessels travel in the Port Area. It is available on the Port's website: http://www.portvancouver.com/marine-operations/.

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				<p>generated by Project-related tankers and tugs transiting the shipping lanes are predicted to be less than 0.1 m in height at the shoreline—well within the range of natural wave conditions. As a result, Trans Mountain determined that no measures are necessary to mitigate the effects of vessel wake on marine fish and fish habitat. Regarding vessel wake, DFO concluded in its evidence that potential effects on intertidal fish habitat from Project-related vessel wake are unlikely to differ substantially from current conditions in the Marine Regional Study Area. Therefore, DFO considered the likelihood and magnitude of such occurrences to be of low risk to intertidal habitat and associated biota. For more information see Exhibit B239-13 – Trans Mountain Response to NEB IR No. 2 (September 21, 2014)(A3Z4T9), 246-248; Exhibit B18-29 - V8A4.2.12.2 TO T5.2.2 MAR TRANS ASSESS (December 17, 2013) (A3S4Y3), 8A-285; and Exhibit C97-2-2 - Attachment 1 - Written Evidence of DFO (May 27, 2015) (A4L7D4), 26.</p>		
1.7	Terminal - Socio - Economic – Benefits / Impacts	City of Burnaby Final Argument (Filing ID A75080)	<ul style="list-style-type: none"> Trans Mountain will not follow local by-laws. 	<ul style="list-style-type: none"> If Trans Mountain is successful in obtaining a Certificate from the NEB and the BC EAO for the Project, Trans Mountain will proceed to apply for other federal, provincial and municipal permits required to enable the construction and operation of the Project. On May 19, 2016 the NEB released its 534-page report concluding that the Project is in the Canadian public interest and is recommended for approval by the Federal Governor in Council. 	<ul style="list-style-type: none"> NEB Decision, Section 11.2.114 - Generally speaking, companies are expected to obtain any federal, provincial or municipal permits or authorizations required by those jurisdictions, and Trans Mountain has committed to comply with, or seek variance from, all municipal bylaws, including those involving noise. 	<ul style="list-style-type: none"> Trans Mountain will continue to request the City of Burnaby re-engage on plans for the Project. Trans Mountain has issued an updated draft Terms of Reference to all municipal governments along the expansion route, inviting them to participate in TWGs and to review and comment on the draft Terms of Reference. Trans Mountain will meet or exceed expectations outlined in applicable local and provincial permits and bylaws, where practical.

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1.8	Terminal - Socio-Economic – Benefits / Impacts Marine – Socio-Economic – Benefits / Impacts	City of Burnaby Final Argument (Filing ID A75080)	<ul style="list-style-type: none"> Construction impacts to recreational use areas including land base areas and Burrard Inlet. 	<ul style="list-style-type: none"> As stated in Trans Mountain's final argument, Trans Mountain has demonstrated in the ESA that the potential adverse environmental effects of the pipeline and other Project facilities will be reduced or eliminated by way of general and site-specific mitigation measures based upon current industry-accepted standards, consultation with regulatory authorities, interested groups and individuals, engagement with Aboriginal groups and the professional judgment of the assessment team. The ESA concluded that the pipeline and associated facilities (e.g., pump stations, terminals, Westridge Marine Terminal) will not likely result in significant adverse environmental effects on any element or indicator. For more information, see Exhibit B5-21 - V5A ESA 13 of 16 Biophysical (Filing ID A3S1R0). 	<ul style="list-style-type: none"> NEB Condition 13 - Socio-Economic Effects Monitoring Plan Trans Mountain must file with the NEB for approval, at least 6 months prior to commencing construction, a plan for monitoring potential adverse socio-economic effects of the Project during construction. 	<ul style="list-style-type: none"> Trans Mountain continues to engage with stakeholders around multiple aspects of the Project, to share information and seek input, including to recreational user groups and parks managers as detailed construction plans are developed to minimize impacts and determine best methods to communicate to recreation users during construction Trans Mountain will continue to request the City of Burnaby re-engage on plans for the Project. Trans Mountain has issued an updated draft Terms of Reference to all municipal governments along the expansion route, inviting them to participate in TWGs and to review and comment on the draft Terms of Reference.
1.9	Environment – Wildlife & Vegetation, Species at Risk or Concern	City of Burnaby Final Argument (Filing ID A75080)	<ul style="list-style-type: none"> Operational impacts to protected species in Burnaby parks and conservation areas. These areas include fish bearing waterways or conservation areas that are important for the habitat of migrating salmon, as well as Nooksack Dace and Cutthroat Trout. 	<ul style="list-style-type: none"> Trans Mountain has continued to consult with Environment Canada and provincial regulatory authorities regarding refined critical habitat mapping and attributes of critical habitat. In addition, field surveys have been ongoing to collect information at selected locations to inform the presence of biophysical attributes. This information will be used to determine overlap of the Project footprint with critical habitat, and allow for design modifications (e.g., micro-routing) to avoid or reduce Project impacts to critical habitat. 	<ul style="list-style-type: none"> NEB Condition 3 - Environmental protection Trans Mountain must implement or cause to be implemented, at a minimum, all of the policies, practices, programs, mitigation measures, recommendations, and procedures for the protection of the environment included or referred to in its Project application or to which it otherwise committed on the record of the OH-001-2014 proceeding NEB Condition 71 - Riparian Habitat Management Plan Trans Mountain must file with the NEB for approval, at least 3 months prior to commencing construction, a Riparian Habitat Management Plan that would apply to all defined watercourses crossed by the Project. The plan must be supported with rationales and unambiguous criteria explaining under what circumstances each such measure and strategy would apply, NEB Condition 75 - Nooksack Dace and Salish Sucker Management Plan a) Trans Mountain must construct all watercourse crossings located within Nooksack dace or Salish 	<ul style="list-style-type: none"> Trans Mountain continues to engage with stakeholders around multiple aspects of the Project, to share information and seek input. Trans Mountain's draft EPPs have been posted on its website for comment for a period of three months. Stakeholders are invited to provide their feedback through the website and TWG discussion. Trans Mountain will request to meet with those with specific expertise to seek input to its Environmental Plans. Trans Mountain will continue to request the City of Burnaby re-

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					<p>sucker proposed or final critical habitat, as defined by DFO Recovery Strategies for the species, using trenchless crossing methods with entry and exit points located outside of the riparian habitat area, unless demonstrated to be not feasible. b) At least 3 months prior to commencing construction of any watercourse crossing located within Nooksack dace or Salish sucker proposed or final critical habitat, Trans Mountain must file a list of these watercourse crossings, and, for each, indicate whether or not a trenchless crossing method is feasible.</p> <ul style="list-style-type: none"> • NEB Condition 154 - Riparian Habitat Reclamation Evaluation Report and Offset Plan Trans Mountain must file with the NEB for approval, on or before 31 January after the fifth complete growing season after completing final clean-up, a Riparian Habitat Reclamation Evaluation Report and Offset Plan. 	<p>engage on plans for the Project.</p> <ul style="list-style-type: none"> • Trans Mountain has issued an updated draft Terms of Reference to all municipal governments along the expansion route, inviting them to participate in TWGs and to review and comment on the draft Terms of Reference.
1.10	<p>Terminal - Environment – Noise</p> <p>Terminal - Environment - Wildlife & Vegetation</p>	City of Burnaby Final Argument (Filing ID A75080)	<ul style="list-style-type: none"> • Noise impacts to marine wildlife due to dredging and construction. • Impacts to wildlife such as the Killer Whale, Great Blue Heron, and migratory birds. 	<ul style="list-style-type: none"> • To minimize the potential for injury or mortality of marine fish and invertebrates, dredging will be restricted to the DFO least-risk timing window for Burrard Inlet, which is from August 16 to February 28, unless otherwise authorized by DFO. • As stated in Trans Mountain's final argument, Trans Mountain will undertake a variety of measures to reduce lighting and noise during the construction and operation phases of the Westridge Marine Terminal. The residual environmental effects of operation activities associated with increased Project-related marine vessel traffic on marine fish and fish habitat will not be significant. 	<ul style="list-style-type: none"> • NEB Condition 44 - Wildlife Species at Risk Mitigation and Habitat Restoration Plans Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction, Wildlife Species at Risk Mitigation and Habitat Restoration Plans for each species whose draft, candidate, proposed, or final critical habitat is directly or indirectly affected by the Project. • NEB Condition 132 - Marine Mammal Protection Program Trans Mountain must file with the NEB, at least 3 months prior to commencing operations, a Marine Mammal Protection Program that focuses on effects from the operations of Project related marine vessels. 	<ul style="list-style-type: none"> • Trans Mountain has a long history of investing in conservation efforts. For example, as stated in Trans Mountain's final argument Trans Mountain has sponsored a study by Bird Studies Canada to map bird populations in the Burrard Inlet to quantify and map seasonal bird populations. The maps will be made publicly available so that local stakeholders (e.g., industry, government and environmental organizations) can use the information in planning for the appropriate conservation and protection of marine birds as Burrard Inlet continues to develop. In January 2015 Trans Mountain contributed \$50,000 to the Pacific Salmon Foundation in response to stakeholder feedback and input from Aboriginal groups identifying salmon habitat as a priority for

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						<p>Burrard Inlet. The funding will be used for salmon habitat enhancement in Burrard Inlet, which is expected to improve foraging opportunities for piscivorous marine birds inhabiting Burrard Inlet.</p> <ul style="list-style-type: none"> • Trans Mountain will request to meet with those with specific expertise to seek input to its Environmental Plans. • Trans Mountain and the Kinder Morgan Foundation continue to field requests from conservation organizations to help with habitat restoration and education initiatives.
City of North Vancouver						
2.1	<p>Marine – Environment – Cumulative Effects</p> <p>Marine - Socio-Economic – Impacts / Benefits - Health</p> <p>Marine - Emergency Management – Risk Management</p> <p>Marine – Emergency Management -</p>	City of North Vancouver – Final Argument in Chief (Filing ID A75033)	<ul style="list-style-type: none"> • The City raised concerns about Trans Mountain risk assessments and emergency spill response: • The potential environmental and socio-economic effects of the project, including cumulative environmental effects that are likely to result from the project, including those required to be considered by the NEB's filing Manual. • methodological weaknesses in Trans Mountain's oil spill analysis, ...understate the likelihood of spills associated with the Project • The CNV alleged that the HHRA are inadequate and that they fail to conform to the requirements of the BC Ministry of Environment. 	<ul style="list-style-type: none"> • In its reply argument, Trans Mountain stated DNV included a comprehensive review of the entire shipping route between the Westridge Marine Terminal and Buoy J (western entrance to Juan de Fuca Strait), which included a quantitative risk analysis. An accident in Burrard Inlet that can lead to spillage of entire oil cargo from two cargo tanks in an Aframax tanker is a very low probability event, due in large part to the extensive set of risk reducing measures in place, including the slow speed of tankers, other vessels and escorts in this area. The likelihood for a spill of this size occurring in Burrard Inlet, which is specific to a vessel grounding or collision, is considered to not be credible by virtue of the detailed analysis carried out by DNV which shows that the probability for a collision causing an oil spill in Burrard Inlet is 1 in 19,286 years. DNV did, however, properly identify the credible worst 	<ul style="list-style-type: none"> • NEB Decision page 134 - As discussed in Chapter 14, section 14.4.2, Trans Mountain said that the spill volumes modeled by the Tseil- Waututh Nation, City of Vancouver, and the City of Burnaby were not credible scenarios. Trans Mountain said that the modelling method used by those participants was appropriate for providing basic information for spill response but it was not appropriate for a detailed and comprehensive environmental and socioeconomic study. Trans Mountain said that the modelling undertaken was based on an unmitigated spill scenario and that in such a scenario, it would be expected that a spill would impact a large percentage of shoreline given the confined geophysical environment of the subject area. Environment and Climate Change Canada (ECCC) said that the modelling tools used by Trans Mountain appear to be appropriate. 	<ul style="list-style-type: none"> • Safety is Kinder Morgan Canada's top priority. Trans Mountain has a management system in place to manage risk and ensure continuous improvement for processes and controls. • Pursuant to the NEB OnShore Pipeline Regulation (OPR), the KMC Integrated Safety and Loss Management System (ISLMS) has been developed in response to the 2013 amendments to the OPR, and applies to all activities involving the design, construction, operation, and abandonment of the pipeline system. This includes emergency management and Environment Health and Safety programs. The KMC ISLMS outlines a commitment to

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	Response		<p>In addition, the CNV submitted that the HHRA does not refer to Health Canada guidance documents</p> <ul style="list-style-type: none"> The potential environmental and socio-economic effects of marine shipping activities that would result from the Project, including the potential effects of accidents and malfunctions that may occur. CNV stated in their final argument that the spill model presented in the Application is inadequate and that the effects of a spill in the Burrard Inlet are likely to be much more significant than anticipated by Trans Mountain - The CNV pointed to two alleged shortcomings in Trans Mountain's oil spill model that were identified in the Genwest Report, namely: (1) that the beaching algorithm in the model does not allow for refloating of oil that is beached; and (2) the "unreasonable and inappropriate assumption" that the containment boom at the Westridge Marine Terminal will always be in place and will be 100 per cent effective 	<p>case scenario for an oil spill as one that might occur during tanker loading as a representative credible worst case oil spill within Burrard Inlet. The credible worst-case scenario during tanker loading was calculated as a spillage of 103 m3 oil occurring once every 234 years within the pre-boomed area surrounding the tanker at berth.</p> <ul style="list-style-type: none"> In its reply argument, Trans Mountain stated the City's allegation that the HHRAs are inadequate and that they fail to conform to the requirements of the BC Ministry of Environment are not supported by the evidence. Trans Mountain's approach for the HHRAs of various spill scenarios was adequate and in-line with guidance provided by the BC Ministry of Environment and Health Canada for contaminated sites. In its reply argument, Trans Mountain asserted: 1) the spill modelling that was conducted for the Project and presented in the Application was wholly appropriate. Serious shortcomings identified in the simplified study presented in the Genwest Report cast doubt on the representativeness of the modelling results presented in their evidence. Specifically, the Genwest Report re-floatation process is based on an arbitrary half-life of 18 hours, regardless of the viscosity and weathering state of the oil and regardless of shore characteristics. In addition, the beaching algorithm and the associated determination of the half-life for oil re-floatation, as used in the General NOAA Operational Modelling Environment, are not described in peer reviewed journals and do not appear to have adequate theoretical underpinning. 2) With respect to the second issue, for spill modelling at the Westridge 		<p>establishing, implementing, monitoring, and continuously improving processes and controls to ensure that business is conducted in a safe, environmentally responsible, and sustainable manner.</p>

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				<p>Marine Terminal, the total amount of oil released was 160 m3, with 32 m3 escaping the containment boom. Therefore, the statement that Trans Mountain used 100 per cent boom efficiency is incorrect; the Application assumed a conservative 80 per cent efficiency. Furthermore, although deployment of the second boom is not instantaneous, once the spill area was double-boomed, any further leakage of the spilled oil outside double-boomed area would be practically negligible.</p>		
2.2	Marine – Socio – Economic – Impacts / Benefits - Land Use	City of North Vancouver – Final Argument in Chief (Filing ID A75033)	<ul style="list-style-type: none"> The City has determined that the risk of a marine oil spill occurring, although not thoroughly and adequately assessed in the Application, is considerable and unacceptable. In addition, the City finds that such a spill, whether small or large, will have significant adverse impacts on its residents, environment, culture and economy Potential impacts of the project on landowners and land use. This City has high residential density near the waterfront; an extensive shoreline, the entirety of which is adjacent to the shipping route through Burrard Inlet to the Westridge Marine Terminal; City has a developed waterfront that includes numerous parks and open spaces, such as Shipbuilders' Square and the Shipyards, Lonsdale Quay, Waterfront Park, Kings Mill Walk Park and Spirit Trail, all of which 	<ul style="list-style-type: none"> As stated in Trans Mountain's final argument: Trans Mountain has taken social considerations and effects related to the Project seriously. Trans Mountain's comprehensive data collection program and its interactions with stakeholders and the public have allowed it to carefully assess the potential effects the Project may have on the social or human environment including Aboriginal groups, communities, service providers, resource users and other potentially affected groups. Trans Mountain has committed to a comprehensive suite of mitigation measures which will minimize effects on the social or human environment. As indicated in Trans Mountain's reply argument, Trans Mountain conducted a series of HHRAs with the aim of identifying and understanding the potential health effects that might be experienced by people in the unlikely event of an oil spill. Some of the major conclusions that emerged from the HHRAs were: In the unlikely event of an oil spill, there was no obvious indication that people's health would be seriously adversely affected by acute inhalation exposure to the chemical vapours 	<ul style="list-style-type: none"> NEB Condition 133 - Marine shipping-related commitments Trans Mountain must file with the NEB, at least 3 months prior to loading the first tanker at the Westridge Marine Terminal with oil transported by the Project, confirmation, signed by an officer of the company, that it has implemented or caused to be implemented the following commitments related to oil tanker traffic and enhanced oil spill response: <ul style="list-style-type: none"> Enhanced tug escort through developing a tug matrix and including it as part of Trans Mountain's Tanker Acceptance Standard. An enhanced marine oil spill response regime capable of delivering 20,000tonnes of capacity within 36 hours of notification, with dedicated resources staged within the study area 	<ul style="list-style-type: none"> Trans Mountain is committed to meeting NEB Condition 133.

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			<p>are highly valued by the community and used by residents and visitors from the very young to the very old</p>	<p>released during the early stages of a spill under any of the simulated oil spill scenarios examined; and</p> <ul style="list-style-type: none"> In the unlikely event of an oil spill, the health effects that could be experienced by people in the area would likely be confined to mild, transient sensory and/or non-sensory effects, attributable largely to the irritant and central nervous system depressant properties of the chemicals. Odours also might be noticed, which could contribute to added discomfort and irritability 		
2.3	Terminal - Emergency Management - Preparedness	City of North Vancouver – Final Argument in Chief (Filing ID A75033)	<ul style="list-style-type: none"> Contingency planning for spills, accidents or malfunctions, during construction and operation of the project. Safety and security during construction and operation of the project, including emergency response planning and third party damage prevention. 	<ul style="list-style-type: none"> Trans Mountain has an EMP. As stated in its reply argument, since the updated EMP depends upon the final detailed design of the Project, a process which will not be carried out unless the Project receives approval and until Trans Mountain has an opportunity to review the conditions of such approval, the updated EMP cannot be provided during the NEB's regulatory review of the Project. The existing ERPs and guides will be used as the foundation for the development of enhanced ERPs and guides for the Project. These updated plans for the pipeline and facilities will reflect the added scope of the Project, increased volumes, new or updated control points due to routing, and updates to new response equipment and bases if required. Final enhanced ERPs and supporting documents will be completed in advance of commissioning and operation of the Project 	<ul style="list-style-type: none"> NEB Condition 89 - Emergency Response Plans for construction Trans Mountain must file with the NEB, at least 2 months prior to commencing construction, a Project-specific ERP, including the Trans Mountain Expansion Project ERP and site-specific ERPs as referenced in Volume 4B, Section 5.4.2 of its Project application (Filing A3S1K6), that would be implemented during the construction phase. The plan(s) must include spill contingency measures that Trans Mountain will employ in response to accidental spills attributable to construction activities, 24-hour medical evacuation, fire response, and security NEB Condition 90 - Consultation on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 months prior to commencing construction, a consultation plan for its review of its ERPs and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). NEB Condition 117 - Reporting on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 years and 1 year prior to commencing operations, detailed updates for the company's review of its EMP (toward meeting the requirements of Condition 124). NEB Condition 124 - Implementing improvements to Trans Mountain's Emergency Management Program Trans 	<ul style="list-style-type: none"> Trans Mountain will consult with the North Shore Emergency Management Office, municipalities and other agencies on the north shore as part of the enhancement of the pipeline EMP

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					<p>Mountain must file with the NEB, at least 6 months prior to commencing operations, a detailed summary of its review of its ERPs (as noted in Conditions 125 and 126) and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). This filing must include a description of changes made to Trans Mountain's EMP, as required under the National Energy Board Onshore Pipeline Regulations...</p> <ul style="list-style-type: none"> • NEB Condition 126 – Emergency Response Plan for Westridge marine Terminal Trans Mountain must file with the NEB at least 6 months prior to commencing operations at Westridge Marine Terminal, an updated ERP for the Westridge Marine Terminal 	
City of Port Moody						
3.1	<p>Marine - Environment – Oil Spill Effects</p> <p>Marine – Environment – Wildlife & Vegetation</p>	City of Port Moody Final Argument (Filing ID A75073)	<ul style="list-style-type: none"> • Impact of the Project, including an oil spill, on environmentally sensitive areas including fish bearing watercourses and riparian areas. • Impacts of the Project to the Burrard Inlet Watershed, specifically the Noons Creek and Mossom Creek hatcheries and educational learning centres. • Impacts of the Project, including oil spills, to marine wildlife due to tanker traffic. • Impacts of an oil spill, on species at risk such as the Band-tailed Pigeon, Great Blue Heron, Pacific Water Shrew and Western Purple Martin. • Impacts of an oil spill on wildlife and wildlife habitat. • Inadequate information provided to the City regarding the environmental impacts of a spill, both land and marine. 	<ul style="list-style-type: none"> • The mitigation and restoration measures proposed for the Project are designed to meet or exceed those required by Federal and Provincial agencies. • Mitigation measures are incorporated within the project design to reduce the spatial scale, duration, and intensity of effects to manage the potential for serious harm to fishes and their habitat. These measures include, for example, adherence to the LRBW for all proposed isolated trenched crossings of fish-bearing watercourses within the Lower Mainland, conducting fish salvages where there is known or potential fish presence within the Project footprint, and water quality monitoring where high sensitivity fish habitat may be present. Conservative LRBWs have also been applied to protect salmonid species and/or other species of risk where they may have potential to occur, regardless of whether or not they were captured within the Local Study Area during Trans Mountain field investigations. In addition, impacts to functional riparian habitat will be avoided or minimized by limiting 	<ul style="list-style-type: none"> • NEB Condition 3 - Environmental Protection Trans Mountain must implement or cause to be implemented, at a minimum, all of the policies, practices, programs, mitigation measures, recommendations, and procedures for the protection of the environment included or referred to in its Project application or to which it otherwise committed on the record of the OH-001-2014 proceeding • NEB Condition 44 - Wildlife Species at Risk Mitigation and Habitat Restoration Plans Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction, Wildlife Species at Risk Mitigation and Habitat Restoration Plans for each species whose draft, candidate, proposed, or final critical habitat is directly or indirectly affected by the Project. • NEB Condition 71 - Riparian Habitat Management Plan Trans Mountain must file with the NEB for approval, at least 3 months prior to commencing construction, a Riparian Habitat Management Plan that would apply to all defined watercourses crossed by the Project. The plan must be supported with rationales and unambiguous criteria explaining under what circumstances each such measure and strategy would apply. • NEB Condition 126 – Emergency Response Plan for Westridge marine Terminal Trans Mountain must file with the NEB at least 6 months prior to commencing operations at 	<ul style="list-style-type: none"> • Trans Mountain continues to engage with stakeholders around multiple aspects of the Project, including identification of environmentally sensitive areas, to share information and seek input. Trans Mountain has engagement activities planned for Westridge Marine Terminal in late 2017 as per the WMT engagement plan filed as Technical Report TR-23 to the VFPA WMT development permit application. • Trans Mountain's draft EPPs have been posted on its website for comment for a period of three months. Stakeholders are invited to provide their feedback through the website and would welcome the opportunity to meet to discuss topics of specific interest • Trans Mountain will request to meet with those with specific expertise to seek input to its

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ID	Issue/Concern	Source of Issue	Issue Description	Trans Mountain's Response	Addressed with NEB Condition or TMEP Commitment (Filing ID A77045)	Ongoing Resolution Strategy
				<p>disturbances to riparian areas and implementing minimum riparian setback distances for temporary and permanent facilities. Mitigation and restoration measures considered in the assessment for fish, fish habitat, and surface water quality are provided in Table 7.2.7-2 of Section 7.2.7 of Volume 5A ESA – Biophysical (TERA December 2013; Filing ID A3S1Q9) and the Pipeline EPP (Volume 6B; Filing ID A3S2S3)</p> <ul style="list-style-type: none"> Additional site-specific mitigation measures will also be applied to watercourses identified as proposed critical habitat or potential habitat for species at risk. For details on site-specific mitigation for species at risk, please refer to Sections 10.1 and 10.3 of Supplemental Fisheries (BC) Technical Report (Triton Environmental Consultants 2014) This supplemental technical report was recently provided to the National Energy Board (NEB) and is available as an attachment to NEB IR No. 3.039a (NEB IR No. 3.039a – Attachment 1; Filing ID A4H1Z2). 	<p>Westridge Marine Terminal, an updated ERP for the Westridge Marine Terminal</p> <ul style="list-style-type: none"> NEB Condition 132 - Marine Mammal Protection Program Trans Mountain must file with the NEB, at least 3 months prior to commencing operations, a Marine Mammal Protection Program that focuses on effects from the operations of Project related marine vessels. NEB Condition 154 - Riparian Habitat Reclamation Evaluation Report and Offset Plan Trans Mountain must file with the NEB for approval, on or before 31 January after the fifth complete growing season after completing final clean-up, a Riparian Habitat Reclamation Evaluation Report and Offset Plan. 	<p>Environmental Plans.</p>
3.2	Marine – Socio-Economic – Impacts / Benefits - Social and Cultural Wellbeing	City of Port Moody Final Argument (Filing ID A75073)	<ul style="list-style-type: none"> Impacts of the Project, including oil spill, on parks and recreation activities in the community. 	<ul style="list-style-type: none"> Trans Mountain's corporate responsibility and regulatory obligation is to first minimize any potential impacts or damages to landowners, local businesses, services and the community to the extent practical by using and adapting responsive construction and operations practices; and second, provide mitigation to reverse or treat any remaining impacts. 	<ul style="list-style-type: none"> NEB Condition 13 - Socio-Economic Effects Monitoring Plan Trans Mountain must file with the NEB for approval, at least 6 months prior to commencing construction, a plan for monitoring potential adverse socio-economic effects of the Project during construction. 	<ul style="list-style-type: none"> Trans Mountain continues to engage with stakeholders around multiple aspects of the Project, to share information and seek input and would welcome the opportunity to meet with the City of Port Moody to discuss emergency management or other topics of concern. Trans Mountain has and will continue to invite City of Port Moody First Responders to participate in its Emergency Response engagement, training and exercises where critical

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						<p>information about impact to a community in the event of an oil spill is exchanged.</p> <ul style="list-style-type: none"> Trans Mountain is part of the Burrard Inlet Mutual Aid Group. BIMAG has invited the City to participate in this group. Trans Mountain will request to meet with those with specific expertise to seek input to its Environmental Plans.
3.3	Marine - Tanker Safety- Navigation	City of Port Moody Final Argument (Filing ID A75073)	<ul style="list-style-type: none"> Marine safety including channel manoeuvring and anchorage design, berthing provisions, marine traffic controls, decision-making protocols for tankers (<i>i.e.</i> weather conditions), tanker loading and unloading protocols, 	<ul style="list-style-type: none"> Trans Mountain is committed to support the Government of Canada's efforts to establish and enforce marine safety regulations that ensure a world-class tanker system. As stated in its final argument, although Trans Mountain does not own or operate vessels it is an active member of the maritime community and has demonstrated its commitment to improvements to the safety and efficiency of marine traffic calling at Westridge. In addition, the technical details of the marine shipping related to the Project have been examined by the Technical Review Process of Marine Terminal Systems and Transshipment Sites (TERMPOL) Review Committee. Trans Mountain voluntarily agreed to support and adopt each of the 17 recommendations and 31 findings 1083 proposed by the TERMPOL Review Committee. For a complete copy of the TERMPOL Review Committee report, see Exhibit C353-4-3 - TMEP TERMPOL Report December 11 2014 (December 11, 2014) (A4F8Z4). 	<ul style="list-style-type: none"> NEB Condition 131 - Marine Public Outreach Program Trans Mountain must file with the NEB, at least 3 months prior to commencing operations, a report describing completed activities and observed outcomes of Trans Mountain's Marine Public Outreach Program, and any further planned activities for this program. NEB Condition 133 - Marine shipping-related commitments Trans Mountain must file with the NEB, at least 3 months prior to loading the first tanker at the Westridge Marine Terminal with oil transported by the Project, confirmation, signed by an officer of the company, that it has implemented or caused to be implemented the following commitments related to oil tanker traffic and enhanced oil spill response: <ul style="list-style-type: none"> Enhanced tug escort through developing a tug matrix and including it as part of Trans Mountain's Tanker Acceptance Standard. An enhanced marine oil spill response regime capable of delivering 20,000tonnes of capacity within 36 hours of notification, with dedicated resources staged within the study area 	<ul style="list-style-type: none"> Trans Mountain will continue to address the recommendations of the TERMPOL Review committee.
3.4	Marine – Environment -	City of Port Moody Final Argument	<ul style="list-style-type: none"> Mitigation plans have not been developed for the Band-tailed Pigeon, Great Heron, or Western 	<ul style="list-style-type: none"> As stated in Trans Mountain's final argument, in accordance with standard Environmental Assessment practice in Canada the ESA for 	<ul style="list-style-type: none"> NEB Condition 151 - Post-construction environmental monitoring reports Trans Mountain must file with the NEB, on or before 31 January following the first, third, and fifth complete 	<ul style="list-style-type: none"> Trans Mountain continues to engage with stakeholders around multiple aspects of the Project, to

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	Species at Risk	(Filing ID A75073)	Purple Martin.	<p>the Project focused on elements which are biophysical components of the environment that are valued by society. Elements can be indicators of environmental change and can assist in focusing the assessment on key issues. Since it is impractical to fully assess every aspect of every element, key indicators were chosen as representative indicators for certain potential Project effects. For example, since the potential effects pathways and likely responses to Project disturbances will be similar for many wildlife species, the ESA focused on indicator species and then inferred that similar results would occur for other species with similar ecological requirements. This approach allowed Trans Mountain to fully assess potential effects of the Project on the environment, recognizing the practical impossibility of assessing each environmental component and individual species separately. At the request of Environment Canada and the National Energy Board, Trans Mountain also completed individual assessments for species at risk that may be affected by the Project. No significant residual effects were predicted based on the outcome of the individual species at risk effects assessment.</p> <ul style="list-style-type: none"> For more information, see Exhibit B129-1 - Trans Mountain Response to Government of Canada Environment Canada IR No. 1 (June 18, 2014) (A3Y2K9), page 33. 	<p>growing seasons after completing final clean-up, a post-construction environmental monitoring report for the Project...</p> <ul style="list-style-type: none"> All filed post-construction environmental monitoring reports must address issues related, but not limited, to: soils; weeds; watercourse crossings; riparian vegetation; wetlands; rare plants, lichens and ecological communities; municipal tree replacement; wildlife and wildlife habitat; fish and fish habitat; marine fish and fish habitat; marine mammals; marine birds; and species at risk. 	<p>share information and seek input.</p> <ul style="list-style-type: none"> Trans Mountain's draft EPPs have been posted on its website for comment for a period of three months. Stakeholders are invited to provide their feedback through the website and would welcome the opportunity to meet to discuss topics of specific interest Trans Mountain will request to meet with those with specific expertise to seek input to its Environmental Plans.
3.5	Marine – Socio-Economic - Benefit/Impact – Oil Spills	City of Port Moody Final Argument (Filing ID A75073)	<ul style="list-style-type: none"> Municipal costs incurred as a result of an oil spill, including emergency response, communications, asset depreciation, and lost revenues from civic facilities. Impacts to community resources 	<ul style="list-style-type: none"> Canada's oil spill compensation regime is based upon polluter-pay-principles, and all costs, including waste disposal costs will be paid for by the Responsible Party. 	<ul style="list-style-type: none"> NEB Decision, Section 13.3 - Trans Mountain has committed to pay for the full cost to clean up any spill from the Project, and has agreed to pay the full costs of a spill, even if it exceeds Trans Mountain's insurance. In the case of a spill, malfunction or incident from the Project, Trans Mountain must pay for the full cost of cleaning up and remediating any damages caused. 	<ul style="list-style-type: none"> Trans Mountain continues to engage with stakeholders around multiple aspects of the Project, to share information and seek input and would welcome the opportunity to meet to discuss topics of specific interest

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3.6	Terminal - Emergency Management – I Response Marine – Emergency Management – Response Terminal – Emergency Management – Preparedness - Training	City of Port Moody Final Argument (Filing ID A75073)	<ul style="list-style-type: none"> during a spill. Impact of the Project, including an oil spill, on businesses and landowners. Trans Mountain's spill response capabilities. The ability for community first responders to respond to a spill. Lack of information provided to the community regarding emergency response. The potential for bitumen to sink and the impacts associated with this. Knowledge gap concerning other potential local government resources that would be needed to respond to an emergency. Lack of emergency response protocols regarding security plans, plans for shoreline clean up, volunteer management protocols, and public communication procedures provided to the community. A strategy to deal with potential health and safety hazards to first responders and volunteers during an emergency, as well as training, has not been developed. Details about near shore long-term cleanup planning and procedures; or optimal cleanup measures for different timeframes and different types of location or products - has not been provided to the community. 	<ul style="list-style-type: none"> Trans Mountain noted in its evidence and in its Reply Argument that certain aspects of marine spill preparedness and response are not within its control to implement. Trans Mountain is responsible for the operation of the Westridge Marine Terminal and has committed to enhancing the EMP for this terminal. Trans Mountain has mutual aid agreements in place along the pipeline corridor and with industry groups, including the newly formed Burrard Inlet Mutual Aid Group, formed with other oil terminal operators around Burrard Inlet. 	<ul style="list-style-type: none"> NEB Condition 90 - Consultation on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 months prior to commencing construction, a consultation plan for its review of its ERPs and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). NEB Condition 117 - Reporting on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 years and 1 year prior to commencing operations, detailed updates for the company's review of its EMP (toward meeting the requirements of Condition 124). NEB Condition 124 - Implementing improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 6 months prior to commencing operations, a detailed summary of its review of its ERPs (as noted in Conditions 125 and 126) and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). This filing must include a description of changes made to Trans Mountain's EMP, as required under the National Energy Board Onshore Pipeline Regulations. NEB Condition 126 – Emergency Response Plan for Westridge marine Terminal Trans Mountain must file with the NEB at least 6 months prior to commencing operations at Westridge Marine Terminal, an updated ERP for the Westridge Marine Terminal 	<ul style="list-style-type: none"> Trans Mountain continues to engage with stakeholders around multiple aspects of the Project, including ongoing engagement on ERPs to share information and seek input Trans Mountain has and will continue to invite City of Port Moody First Responders to participate in its Emergency Response engagement, training and exercises. Trans Mountain is part of the Burrard Inlet Mutual Aid Group. BIMAG has invited the City to participate in this group.

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City of Vancouver						
4.1	Pipeline – Environment - Oil Spill Effects Marine – Environment – Oil Spill Effects Terminal – Emergency Management – Preparedness Marine – Emergency Management – Preparedness	City of Vancouver Written Argument (Filing ID A75082))	<ul style="list-style-type: none"> Impacts of an oil spill within the Lower Fraser River Watershed on the environment, wildlife, fisheries, residents and businesses Risk and impacts associated with an oil spill in Burrard Inlet on the environment, fish, birds and other wildlife habitat, as well as businesses and residents. Lack of studies and risk assessment conducted regarding the impacts of an oil spill in Burrard Inlet or the Fraser River. Trans Mountain has failed to identify and assess the risk posed by, or demonstrate preparedness to mitigate and respond to, the range of hazards that could impact the pipeline or terminal operations. The DNV risk assessment entirely omitted, without explanation, study Segment 2 (that part of Burrard Inlet situated between First and Second narrows) from the list of oil spill locations that were even considered by DNV for spill modelling and risk assessment. 	<ul style="list-style-type: none"> In its reply argument, Trans Mountain stated its ESA of the Project (which includes accidents and malfunctions) is supported by detailed studies such as wildlife, fish, vegetation and geotechnical assessments and traditional land and resource use (TLRU) and traditional marine resource use (TMRU) studies As described in Trans Mountain's final argument: [As part of the ESA], Trans Mountain completed a Pipeline ERA to assess the spill-related environmental effects that could result from a large oil spill at almost any location along the proposed corridor, including those that could affect smaller streams. Trans Mountain determined that the most-credible worst-case scenario involves a full-bore rupture, followed by drain-down to the fullest extent possible, given the elevation profile and valve configuration.....Trans Mountain commissioned an independent outflow analysis based on preliminary valve spacing to quantify the oil volume that would be released in the event of a spill incident at four representative locations (Athabasca River, North Thompson River, Lower Fraser River and Lower Fraser River-Port Mann Bridge). The information provided in the Pipeline ERA is based on effects and documents from past spills and credible worst-case pipeline spill scenarios modelled to provide a detailed evaluation of potential ecological and human health consequences. The Pipeline ERA evaluated potential acute and chronic environmental effects to different groups of ecological receptors that might be exposed to spilled oil as a result of their habitats and life cycles. This includes various 	<ul style="list-style-type: none"> NEB Decision page 134 - As discussed in Chapter 14, section 14.4.2, Trans Mountain said that the spill volumes modeled by the Tsleil- Waututh Nation, City of Vancouver, and the City of Burnaby were not credible scenarios. Trans Mountain said that the modelling method used by those participants was appropriate for providing basic information for spill response but it was not appropriate for a detailed and comprehensive environmental and socioeconomic study. Trans Mountain said that the modelling undertaken was based on an unmitigated spill scenario and that in such a scenario, it would be expected that a spill would impact a large percentage of shoreline given the confined geophysical environment of the subject area. ECCC said that the modelling tools used by Trans Mountain appear to be appropriate. NEB Condition 90 - Consultation on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 months prior to commencing construction, a consultation plan for its review of its ERPs and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). NEB Condition 117 - Reporting on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 years and 1 year prior to commencing operations, detailed updates for the company's review of its EMP (toward meeting the requirements of Condition 124). NEB Condition 124 - Implementing improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 6 months prior to commencing operations, a detailed summary of its review of its ERPs (as noted in Conditions 125 and 126) and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). This filing must include a description of changes made to Trans Mountain's EMP, as required under the National Energy Board Onshore Pipeline Regulations... 	<ul style="list-style-type: none"> Trans Mountain is committed to supporting WCMRC in implementing enhancements to improve marine spill response capacity in the region. Trans Mountain understands the City of Vancouver is among the participants in the Greater Vancouver Area Response Plan initiative which also includes the participation of the Canada Coast Guard, WCMRC, the VFPA, and other neighbouring municipalities.

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				<p>aquatic organisms and wildlife over the range of watercourses and flow conditions traversed by the Project.</p> <ul style="list-style-type: none"> Trans Mountain's assessment of marine incidents is based on a comprehensive evaluation that includes a quantitative navigation risk assessment together with determining credible worst-case oil spill volume, as detailed in Section 7 - Environment of its final argument. Stochastic modelling of crude oil spills originating at several locations in the Burrard Inlet, Strait of Georgia in an area near the Fraser River Estuary, Gulf Islands and Strait of Juan de Fuca together with detailed deterministic spill modelling were used in the assessment. The scope and methods used in the Marine ERA were based on additional application filing requirements as outlined in correspondence from the NEB to Trans Mountain in a letter dated September 10, 2013. The Mariner's ERA is available in Volume 8 B of the Application (Filing ID A3S4A7) As stated in Trans Mountain's reply evidence: David Etkin (Associate Professor of Disaster and Emergency management at York University) was retained by the City of Vancouver to provide his "opinion on whether the exclusion of Segment 2 and Segment 3 from the risk assessment was reasonable" (page 2 Line 14). Trans Mountain emphasizes that the entire shipping route was assessed for marine navigation and oil spill risk; Segment 2 and Segment 3 are included in the risk assessment submitted with the Application. The City of Vancouver has therefore provided Mr. Etkin with incorrect information on which to base his assessment. More details can be found in Annex 2 of Trans Mountain Reply 	<ul style="list-style-type: none"> NEB Condition 125 - Emergency Response Plans for the Pipeline and for the Edmonton, Sumas and Burnaby Terminals Trans Mountain must file with the NEB, at least 6 months prior to commencing operations, updated Emergency Response NEB Condition 126 – Emergency Response Plan for Westridge marine Terminal Trans Mountain must file with the NEB at least 6 months prior to commencing operations at Westridge Marine Terminal, an updated ERP for the Westridge Marine Terminal NEB Condition 133 - Marine shipping-related commitments Trans Mountain must file with the NEB, at least 3 months prior to loading the first tanker at the Westridge Marine Terminal with oil transported by the Project, confirmation, signed by an officer of the company, that it has implemented or caused to be implemented the following commitments related to oil tanker traffic and enhanced oil spill response: <ul style="list-style-type: none"> Enhanced tug escort through developing a tug matrix and including it as part of Trans Mountain's Tanker Acceptance Standard. An enhanced marine oil spill response regime capable of delivering 20,000tonnes of capacity within 36 hours of notification, with dedicated resources staged within the study area NEB Condition 140 - Post-construction greenhouse gas assessment report Trans Mountain must file with the NEB for approval, within 2 months after commencing operations, an updated GHG assessment report specific to the Project NEB Condition 142 Greenhouse Gas Emissions Offset Plan – Project construction Trans Mountain must file with the NEB for approval, within 4 months after commencing operations, a plan for providing offsets for all direct GHG emissions generated from Project construction, as determined in Condition 140. 	

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				<p>Evidence (Section 60.18).</p> <ul style="list-style-type: none"> In its reply argument, Trans Mountain stated: An effective process for identifying and analyzing all hazards and potential hazards used for developing the procedures and processes to avoid emergencies have been established for the Project. Thus, this concern is without merit. More information is available in Exhibit B384-12 - Trans Mountain Pipeline ULC - Trans Mountain Responses to City of Vancouver F-IR No. 2 (May 4, 2015) (A4K9Z9), 1-9. DNV included a comprehensive review of the entire shipping route between the Westridge Marine Terminal and Buoy J (western entrance to Juan de Fuca Strait), which included a quantitative risk analysis. An accident in Burrard Inlet that can lead to spillage of entire oil cargo from two cargo tanks in an Aframax tanker is a very low probability event, due in large part to the extensive set of risk reducing measures in place, including the slow speed of tankers, other vessels and escorts in this area. The likelihood for a spill of this size occurring in Burrard Inlet, which is specific to a vessel grounding or collision, is considered to not be credible by virtue of the detailed analysis carried out by DNV which shows that the probability for a collision causing an oil spill in Burrard Inlet is 1 in 19,286 years. DNV did, however, properly identify the credible worst case scenario for an oil spill as one that might occur during tanker loading as a representative credible worst case oil spill within Burrard Inlet. The credible worst-case scenario during tanker loading was calculated as a spillage of 103 m³ oil occurring once every 234 years within the pre-boomed area surrounding the tanker at 		

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				<p>berth</p> <ul style="list-style-type: none"> As also described in its reply argument: Trans Mountain's evidence is that accidents and malfunctions related to the pipeline and facilities and the increase in Project-related marine shipping activities will have a low probability of occurrence (<i>i.e.</i>, the scenarios considered and formally evaluated are not likely to unfold). Since the likelihood of a credible worst-case or smaller spill occurring is low, Trans Mountain concluded that effects of accidental spills were not significant in the context of the CEA Act, 2012 based on the significance framework and criteria provided in the Application. Trans Mountain submits this approach is consistent with the legislation. Trans Mountain will include updated measures to protect wildlife and wildlife habitat in the event of an oil spill, including species at risk and critical habitat, in the ERP. Final enhanced ERPs and supporting documents will be completed in advance of commissioning and operation of the Project. 		
4.2	<p>Terminal – Environment - Climate Change</p> <p>Pipeline – Environment – Climate Change</p> <p>Marine – Environment – Climate Change</p> <p>Marine – Socio-Economic –</p>	City of Vancouver Written Argument (Filing ID A75082))	<ul style="list-style-type: none"> TMEP will substantially increase pipeline operating emissions and marine operating emissions. It is highly questionable that an additional 590,000 barrels of oil per day could result in reduced emissions [as claimed by TMEP], considering that emissions are in many cases influenced by throughput. Vancouver has responsibility for planning and mitigating impacts of severe weather events and rising sea levels, including impacts on its infrastructure, and 	<ul style="list-style-type: none"> NEB Conditions 140 and 142 are intended to ensure that, should the Project proceed, the GHG emissions associated with the construction of the Project are recorded and offset. To ensure that GHG emissions are at the lowest possible levels, Trans Mountain has committed to 4613 continuously improving GHG emissions over the life of the Project through the following actions: <ul style="list-style-type: none"> a) Land clearing (removal of vegetative waste, site preparation) along the pipeline right-of-way and at facility locations such as terminals and pump stations will account for over 80 per cent 	<ul style="list-style-type: none"> NEB Condition 140 - Post-construction greenhouse gas assessment report Trans Mountain must file with the NEB for approval, within 2 months after commencing operations, an updated GHG assessment report specific to the Project NEB Condition 142 Greenhouse Gas Emissions Offset Plan – Project construction Trans Mountain must file with the NEB for approval, within 4 months after commencing operations, a plan for providing offsets for all direct GHG emissions generated from Project construction, as determined in Condition 140. 	<ul style="list-style-type: none"> Trans Mountain is committed to meeting NEB Condition 140 and NEB Condition 142.

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	Impacts - Benefits		<p>is collaborating with other levels of government to implement Vancouver's Climate Change Adaptation Strategy. The Project, through its impact on global GHG emissions, will significantly increase the overall need for and costs of adaptation.</p>	<p>of all estimated construction GHG emissions due in large part to burning of vegetative waste. In the Lower Fraser Valley where air quality is an issue, Trans Mountain will avoid burning slash. Instead, mulching will be performed in place or slash will be transported to an approved disposal location. A pre-construction timber cruise will be completed to determine the economically operable and merchantable timber volume for the construction right-of-way. Trans Mountain will meet with the governments, industry and local Aboriginal communities with respect to the use of merchantable timber.</p> <p>b) Lesser sources of GHG emissions during Project construction will be addressed through Trans Mountain's contract specifications.</p> <p>c) KMC will continue to explore opportunities to reduce GHG and other air emissions during the operation of its facilities including the Project.</p> <p>Trans Mountain has historically been at the forefront of emissions reduction by consistently upgrading technology at its existing facilities to address direct GHG emissions created during operations. Trans Mountain has similarly committed to continuously identifying and integrating design changes over the life of the Project to improve operating efficiency while reducing GHG and other emissions</p> <ul style="list-style-type: none"> The development of the oil sands (upstream effects) and the downstream use of the oil intended to be shipped on the pipeline (downstream effects) are not within the scope of the NEB review. 		

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				<p>As highlighted in Trans Mountain's final argument, the Board's decision as follows:</p> <ul style="list-style-type: none"> ▪ "The Board acknowledges that the environmental and socio-economic effects of GHG emissions are different from other effects because they are less dependent on the particular location or timing of the activity that produces them. However, considering those effects without also considering all other effects, both positive and negative, would suffer the same problem raised in the motions and some letters of support; that is, considering one cost or benefit of upstream or downstream activities in isolation of other costs and benefits." • For more information, see Exhibit A063 - National Energy Board - Ruling No. 25 - Motions requesting that the Board include in the List of Issues the environmental and socio-economic effects associated with upstream activities and downstream use (July 23, 2014) (A61912), 6. 		
4.3	<p>Pipeline - Emergency Management – Preparedness</p> <p>Pipeline – Emergency Management – Response</p> <p>Marine – Emergency Management – Preparedness</p>	City of Vancouver Written Argument (Filing ID A75082))	<ul style="list-style-type: none"> • Impacts of multiple hazards such as, earthquake, flooding, extreme weather, wildlife, transportation accidents (including marine transportation), and chemical and explosive hazards on TMEP's, as well as contractor's response capacity during a pipeline incident. • No control point plans were provided by Trans Mountain, information that is required in order to evaluate the capacity of Trans Mountain to respond to a pipeline rupture impacting the 	<ul style="list-style-type: none"> • The overall ERP provides a generic response to an incident at any location along the TMPL system, whereas the ERPs for terminals are location-specific. All plans have a common structure and format, and address key elements, including: <ul style="list-style-type: none"> ▪ responder health and safety; ▪ internal and external notifications; ▪ spill/site assessments; ▪ spill containment and recovery; ▪ protection of sensitive areas; and ▪ multiple hazards. • The existing control points manual was among the documents shared with stakeholders at EMSWs. As stated in Trans Mountain's reply 	<ul style="list-style-type: none"> • NEB Condition 90 - Consultation on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 months prior to commencing construction, a consultation plan for its review of its ERPs and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). • NEB Condition 117 - Reporting on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 years and 1 year prior to commencing operations, detailed updates for the company's review of its EMP (toward meeting the requirements of Condition 124). • NEB Condition 124 - Implementing improvements to Trans Mountain's Emergency Management Program Trans 	<ul style="list-style-type: none"> • Trans Mountain is committed to supporting WCMRC in implementing enhancements to improve marine spill response capacity in the region. • Trans Mountain understands the City of Vancouver is among the participants in the Greater Vancouver Area Response Plan initiative which also includes the participation of the Canada Coast Guard, WCMRC, the VFPA, and other neighbouring municipalities. • Trans Mountain posted its ERP to its website. The posting of the

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	Marine – Socio-Economic – Benefits / Impacts – Economic – Oil Spill Effects		<p>Fraser River or other water bodies.</p> <ul style="list-style-type: none"> Lack of information regarding TMEP's ability to adequately respond to pipeline incidents due to a seismic event. Potential gaps in data collection and information sharing between Unified Command members and the public. Lack of information regarding ERPs for a marine spill. Lack of response plans for or compensation process for damages from tankers caused by fire or explosion. Assumption by Trans Mountain that marine firefighting capacity suitable for dealing with a fire on a project tanker exists in Vancouver Harbour and is provided by the City of Vancouver Lack of marine firefighting capabilities in marine communities. Reliance on vessel captains to report a spill or incident and immediately initiate response by activating the agreement with WCMRC. 	<p>argument, since the updated EMP depends upon the final detailed design of the Project, a process which will not be carried out unless the Project receives approval and until Trans Mountain has an opportunity to review the conditions of such approval, the updated EMP cannot be provided during the NEB's regulatory review of the Project. The existing ERPs 1694 and guides will be used as the foundation for the development of enhanced ERPs and guides for the Project. These updated plans for the pipeline and facilities will reflect the added scope of the Project, increased volumes, new or updated control points due to routing, and updates to new response equipment and bases if required. Final enhanced ERPs and supporting documents will be completed in advance of commissioning and operation of the Project.</p> <ul style="list-style-type: none"> As detailed in Trans Mountain's Reply Argument, Final Argument and Reply Evidence, Trans Mountain carefully considered seismic activity and its potential impact on the Project, relying on both its 60 years of experience operating the TMPL system and new analysis obtained specifically for the design, construction and operation of the Project... Trans Mountain has sufficiently accounted for seismic activity in its terminal design, in accordance with statutory requirements and relevant industry standards... Trans Mountain filed new analysis specifically for the design and construction of the Project, including its preliminary seismic hazard assessment, a semi-quantitative hazard assessment of geohazards and a Seismic Hazard Update. During the engineering and design phase, Trans Mountain will undertake seismic 	<p>Mountain must file with the NEB, at least 6 months prior to commencing operations, a detailed summary of its review of its ERPs (as noted in Conditions 125 and 126) and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). This filing must include a description of changes made to Trans Mountain's EMP, as required under the National Energy Board Onshore Pipeline Regulations...</p> <ul style="list-style-type: none"> NEB Condition 125 - Emergency Response Plans for the Pipeline and for the Edmonton, Sumas and Burnaby Terminals Trans Mountain must file with the NEB, at least 6 months prior to commencing operations, updated Emergency Response NEB Condition 126 – Emergency Response Plan for Westridge marine Terminal Trans Mountain must file with the NEB at least 6 months prior to commencing operations at Westridge Marine Terminal, an updated ERP for the Westridge Marine Terminal NEB Condition 133 - Marine shipping-related commitments Trans Mountain must file with the NEB, at least 3 months prior to loading the first tanker at the Westridge Marine Terminal with oil transported by the Project, confirmation, signed by an officer of the company, that it has implemented or caused to be implemented the following commitments related to oil tanker traffic and enhanced oil spill response: <ul style="list-style-type: none"> Enhanced tug escort through developing a tug matrix and including it as part of Trans Mountain's Tanker Acceptance Standard. An enhanced marine oil spill response regime capable of delivering 20,000tonnes of capacity within 36 hours of notification, with dedicated resources staged within the study area. 	<p>plans is in response to an NEB requirement for all regulated pipeline companies to publish emergency procedures manuals on its public company website, and in advance of the September 30, 2016 deadline for doing so. KMC excluded sensitive information from online availability, in compliance with the NEB order that excludes content that would compromise infrastructure protection and personal security and safety. The Company's ERPs are updated regularly and shared with the NEB, first responders, public safety agencies, and governments.</p>

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				<p>investigations, performed by experienced engineers, in all areas along the TMEP route where it has identified an elevated liquefaction or landslide potential. More information is available in Exhibit B444-2 - Trans Mountain Revised Final Argument (clean) (December 15, 2015) (A4W6L8), 157-158.</p> <ul style="list-style-type: none"> Trans Mountain cannot address the actions of a Unified Command for which it did not participate. As stated in City of Burnaby IR No. 1.03.08c (Filing ID A3Y2E6). Kinder Morgan Canada takes full responsibility for any emergency that results from the Trans Mountain pipeline system and its facilities and prefers to jointly manage such an incident with the local, provincial and federal authorities in the jurisdiction of the emergency using Unified Command. As outlined in Trans Mountain's reply evidence regarding Fire on a tanker (City of Port Moody, Filing ID A4L7Q5). The measures to reduce the risk of 19 fires and explosions on double hulled tankers are discussed in the response to City of 20 Vancouver IR No. 1.10.12a (Filing ID A3Y2G6). Vessel fire detection and extinguishing 21 systems are described in Volume 8C, TERMPOL 3.9 (Filing ID A3S4T2). The compensation process for damages from tankers caused by fire or explosion is 5 part of the vessel insurance. Details of the effect of the future ratification of the Hazardous and Noxious Substances (HNS) Convention, and the appropriate section of <i>Safeguarding Canada's 7 Seas and Skies Act</i> related to HNS can be found in Trans Mountain response to the City of 8 Vancouver IR No. 2.12.1a (Filing ID A4H8I9) As stated in its final argument, Trans Mountain 		

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				<p>does not own or operate the vessels; Trans Mountain has no direct control over the actions of vessel owners and operators. Trans Mountain has committed to continuing to enforce its tanker acceptance criteria, which requires tankers and barges to be equipped, maintained and operated in accordance with international and federal regulations and best practices.</p>		
4.4	Maine – Socio-Economic – Benefits / Impacts – Economic – Oil Spill Effects	City of Vancouver Written Argument (Filing ID A75082))	<ul style="list-style-type: none"> • Potential financial burden to the city, its residents and businesses, including tourism, as a result of a spill. • Impact of a spill on the city's "brand". • Compensation for potential economic impacts of a spill. • Impacts to city's infrastructure as a result of a spill 	<ul style="list-style-type: none"> • Canada's oil spill compensation regime is based upon polluter-pay-principle. • In the marine shipping industry, the polluter is also liable for all response costs through insurance and backed by an industry-funded Canadian and international compensation regime. In total, there's about \$1.5 billion available for oil spills from ships for any one incident (ssopfund.ca). If that could ever be exceeded, under the Marine Liability Act the can enact a levy of close to \$0.50 on every tonne of oil imported or shipped in bulk in Canada. • As stated in Trans Mountain's reply evidence, in contrast to the assumptions and methods used in some intervenor evidence, the assumptions and approaches on which Trans Mountain has relied for assessing spill costs are conservative and reasonable. They suit the purpose (estimating potential liability), the location (as defined by the Application), and the circumstances (that the Application is an expansion of existing operations that have been ongoing for 60 years). Significant evidence has already been placed on the record through Trans Mountain's Application and supplemental filings, through Trans Mountain's responses to IRs, and through independently prepared material (e.g., 	<ul style="list-style-type: none"> • NEB Decision, Section 13.3 - Trans Mountain has committed to pay for the full cost to clean up any spill from the Project, and has agreed to pay the full costs of a spill, even if it exceeds Trans Mountain's insurance. In the case of a spill, malfunction or incident from the Project, Trans Mountain must pay for the full cost of cleaning up and remediating any damages caused. 	<ul style="list-style-type: none"> • Trans Mountain confirms its commitment outlined in Section 13.3 of the NEB Decision.

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				TERMPOL Review Process Report on the Trans Mountain Expansion Project [Filing ID A4F8Z4]). This evidence illustrates that adequate financial resources are available to meet claims in the event of a spill.		
4.5	Marine – Socio-Economic - Human Health – Oil Spill Effects	City of Vancouver Written Argument (Filing ID A75082))	<ul style="list-style-type: none"> • Potential risks to community first responders during a spill including air pollutants and injury. • Potential health impacts of a spill including air pollutants. 	<ul style="list-style-type: none"> • As per Trans Mountain's final argument, accounting for varying exposures to both spilled oil and vapours, the Pipeline HHRA concludes that there is no obvious indication that the health of First Nations or the general public would be seriously affected by acute inhalation exposure to the chemical vapours released by pooled oil during the early stages of a spill. Though discomforting and annoying, health effects that could be experienced by people in the area would be confined to minor, transient sensory and/or non-sensory effects. The arrival of first responders and the implementation of the emergency response measures (discussed in Section 4 - Emergency Response of the Final Argument) will serve to minimize transient health effects...because the first responders could remain on scene for some time while working to isolate, contain, and recover the spilled oil, and could face the prospect of direct physical contact with the oil and/or more prolonged exposure to the vapours, it is important that they be trained in emergency and spill response procedures, be equipped with personal protective equipment and be alert to potential exposure opportunities so as to minimize any exposures they might receive. 	<ul style="list-style-type: none"> • NEB Condition 90 - Consultation on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 months prior to commencing construction, a consultation plan for its review of its ERPs and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). • NEB Condition 117 - Reporting on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 years and 1 year prior to commencing operations, detailed updates for the company's review of its EMP (toward meeting the requirements of Condition 124). • NEB Condition 124 - Implementing improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 6 months prior to commencing operations, a detailed summary of its review of its ERPs (as noted in Conditions 125 and 126) and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). This filing must include a description of changes made to Trans Mountain's EMP, as required under the National Energy Board Onshore Pipeline Regulations... • NEB Condition 125 - Emergency Response Plans for the Pipeline and for the Edmonton, Sumas and Burnaby Terminals Trans Mountain must file with the NEB, at least 6 months prior to commencing operations, updated Emergency Response • NEB Condition 126 – Emergency Response Plan for Westridge marine Terminal Trans Mountain must file with the NEB at least 6 months prior to commencing operations at Westridge Marine Terminal, an updated ERP for the Westridge Marine Terminal 	<ul style="list-style-type: none"> • Trans Mountain will consult with the City of Vancouver and other local first responder agencies in Metro Vancouver as part of the enhancement of the pipeline EMP

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					<ul style="list-style-type: none"> • NEB Condition 133 - Marine shipping-related commitments Trans Mountain must file with the NEB, at least 3 months prior to loading the first tanker at the Westridge Marine Terminal with oil transported by the Project, confirmation, signed by an officer of the company, that it has implemented or caused to be implemented the following commitments related to oil tanker traffic and enhanced oil spill response: <ul style="list-style-type: none"> ▪ Enhanced tug escort through developing a tug matrix and including it as part of Trans Mountain's Tanker Acceptance Standard. • An enhanced marine oil spill response regime capable of delivering 20,000tonnes of capacity within 36 hours of notification, with dedicated resources staged within the study area 	
District of North Vancouver						
5.1	Marine – Emergency Management – Response Terminal – Emergency Management – Response Marine – Environment – Wildlife & Vegetation Marine – Environment – Oil Spill Effects	District of North Vancouver Final Submission (Filing ID A75089)	<ul style="list-style-type: none"> • Trans Mountain has not demonstrated that there is sufficient boom or an adequate emergency response to prevent oil from reaching the Maplewood mudflats, an important bird conservation area. 	<ul style="list-style-type: none"> • As coastline, Maplewood Mudflats would be tidally influenced and as such, present unique challenges to cleanup. As noted in the response to District of North Vancouver IR No. 1.4.3c (Filing ID A3Y2J7): because intertidal mudflats are difficult and possibly hazardous to walk upon, containment boom deployment would likely occur from a boat. Ideally deployment would target the optimal tide window to facilitate the best access to the shoreline. General-purpose boom would be used to provide protective and exclusionary booming that is compatible to the local shoreline features. Shore seal boom, constructed with an air-filled flotation chamber and a water-filled skirt, and would also be deployed in areas where it was appropriate to seal the shore at the water's edge. • As noted by Trans Mountain in reply evidence: • It should be noted that the east, southeast and south-southeast winds that would direct a marine spill from the Westridge Marine 	<ul style="list-style-type: none"> • NEB Condition 133 - Marine shipping-related commitments Trans Mountain must file with the NEB, at least 3 months prior to loading the first tanker at the Westridge Marine Terminal with oil transported by the Project, confirmation, signed by an officer of the company, that it has implemented or caused to be implemented the following commitments related to oil tanker traffic and enhanced oil spill response: <ul style="list-style-type: none"> • Enhanced tug escort through developing a tug matrix and including it as part of Trans Mountain's Tanker Acceptance Standard. • An enhanced marine oil spill response regime capable of delivering 20,000 tonnes of capacity within 36 hours of notification, with dedicated resources staged within the study area 	<ul style="list-style-type: none"> • Trans Mountain understands the District of North Vancouver and the North Shore Emergency Management Office are among the participants in the Greater Vancouver Area Response Plan initiative which also includes the participation of the Canada Coast Guard, WCMRC, the VFPA, and other neighbouring municipalities.

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				Terminal towards the Maplewood Mud Flats are a relatively rare occurrence in Burrard Inlet. Based on wind data collected in 2013 by Tetra Tech EBA at Westridge Terminal, winds spanning east to south-southeast represent less than 2% of the total recorded winds.		
5.2	Marine – Environment – Wildlife & Vegetation – Oil Spill Effects	District of North Vancouver Final Submission (Filing ID A75089)	<ul style="list-style-type: none"> Impacts of a spill on wildlife, including the lack of resources dedicated to this, are anticipated to be significant and would be greatly increased if the event occurred during seasonal periods with high population levels. 	<ul style="list-style-type: none"> As outlined in Trans Mountain's final argument, concerns have been raised regarding accidents or malfunctions in relation to the Project, and in particular Trans Mountain's ability to respond to terrestrial and marine oil spills. Pursuant to regulatory requirements, Trans Mountain must implement management systems and protection programs to anticipate, prevent, manage and mitigate events that may adversely affect the safety and security of its pipelines, employees, the public, property and the environment. Trans Mountain's primary objective is to prevent spills from occurring. To achieve this objective, incident prevention measures will be incorporated throughout the full Project lifecycle starting with formalized risk assessments of preliminary engineering designs through to pipeline construction, facility expansion and overall system operation and maintenance. The Application, Volume 7, Section 4.8 outlines the process to enhance KMC's existing EMP as they relate to the TMPL system to address the needs of the Project (Filing ID A3S4V5). The final programs will be developed in a manner consistent with the National Energy Board's (NEB or Board) draft conditions related to emergency response (Filing ID A3V8Z8). Recovery and treatment of impacted wildlife is a very specialized discipline requiring specific training and equipment. KMC has a wildlife recovery contractor with federal migratory 	<ul style="list-style-type: none"> NEB Condition 90 - Consultation on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 months prior to commencing construction, a consultation plan for its review of its ERPs and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). NEB Condition 117 - Reporting on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 years and 1 year prior to commencing operations, detailed updates for the company's review of its EMP (toward meeting the requirements of Condition 124). NEB Condition 124 - Implementing improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 6 months prior to commencing operations, a detailed summary of its review of its ERPs (as noted in Conditions 125 and 126) and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). This filing must include a description of changes made to Trans Mountain's EMP, as required under the National Energy Board Onshore Pipeline Regulations... NEB Condition 126 – Emergency Response Plan for Westridge marine Terminal Trans Mountain must file with the NEB at least 6 months prior to commencing operations at Westridge Marine Terminal, an updated ERP for the Westridge Marine Terminal 	<ul style="list-style-type: none"> Trans Mountain will consult with the North Shore Emergency Management Office, municipalities and other agencies on the north shore as part of the enhancement of the pipeline EMP.

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				<p>permits and provincial rehabilitation permits on contract for immediate response to an incident across the TMPL system. The contractor will respond with the appropriate scale of equipment and trained personal as the situation requires.</p> <ul style="list-style-type: none"> Trans Mountain will include updated measures to protect wildlife and wildlife habitat in the event of an oil spill, including species at risk and critical habitat, in the ERP. Final enhanced ERPs and supporting documents will be completed in advance of commissioning and operation of the Project. 		
5.3	Marine – Socio-Economic - Benefits / Impacts - Oil Spill Effects	District of North Vancouver Final Submission (Filing ID A75089)	<ul style="list-style-type: none"> Increase in marine activity, as well as the potential for spill events will negatively impact District park environments and public usage as well as parks-related businesses. 	<ul style="list-style-type: none"> For routine operations, as stated in Tran Mountain's reply argument: Trans Mountain conducted a pair of HHRAs aimed at identifying and understanding the potential risks to human health associated with chemical emissions, including fugitive emissions, from the Project under routine operating conditions. The HHRAs revealed that, notwithstanding the conservative assumptions employed, the maximum predicted levels of exposure to the chemicals of potential concern remained below the levels of exposure that would be expected to cause health effects for even the most sensitive individuals in the population. Additionally, Trans Mountain commits to design each terminal such that the ground-level air 2074 concentrations of the chemicals of potential concern, including those chemicals identified to be of particular concern by intervenors and Health Canada (e.g., benzene, nitrogen dioxide, and fine particulate matter), are below the lowest applicable Ambient Air Quality (AAQ) Objective established in BC or AB. For more information, see Exhibit B306-2 - Trans Mountain Pipeline ULC - Trans Mountain 	<ul style="list-style-type: none"> NEB Condition 133 - Marine shipping-related commitments Trans Mountain must file with the NEB, at least 3 months prior to loading the first tanker at the Westridge Marine Terminal with oil transported by the Project, confirmation, signed by an officer of the company, that it has implemented or caused to be implemented the following commitments related to oil tanker traffic and enhanced oil spill response: <ul style="list-style-type: none"> Enhanced tug escort through developing a tug matrix and including it as part of Trans Mountain's Tanker Acceptance Standard. An enhanced marine oil spill response regime capable of delivering 20,000 tonnes of capacity within 36 hours of notification, with dedicated resources staged within the study area 	<ul style="list-style-type: none"> Marine spill prevention, response and mitigation are paramount concerns for Trans Mountain and will remain a priority indefinitely.

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				<p>Response to NEB IR No. 3 (February 3, 2015) (A4H1V2).</p> <ul style="list-style-type: none"> • For accidents and malfunctions, as indicated in Trans Mountain's reply argument, Trans Mountain conducted a series of HHRAs with the aim of identifying and understanding the potential health effects that might be experienced by people in the unlikely event of an oil spill. Some of the major conclusions that emerged from the HHRAs were: <ul style="list-style-type: none"> ▪ in the unlikely event of an oil spill, there was no obvious indication that people's health would be seriously adversely affected by acute inhalation exposure to the chemical vapours released during the early stages of a spill under any of the simulated oil spill scenarios examined; and ▪ in the unlikely event of an oil spill, the health effects that could be experienced by people in the area would likely be confined to mild, transient sensory and/or non-sensory effects, attributable largely to the irritant and central nervous system depressant properties of the chemicals. Odours also might be noticed, which could contribute to added discomfort and irritability • Section 5.6.1 of Volume 8A (Filing ID A3S5Q3) states that a marine spill could result in adverse effects on recreational activities, including boating and beach use. Specific predictions about such effects were not provided because of the complexity associated with predicting hypothetical events. Although oil spill risk of the Project was shown to be low, evidence from past spills indicates that if a large oil spill were to affect recreational areas, use of these areas 		

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				would likely be disrupted, either voluntarily or by regulation, for at least one season.		
5.4	Marine – Socio-Economic - Benefit/Impact – Economic – Oil Spill Effects	District of North Vancouver Final Submission (Filing ID A75089)	<ul style="list-style-type: none"> Financial compensation should be established for the District's economic losses arising from impacts to its parks and park users in the event of a spill in Burrard Inlet. 	<ul style="list-style-type: none"> Canada's spill response regime is based on a strict 'polluter pay' principle. If a spill were to occur on the Trans Mountain pipeline system, KMC would be required to cover the entire cost of the clean-up. N- neither the public, or any level of government would be left to pay. Oil pipeline companies are required by regulation to hold \$1 billion in financial resources. Trans Mountain holds multiple reserves to ensure we have the funds to deal with an emergency situation, including cash, insurance and credit In the marine shipping industry, the polluter is also liable for all response costs through insurance and backed by an industry-funded Canadian and international compensation regime. In total, there's about \$1.5 billion available for oil spills from ships for any one incident (ssopfund.ca). If that could ever be exceeded, under the Marine Liability Act the can enact a levy of close to \$0.50 on every tonne of oil imported or shipped in bulk in Canada. 	<ul style="list-style-type: none"> NEB Decision page 319 - Trans Mountain has committed to pay for the full cost to clean up any spill from the Project, and has agreed to pay the full costs of a spill, even if it exceeds Trans Mountain's insurance. In the case of a spill, malfunction or incident from the Project, Trans Mountain must pay for the full cost of cleaning up and remediating any damages caused. 	<ul style="list-style-type: none"> Trans Mountain confirms its commitments as set out in the NEB Decision on page 319.
5.5	Marine – Environment - Air Quality Marine – Emergency Management - Response	District of North Vancouver Final Submission (Filing ID A75089)	<ul style="list-style-type: none"> The District's position is that the Project should not be approved unless the concerns identified by Metro Vancouver and the Chief Medical Officer from Vancouver Coastal Health are fully addressed, including the provision of additional air quality monitoring for the District and development of a real-time plan to inform evacuation decisions. 	<ul style="list-style-type: none"> As described in Response to Earle T IR No. 1.6 (Filing ID A3X6C9): In the event of an oil spill, the data from the air monitoring equipment is given to the individuals responsible for air quality and human health impacts including the Safety Officer, Local Authority and Unified Command. The data is used to identify if individuals could be at risk for adverse health impacts, and make decisions regarding evacuation and/or shelter in place. Air monitoring during emergency response: As soon as any incident is reported that is related to the pipeline or facilities such as 	<ul style="list-style-type: none"> NEB Decision page 336 - The Board acknowledges that there is an existing regulatory regime governing air emissions from tankers underway or in transit. All Project related tankers and barges are required to follow international and federal regulations, and apply best practices during operations. These tankers would carry an International Air Pollution Prevention Certificate and be required to have onboard a volatile organic compound management plan. NEB Decision page 336 - The Board finds that Trans Mountain's predicted concentrations for both PM2.5 and nitrogen dioxide emissions at the Tsleil-Waututh Nation's Burrard Inlet No. 3 reserve, as a result of Project-related marine shipping, are well below the applicable objectives. The Board 	<ul style="list-style-type: none"> With respect to operations, no additional AAQ monitoring is planned as per NEB Decision. For emergencies (accidents or malfunctions) Trans Mountain will consult on air monitoring plans with the North Shore Emergency Management Office, municipalities and other agencies on the north shore as part of the enhancement of the pipeline EMP

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				<p>Westridge Marine Terminal:</p> <ul style="list-style-type: none"> Trained local KMC technicians would be dispatched to the location to help secure the area and commence air monitoring in the immediate vicinity. KMC would consult with the local authority to determine the best course of action to protect the public. Kinder Morgan Canada has agreements in place with several specialized contractors in the Vancouver and other areas to provide air monitoring services during releases and fires in accordance with the air monitoring plans included in the Westridge Marine Terminal ERP. These contractors have provided emergency contact information and it is reasonable to assume initial air monitoring would occur in the District of North Vancouver within 3 hours after being contacted. Additional air monitoring has been committed and is subsequently required under NEB Condition 52 – Air Emissions Management Plan for the Westridge Marine Terminal. Continuous ambient fence line monitors are installed at Westridge Marine Terminal to measure hydrogen sulphide (H₂S) volatile organic compounds (VOC), and sulphur dioxide (SO₂) and weather parameters such as wind speed, wind direction, temperature and humidity. The monitoring system will have an integrated alarm system to send out email notifications to designated individuals should any applicable provincial AAQ Objectives be reached. The thresholds for the email notifications are set to levels below the provincial AAQ objectives to ensure a timely response is initiated prior to and potential exceedances. Air quality monitoring of a ship source spill 	<p>acknowledges ECCC's concern that nitrogen dioxide concentrations are generally high in the area due to other non-Project sources and that there are uncertainties with Trans Mountain's prediction of marine-source combustion emissions. As mentioned in Chapter 10, section 10.2.1, the Board would impose Condition 52 requiring Trans Mountain to develop an AEMP at the Westridge Marine Terminal for approval by the Board. Air monitoring conducted pursuant to this plan would verify predicted emissions levels, and exceedances of criteria established within the approved plan would require Trans Mountain to implement appropriate mitigation. Trans Mountain has committed to consult with the relevant Aboriginal groups about the possibility of undertaking an ambient survey on Tsleil-Waututh Nation's reserve lands. Consequently, the Board is not persuaded that a program to monitor air contaminants at or adjacent to Tsleil-Waututh Nation's reserve is warranted at this time.</p> <ul style="list-style-type: none"> NEB Condition 52 - Air Emissions Management Plan for the Westridge Marine Terminal Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction at the Westridge Marine Terminal, an AEMP for the Westridge Marine Terminal that includes: <ul style="list-style-type: none"> locations of air monitoring sites (on a map or diagram), including the rationale for the locations selected; confirmation that the new fixed air monitoring stations will be installed and operating at least one year prior to commencing operations at the Westridge Marine Terminal to establish robust local baseline data; the methods and schedule for ambient monitoring of contaminants of potential concern in air (e.g., particulate matter [including diesel particulate matter and speciation of PM_{2.5}], nitrogen oxides (including NO₂), sulphur dioxide, hydrogen sulphide, ozone, mercaptans, reduced visibility and volatile organic compounds) following a recognized protocol (e.g. National Air Pollution Surveillance program or U.S. Environmental Protection Agency), and emissions source tracking; representative meteorological data (e.g. wind speed, 	

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				<p>would be undertaken by the responsible party or the certified spill responder, WCMRC and their contractors.</p>	<p>wind direction, air temperature and relative humidity) for the monitoring period;</p> <ul style="list-style-type: none"> ▪ description of monitoring equipment and procedures for monitoring station data recording, assessment, quality assurance and reporting details, including a description of how the real time and non-continuous air quality monitoring data will be made available to the public; ▪ a particulate matter management plan; ▪ a description of the public and Aboriginal communication and complaint response processes; ▪ the criteria or thresholds that, if triggered or exceeded, would require implementing additional mitigation measures; ▪ a description of additional mitigation measures that would be implemented as a result of the monitoring data or ongoing concerns; and ▪ a summary of its consultations with Appropriate Government Authorities, potentially affected Aboriginal groups and affected landowners/tenants. In its summary, Trans Mountain must provide a description and justification for how Trans Mountain has incorporated the results of its consultation, including any recommendations from those consulted, into the plan. <ul style="list-style-type: none"> • NEB Condition 90 - Consultation on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 months prior to commencing construction, a consultation plan for its review of its ERPs and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). • NEB Condition 117 - Reporting on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 years and 1 year prior to commencing operations, detailed updates for the company's review of its EMP (toward meeting the requirements of Condition 124). • NEB Condition 124 - Implementing improvements to Trans Mountain's Emergency Management Program Trans 	

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					<p>Mountain must file with the NEB, at least 6 months prior to commencing operations, a detailed summary of its review of its ERPs (as noted in Conditions 125 and 126) and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). This filing must include a description of changes made to Trans Mountain's EMP, as required under the National Energy Board Onshore Pipeline Regulations...</p> <ul style="list-style-type: none"> • NEB Condition 126 – Emergency Response Plan for Westridge marine Terminal Trans Mountain must file with the NEB at least 6 months prior to commencing operations at Westridge Marine Terminal, an updated ERP for the Westridge Marine Terminal • NEB Condition 133 - Marine shipping-related commitments Trans Mountain must file with the NEB, at least 3 months prior to loading the first tanker at the Westridge Marine Terminal with oil transported by the Project, confirmation, signed by an officer of the company, that it has implemented or caused to be implemented the following commitments related to oil tanker traffic and enhanced oil spill response: <ul style="list-style-type: none"> ▪ Enhanced tug escort through developing a tug matrix and including it as part of Trans Mountain's Tanker Acceptance Standard. ▪ An enhanced marine oil spill response regime capable of delivering 20,000 tonnes of capacity within 36 hours of notification, with dedicated resources staged within the study area 	
5.6	Marine – Emergency Management – Fate and Behaviour of Diluted Bitumen – Oil Spill Effects	District of North Vancouver Final Submission (Filing ID A75089)	<ul style="list-style-type: none"> • The behaviour and treatment of dilbit in the marine environment in the event of a spill. 	<ul style="list-style-type: none"> • Trans Mountain noted in its Reply Argument that that higher viscosity oils such as diluted bitumen does not readily disperse as fine droplets into the water column, and are less likely to form oil mineral aggregates than light conventional crude oils. This is a difference that facilitates rather than hinders oil recovery in the unlikely event of spill. More information is also made available in reply evidence: : Exhibit B417-4 - Trans Mountain Reply Evidence, Section 46 – ERA (August 20, 2015) (A4S7F1), 	<ul style="list-style-type: none"> • NEB Condition 126 – Emergency Response Plan for Westridge marine Terminal Trans Mountain must file with the NEB at least 6 months prior to commencing operations at Westridge Marine Terminal, an updated ERP for the Westridge Marine Terminal • NEB Condition 133 - Marine shipping-related commitments Trans Mountain must file with the NEB, at least 3 months prior to loading the first tanker at the Westridge Marine Terminal with oil transported by the Project, confirmation, signed by an officer of the company, that it has implemented or caused to be implemented the following commitments related to oil tanker 	<ul style="list-style-type: none"> • Trans Mountain is committed to meeting NEB Condition 133.

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ID	Issue/Concern	Source of Issue	Issue Description	Trans Mountain's Response	Addressed with NEB Condition or TMEP Commitment (Filing ID A77045)	Ongoing Resolution Strategy
				46-5 – 46-8	traffic and enhanced oil spill response: <ul style="list-style-type: none"> ▪ Enhanced tug escort through developing a tug matrix and including it as part of Trans Mountain's Tanker Acceptance Standard. ▪ An enhanced marine oil spill response regime capable of delivering 20,000 tonnes of capacity within 36 hours of notification, with dedicated resources staged within the study area 	
5.7	Pipeline - Emergency Management - Response Pipeline – Emergency Management - Preparedness	District of North Vancouver Final Submission (Filing ID A75089)	<ul style="list-style-type: none"> • The speed of response in a pipeline incident. • Development of a real-time plan to inform evacuation decisions. 	<ul style="list-style-type: none"> • KMC is committed to ensuring the safety of our operations. In the case of an incident related to the pipeline or associated facilities, Trans Mountain is prepared to respond quickly with detailed emergency procedures and trained professionals as outlined in Section 4.0 of Volume 7 of the application (Filing ID A3S4V5). KMC uses the Incident Command System to respond to emergencies and would work together in Unified Command with local authorities to determine the best course of action to protect the public and the environment. • In the event of a release from its facilities, irrespective of cause KMC would immediately shut down the pipeline or other source of the release and allow the pressure to dissipate, thus stopping further release of petroleum. Emergency services would also immediately be contacted and trained KMC technicians would be dispatched to the location to secure the area and commence air monitoring to ensure air quality for those in the immediate vicinity. • Monitoring programs would track both the capture of spilled oil as well as the presence of any spill related chemical residues in different environmental media, including surface water, air, soils and/or sediment, groundwater, and extending to foodstuffs if necessary to protect public health. The results of the monitoring 	<ul style="list-style-type: none"> • NEB Condition 90 - Consultation on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 months prior to commencing construction, a consultation plan for its review of its ERPs and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). • NEB Condition 117 - Reporting on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 years and 1 year prior to commencing operations, detailed updates for the company's review of its EMP (toward meeting the requirements of Condition 124). • NEB Condition 123 - Evacuation Plans a) Trans Mountain must file with the NEB, at least 6 months prior to commencing operations at the terminals, an Evacuation Plan for people present in areas potentially affected by an incident at each of Trans Mountain's Edmonton, Sumas, and Burnaby Terminals as well as at the Westridge Marine Terminal. • NEB Condition 124 - Implementing improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 6 months prior to commencing operations, a detailed summary of its review of its ERPs (as noted in Conditions 125 and 126) and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). This filing must include a description of changes made to Trans Mountain's EMP, as required under the National Energy Board Onshore Pipeline Regulations... • NEB Condition 125 - Emergency Response Plans for the 	<ul style="list-style-type: none"> • Trans Mountain is committed to meeting NEB Condition 90, NEB Condition 117, NEB Condition 123, NEB Condition 124 and NEB Condition 125.

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				<p>program(s) are used, in part, to guide decision making.</p> <ul style="list-style-type: none"> The local, provincial and/or federal authorities would be consulted to determine the best course of action to protect the public. They can implement controls or issue advisories to protect public health. Any decision and subsequent action to evacuate residents is the responsibility of local emergency services. KMC does not have the legislative authority to undertake evacuations. 	<p>Pipeline and for the Edmonton, Sumas and Burnaby Terminals Trans Mountain must file with the NEB, at least 6 months prior to commencing operations, updated Emergency Response</p> <ul style="list-style-type: none"> NEB Condition 126 – Emergency Response Plan for Westridge marine Terminal Trans Mountain must file with the NEB at least 6 months prior to commencing operations at Westridge Marine Terminal, an updated ERP for the Westridge Marine Terminal 	
5.8	Marine - Emergency Management – Preparedness	District of North Vancouver Final Submission (Filing ID A75089)	<ul style="list-style-type: none"> Insufficient booms, equipment and personnel immediately available to protect community's shoreline in the event of a spill. 	<ul style="list-style-type: none"> Based on the Canadian Shipping Act 2001 (CSA), WCMRC is the certified response organization with equipment and personnel resources available along the BC coast. WCMRC also receives responder immunity under the CSA, something that is not available to other non-certified responders unless they are working under WCMRC. By law, each vessel operator and oil handling facility is required to have an arrangement with WCMRC with respect to a marine oil spill in the navigable waters of BC, whatever the cause of that incident. That said, the responsible party can contract other resources but as with WCMRC they would be monitored closely by the Canadian Coast Guard (CCG), as the federal monitoring officer. The incident commander, under oversight of the CCG, may also utilize other service providers to deal with additional aspects of the incident, for example towing, salvage or firefighting needs. As stated in Trans Mountain's reply argument, with support of WCMRC, Trans Mountain has proposed an enhanced spill response regime for the Project area that represents a response capacity that is double the minimum capacity 	<ul style="list-style-type: none"> NEB Condition 126 – Emergency Response Plan for Westridge marine Terminal Trans Mountain must file with the NEB at least 6 months prior to commencing operations at Westridge Marine Terminal, an updated ERP for the Westridge Marine Terminal NEB Condition 133 - Marine shipping-related commitments Trans Mountain must file with the NEB, at least 3 months prior to loading the first tanker at the Westridge Marine Terminal with oil transported by the Project, confirmation, signed by an officer of the company, that it has implemented or caused to be implemented the following commitments related to oil tanker traffic and enhanced oil spill response: <ul style="list-style-type: none"> Enhanced tug escort through developing a tug matrix and including it as part of Trans Mountain's Tanker Acceptance Standard. An enhanced marine oil spill response regime capable of delivering 20,000 tonnes of capacity within 36 hours of notification, with dedicated resources staged within the study area 	<ul style="list-style-type: none"> As part of the move towards a risk-based regime, WCMRC is developing a digital Geographic Response Planning Tool to coordinate response activities. They are engaging with Aboriginal groups, government agencies, municipalities and other stakeholders in coastal communities to inform the tool. North Shore Emergency Management Office is among the stakeholders WCMRC is engaging with.

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				<p>and a delivery time that is half the existing planning standards</p> <ul style="list-style-type: none"> If the Trans Mountain Expansion Project proceeds, WCMRC announced in September 2016 an expansion plan that commits over \$150 million in enhancements to the Canadian spill response regime. The enhancements include five new response bases, approximately 115 new employees and approximately 26 new vessels at strategic locations along BC's southern shipping lane. The enhancements also call for 24/7 operations at three of the new bases, including the proposed base in Vancouver Harbour. 		
District of West Vancouver						
6.1	<p>Marine – Environment – Air Quality</p> <p>Marine – Socio-Economic - Health</p>	<p>District of West Vancouver Final Argument in Chief (Filing ID A75047)</p>	<ul style="list-style-type: none"> Potential air quality impacts of the Project on the district and its residents, from additional marine shipping. 	<ul style="list-style-type: none"> Marine air emissions can be linked to two aspects of the Project. The first source of marine air emissions comes from the combustion of fuel in the tanker engines. When the vessel combusts fuel to power the engines, Criteria Air Contaminants ("CACs") are released into the environment. The second source of marine air emissions is VOCs that may be released into the atmosphere from evaporative losses of product from tanker holds and incomplete combustion of fuel. These emissions are inherent in the operation of marine vessels and will occur as a result of the Project. Trans Mountain thoroughly assessed emissions of CACs and VOCs and concluded that, even though marine emissions are expected to change ambient concentrations intermittently when tankers and tugs travel through the Marine Air Quality RSA, the maximum predicted concentrations did not exceed any applicable AAQ Objectives due to the Project contribution. 	<ul style="list-style-type: none"> NEB Decision page 336 - The Board acknowledges that there is an existing regulatory regime governing air emissions from tankers underway or in transit. All Project related tankers and barges are required to follow international and federal regulations, and apply best practices during operations. These tankers would carry an International Air Pollution Prevention Certificate and be required to have onboard a volatile organic compound management plan. NEB Decision page 171 - With respect to boiler emissions from tankers at berth, Transport Canada said that the North American ECA puts in place the most stringent air emissions requirements for tankers. Under these standards, all tankers must either burn fuel with 0.10 per cent sulphur content or use alternative technology that results in equivalent emissions. The Board agrees with Transport Canada's statement that the implementation of either of these would significantly reduce all sources of sulphur oxide emissions from tankers. As well, as required by North American ECA (under MARPOL), engines fitted onto tankers after 1 January 2016 will need to meet Tier III nitrogen oxide standards for a reduction of nitrogen oxide emissions of up to 80 per cent. 	<ul style="list-style-type: none"> The VFPA has been partners with the ports of Seattle and Tacoma, along with governments such as Environment Canada and Metro Vancouver in the Northwest Ports Clean Air Strategy. In particular, VFPA promotes and recognizes cleaner ships in Vancouver's harbour through its EcoAction* program. Ships obtain up to 47 per cent off harbour dues for implementing emissions reduction measures and other environmental practices.

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				<ul style="list-style-type: none"> As stated in Trans Mountain's reply argument, the most current modelling results indicate the maximum predicted one-hour NO2 concentration is 162 µg/ and the 98th percentile value is 128 µg/m³, both of which are below the MV ambient objective of 200 µg/m³ and BC Interim Provincial AAQ Objective of 188 µg/m³, respectively. The maximum predicted a 24-hour PM2.5 concentration is 17.4 µg/m³ which is below the MV ambient objective of 25 µg/m³. In addition, there are new programs and initiatives such as the Energy Efficiency Design Index and the Ship Energy Efficiency Management Plan. The International Maritime Organization officially designated the North American Emission Control Area (ECA), bringing in stricter requirements to control ship emissions, whereas the maximum sulphur content in fuel oils within ECA decreased to 0.1 per cent starting January 1, 2015. Under this legislation, emissions of nitrogen oxides (NOx) and sulphur oxides (SOx and PM2.5) are expected to decrease within the ECA, which extends approximately 200 nautical miles off the Pacific Coast. The ESA concluded that the residual environmental effects of increased Project-related marine vessel traffic on marine air emissions will be not significant. For more information, see Exhibit B290-45 – Part 3 Marine AQ Supplemental Technical Report 2 Pt01 (December 1, 2014) (A4F5H8), 2. 		
6.2	Terminal – Environment - Climate Change Pipeline –	District of West Vancouver Final Argument in Chief (Filing ID A75047)	<ul style="list-style-type: none"> Increase Green House Gas Emissions as a result of the Project and the effects on climate change. West Vancouver requests the proponent be required to provide 	<ul style="list-style-type: none"> In addition to Trans Mountain's tanker acceptance criteria which requires Project-related tankers and barges to carry an International Air Pollution Prevention Certificate as well as Ship Energy Efficiency Management Plan, all vessels will have to adhere to stringent 	<ul style="list-style-type: none"> NEB Decision page 336 - The Board acknowledges that there is an existing regulatory regime governing air emissions from tankers underway or in transit. All Project related tankers and barges are required to follow international and federal regulations, and apply best practices during operations. These tankers would carry an International Air Pollution Prevention 	<ul style="list-style-type: none"> As per NEB Condition 142, the Trans Mountain Pipeline will be the first pipeline in Canada required by the National Energy Board to offset all direct GHG emissions generated from Project

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	Environment – Climate Change Marine – Environment – Climate Change		shore power in at least one berth at Westridge Marine Terminal for tankers that have the capacity to utilize it	<p>federal requirements regarding vessel pollution and diesel fuel regulations. Vessels constructed after June 30, 2013 will also have to meet the International Maritime Organization's new energy efficiency standards.</p> <ul style="list-style-type: none"> The ESA concluded that the residual environmental effects of increased Project-related marine vessel traffic on marine GHG emissions will not be significant. For more detail behind the assessment, see exhibit B18-29 - V8A 4.2.12.2 TO T5.2.2 MAR TRANS ASSESS (December 17, 2013) (A3S4Y3), 8A-271; Exhibit B290-44 – Part 3 Cover Letter Marine AQ (December 1, 2014) (A4F5H7). As stated in Section 4.7 of TR 8C09 (TERMPOL 3.11) found in Volume 8C of the Application (Filing ID A3S4T6) Consideration will be given to the space required on the docks for future shore power transformers and conversion equipment. 	<p>Certificate and be required to have onboard a volatile organic compound management plan.</p> <ul style="list-style-type: none"> NEB Condition 140 - Post-construction greenhouse gas assessment report Trans Mountain must file with the NEB for approval, within 2 months after commencing operations, an updated GHG assessment report specific to the Project. NEB Condition 142 - Greenhouse Gas Emissions Offset Plan – Project construction Trans Mountain must file with the NEB for approval, within 4 months after commencing operations, a plan for providing offsets for all direct GHG emissions generated from Project construction, as determined in Condition 140. NEB Condition 134 - Updated Tanker Acceptance Standard Trans Mountain must file with the NEB, at least 3 months prior to loading the first tanker at the Westridge Marine Terminal with oil transported by the Project, and thereafter on or before 31 January of each of the first five years after commencing operations, an updated Tanker Acceptance Standard and a summary of any revisions made to the Standard. NEB Condition 52 - Air Emissions Management Plan for the Westridge Marine Terminal Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction at the Westridge Marine Terminal, an AEMP for the Westridge Marine Terminal 	<p>Construction. Building a new pipeline will generate emissions we can't mitigate. Trans Mountain will take responsibility for these emissions by developing a carbon management plan for Project construction that will incorporate a variety of initiatives, including investments in carbon offset projects.</p>
6.3	Marine – Environment – Noise Marine – Environment – Light	District of West Vancouver Final Argument in Chief (Filing ID A75047)	<ul style="list-style-type: none"> Impacts of light and noise pollution to Burrard Inlet communities including West Vancouver due to increased marine traffic. 	<ul style="list-style-type: none"> As stated in Trans Mountain's final argument, KMC's Tanker Acceptance Standard states that "all vessels shall conduct operations within Canada, specifically Port Metro Vancouver, in accordance with any additional guidance provided by the Terminal, and always respectful of the rights of the residents in surrounding neighbourhoods to not be unnecessarily disturbed by noise, odours and health or other concerns from vessel operations." For more see: Exhibit B96-2 – Trans Mountain Response to Belcarra IR No. 1.9 Attachment1 (June 4, 2014) (A3X6W2). 	<ul style="list-style-type: none"> NEB Condition 82 - Light Emissions Management Plan for the Westridge Marine Terminal Trans Mountain must file with the NEB, at least 3 months prior to commencing construction at the Westridge Marine Terminal, a Light Emissions Management Plan for the Westridge Marine Terminal 	<ul style="list-style-type: none"> Trans Mountain is committed to meeting NEB Condition 82.

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				<ul style="list-style-type: none"> Trans Mountain has been actively working with Port Metro Vancouver to develop guidance for the vessels in their operations manual to minimize the effects of light and noise on residents around the Port. 		
6.4	<p>Marine -- Environment -- Wildlife & Vegetation - Oil Spill Effects</p> <p>Marine -- Environment -- Noise</p> <p>Marine -- Environment -- Air Quality</p> <p>Marine -- Environment -- Climate Change</p> <p>Marine -- Emergency Management -- Response</p> <p>Marine -- Emergency Management -- Remediation</p>	District of West Vancouver Final Argument in Chief (Filing ID A75047)	<ul style="list-style-type: none"> The risk of a spill in Burrard Inlet has been underestimated by TMEP and does not include a spill in Vancouver Harbour or English Bay. TMEP has not considered an appropriate "worst-case spill" at Westridge Terminal. Lack of information regarding the cumulative impacts of smaller spills in Vancouver Harbour or English Bay. TMEP has not provided an adequate assessment of the potential impacts of a spill on Burrard Inlet, including spill modelling and trajectory, the range of weather and marine conditions that could happen during a spill event, and the health impacts. TMEP has not adequately assessed the ecological risks of a marine spill. Impacts of a spill on wildlife and species at risk such as salmonids, marine mammals, Killer whales, and marine birds. West Vancouver supports evidence from Environment and Climate Change Canada to "develop" a marine bird baseline monitoring plan to describe 	<ul style="list-style-type: none"> Trans Mountain's assessment of marine incidents is based on a comprehensive evaluation that includes a quantitative navigation risk assessment together with determining credible worst-case oil spill volume, as detailed in Section 7 - Environment of its final argument. Stochastic modelling of crude oil spills originating at several locations in the Burrard Inlet, Strait of Georgia in an area near the Fraser River Estuary, Gulf Islands and Strait of Juan de Fuca together with detailed deterministic spill modelling were used in the assessment. The scope and methods used in the Marine ERA were based on additional application filing requirements as outlined in correspondence from the NEB to Trans Mountain in a letter dated September 10, 2013. As stated in reply argument DNV included a comprehensive review of the entire shipping route between the Westridge Marine Terminal and Buoy J (western entrance to Juan de Fuca Strait), which included a quantitative risk analysis. An accident in Burrard Inlet that can lead to spillage of entire oil cargo from two cargo tanks in an Aframax tanker is a very low probability event, due in large part to the extensive set of risk reducing measures in place, including the slow speed of tankers, other vessels and escorts in this area. The likelihood for a spill of this size occurring in Burrard Inlet, which is specific to a vessel grounding or collision, is considered to not be credible by virtue of the detailed analysis 	<ul style="list-style-type: none"> NEB Decision page 168 - ECCC said that Trans Mountain excluded tanker boiler emissions in its estimation of Project related marine air emissions, which leads to multiple uncertainties in regards to pollutants such as nitrogen oxides and PM. In response, Trans Mountain performed additional dispersion modelling for the combined effects of emissions from the Burnaby Terminal, the Westridge Marine Terminal, and all marine transportation traffic, including boiler emissions from tankers at berth. It then compared the results with boiler emissions excluded and concluded that the effect of boiler emissions from tankers at berth is negligible. NEB Decision page 235 - The Board acknowledges the concerns raised by participants in regards to Trans Mountain's ERAs, but is of the view that Trans Mountain's ERAs methods were appropriate. The Board disagrees with intervenors, such as Metro Vancouver who critiqued Trans Mountain's ERA, stating it was largely subjective and poorly validated. The Board finds that Trans Mountain provided a comprehensive ERA that provided the Board with an indication of the potential effects of an oil spill. NEB Decision pages 353-354 - ECCC recommended a condition for an Avian Monitoring Plan to assess effectiveness of mitigation measures proposed by Trans Mountain to reduce effects of Project-related marine vessel traffic on marine birds. The Board is of the view that given Trans Mountain would not own or operate the tankers that are related to the Project, such a condition would be inappropriate. Trans Mountain did commit to requesting that vessel operators report any bird strikes and collisions to the Marine Communication and Traffic Services through its Port and Terminal Book. The Board agrees that federal departments, such as ECCC, may be best able to develop a marine bird strike notification system for all vessels. NEB Condition 132 - Marine Mammal Protection Program 	<ul style="list-style-type: none"> Trans Mountain confirms the information set out in the NEB Decisions on page 168, page 235 and pages 353-354. Trans Mountain is commitment to meeting NEB Condition 13.

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			<p>species composition and their spatial and temporal abundance patterns that can be used to identify high consequence areas/habitats in the event of an oil spill</p> <ul style="list-style-type: none"> • Vessel traffic increase will be a major and significant contributor to cumulative oceanic noise levels that can harm whales and other wildlife through acoustic disturbance effects. • TMEP has not provided adequate assessment of human health risks, specifically the impacts of air quality and the health effects of air emissions, as a result of a spill. 	<p>carried out by DNV which shows that the probability for a collision causing an oil spill in Burrard Inlet is 1 in 19,286 years. DNV did, however, properly identify the credible worst case scenario for an oil spill as one that might occur during tanker loading as a representative credible worst case oil spill within Burrard Inlet. The credible worst-case scenario during tanker loading was calculated as a spillage of 103 m³ oil occurring once every 234 years within the pre-boomed area surrounding the tanker at berth</p> <ul style="list-style-type: none"> • The exposure and hazard/effects assessment methodology is described in Section 5.0 of Volume 8 B of the Application (Filing ID A3S4K7) • A complete ERA of marine oil spill, including spill trajectory modelling can be found in Volume 8B (Filing IDs A3S4K7 through A3S4R2) of the Application. • As stated in Section 4.3.15.1 of Volume 8A of the Application (Filing ID A3S4Y3) through the implementation of the mitigation measures, the residual effects associated with the increase in marine transportation on the environmental and socio-economic elements were considered to be not significant in all cases except one. Given that past and current activities are considered to have caused significant adverse effects on the southern resident killer whale population, the effects associated with the increased Project-related marine vessel traffic on this species is considered to be significant. • In its final argument, Trans Mountain affirms: <ul style="list-style-type: none"> • Where significant adverse environmental effects exist for the southern resident killer whale, Trans Mountain submits that multi-party solutions are the most 	<p>Trans Mountain must file with the NEB, at least 3 months prior to commencing operations, a Marine Mammal Protection Program that focuses on effects from the operations of Project related marine vessels.</p>	

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ISSUES SUMMARY AND RESOLUTIONS TABLE FOR APPLICABLE STAKEHOLDERS AND COMMUNITIES WHO PARTICIPATED IN NEB PROCESS

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				<p>appropriate approach to managing effects on critical habitat and any associated effects on traditional use of the population. The Marine Mammal Protection Program identifies and integrates multi-party solutions for this reason.</p> <ul style="list-style-type: none"> The construction and operation of the Project, subject to the Board's conditions, and the extensive regulatory regime that is currently in place, can be carried out in a manner that will have no unacceptable environmental or socio-economic impacts. As described in its final argument, Trans Mountain is supportive of a collaborative approach to long-term monitoring for marine birds and has committed to meet with regulatory authorities, including Environment Canada, to discuss the potential for development of a long-term monitoring program as a partnership with others. More information see Exhibit B112-2 - Trans Mountain Response to BC Nature Cda IR No. 1 (June 18, 2014) (A3Y2C5), 48. As stated in Trans Mountain's reply argument, The Project will contribute to the existing adverse underwater acoustic conditions in the Marine RSA; however, the Project's additional contribution will be very small compared to other marine transportation sources for underwater noise—vessels calling on Westridge Marine Terminal as a result of the Project will only make up 6.6 per cent of total marine traffic volume within the Juan de Fuca Strait, compared to 1.1 per cent currently. The current stressors affecting the southern 		

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ID	Issue/Concern	Source of Issue	Issue Description	Trans Mountain's Response	Addressed with NEB Condition or TMEP Commitment (Filing ID A77045)	Ongoing Resolution Strategy
				<p>resident killer whale populations (<i>i.e.</i>, environmental contamination, reductions in the availability or quality of prey, and both physical and acoustic disturbance) will continue to affect this population with or without the Project. Trans Mountain has committed to developing the Marine Mammal Protection Program.</p> <ul style="list-style-type: none"> As stated in Section 5.6.1 of Volume 8A (Filing ID A3S5Q3) Potential socio-economic effects of credible worst case and smaller spills will vary depending on the exact location and nature of the incident, and will be influenced by factors including: <ul style="list-style-type: none"> distance from human settlements; size and population density of nearby human settlements (e.g., rural versus urban areas); particular patterns of resource use in the vicinity (<i>e.g.</i>, commercial, recreational, traditional); and key economic activities and sectors in areas that may be reached by the spill, in particular the presence of resource-based economic activities (<i>e.g.</i>, tourism, commercial fisheries, traditional uses by Aboriginal people). Socio-Economic effects of oil spills are explored in depth in Section 5.6.1 of Volume 8A ((Filing ID A3S5Q3) 		
6.5	<p>Marine – Emergency Management - Response</p> <p>Marine – Emergency Management - Preparedness</p>	District of West Vancouver Final Argument in Chief (Filing ID A75047)	<ul style="list-style-type: none"> TMEP's ERP does not adequately address the inherent risks to local communities as a result of a spill in Burrard Inlet, diluted bitumen recovery along local shorelines, recovery of submerged or sunken bitumen, oiled wildlife response, roles of local governments in responding 	<ul style="list-style-type: none"> For any spill in Burrard Inlet that originates from the Trans Mountain pipeline or associated facilities, Kinder Morgan Canada would be the responsible party. Trans Mountain has a comprehensive EMP in place that covers all aspects of mitigation, preparedness, response and recovery of oil spills from the pipeline or associated facilities. Throughout the NEB's review, Trans Mountain submitted that as part 	<ul style="list-style-type: none"> NEB Condition 90 - Consultation on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 months prior to commencing construction, a consultation plan for its review of its ERPs and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). NEB Condition 117 - Reporting on improvements to Trans Mountain's Emergency Management Program Trans 	<ul style="list-style-type: none"> Trans Mountain is committed to meeting NEB Condition 90, NEB Condition 117, NEB Condition 124, NEB Condition 125 and NEB Condition 133.

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ID	Issue/Concern	Source of Issue	Issue Description	Trans Mountain's Response	Addressed with NEB Condition or TMEP Commitment (Filing ID A77045)	Ongoing Resolution Strategy
			to a spill, timelines for response, and response capacity for a marine spill.	<p>of the Project, Trans Mountain would initiate an extensive consultation program for the development of the industry leading enhanced EMP. The enhanced EMP will use the existing robust EMP as a foundation and be expanded to meet the needs of the expansion project. The NEB requires ERPs to be in place, and publicly available on the Trans Mountain website prior to operation.</p> <ul style="list-style-type: none"> For all other marine based oil spills (not from a Trans Mountain pipeline or facility) WCMRC would be the responder. Based on the Canadian Shipping Act 2001 (CSA), WCMRC is the certified response organization with equipment and personnel resources available along the BC coast. WCMRC works with Trans Mountain to prepare exercise and respond to emergencies involving Trans Mountain facilities such as Westridge Marine Terminal; however, WCMRC maintains their own geographic area response plans and they have undertaken a large engagement effort with Aboriginal, community groups on BC's coast as they enhance their existing plans. 	<p>Mountain must file with the NEB, at least 2 years and 1 year prior to commencing operations, detailed updates for the company's review of its EMP (toward meeting the requirements of Condition 124).</p> <ul style="list-style-type: none"> NEB Condition 124 - Implementing improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 6 months prior to commencing operations, a detailed summary of its review of its ERPs (as noted in Conditions 125 and 126) and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). This filing must include a description of changes made to Trans Mountain's EMP, as required under the National Energy Board Onshore Pipeline Regulations... NEB Condition 126 - Emergency Response Plan for the Westridge Marine Terminal Trans Mountain must file with the NEB, at least 6 months prior to commencing operations at Westridge Marine Terminal, an updated Emergency Response Plan for the Westridge Marine Terminal which must include: NEB Condition 133 - Marine shipping-related commitments Trans Mountain must file with the NEB, at least 3 months prior to loading the first tanker at the Westridge Marine Terminal with oil transported by the Project, confirmation, signed by an officer of the company, that it has implemented or caused to be implemented the following commitments related to oil tanker traffic and enhanced oil spill response: <ul style="list-style-type: none"> Enhanced tug escort through developing a tug matrix and including it as part of Trans Mountain's Tanker Acceptance Standard. An enhanced marine oil spill response regime capable of delivering 20,000 tonnes of capacity within 36 hours of notification, with dedicated resources staged within the study area 	
6.6	Marine - Tanker Safety – Risk Management Marine –	District of West Vancouver Final Argument in Chief (Filing ID A75047)	<ul style="list-style-type: none"> The Project will result in an increase in tanker traffic which will result in a higher risk of a spill, particularly in Vancouver Harbour. 	<ul style="list-style-type: none"> The Pacific Region's proven marine safety regime with fewest accidents despite experiencing the highest level of shipping activity in Canada. This regime will be further strengthened through enhanced risk controls 	<ul style="list-style-type: none"> NEB Condition 126 – Emergency Response Plan for Westridge marine Terminal Trans Mountain must file with the NEB at least 6 months prior to commencing operations at Westridge Marine Terminal, an updated ERP for the Westridge Marine Terminal 	<ul style="list-style-type: none"> WCMRC is meeting with community stakeholders along BC's coast as they refine their geographic area response plans. District of West Vancouver is

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ID	Issue/Concern	Source of Issue	Issue Description	Trans Mountain's Response	Addressed with NEB Condition or TMEP Commitment (Filing ID A77045)	Ongoing Resolution Strategy
	Environment – Wildlife & Vegetation – Oil Spill Effects		<ul style="list-style-type: none"> Spills that result from shipping or loading incidents at Westridge Marine Terminal will contribute to cumulative effects on water quality in Burrard Inlet. The effects of a spill of diluted bitumen will increase negative impacts to species within a system that is already stressed due to issues with water quality, bacterial levels, or low dissolved oxygen. 	<ul style="list-style-type: none"> and spill response if the Project proceeds As stated in Trans Mountain's reply argument, Trans Mountain determined that the probability of a credible worst-case oil cargo spill from a Project tanker is forecast to have a potential return period of once in 2841 years. The absolute risk of an oil cargo spill from a Project tanker is low. Through mitigation measures and preparedness and response programs that exceed Canadian standards, Trans Mountain is committed to reducing the likelihood of risks and limiting any consequences of an unlikely spill event. A discussion of environmental effects of marine oil spills, and links to supporting evidence, is discussed in Trans Mountain's final argument in Sections 7.2.2.9. 	<ul style="list-style-type: none"> NEB Condition 133 - Marine shipping-related commitments Trans Mountain must file with the NEB, at least 3 months prior to loading the first tanker at the Westridge Marine Terminal with oil transported by the Project, confirmation, signed by an officer of the company, that it has implemented or caused to be implemented the following commitments related to oil tanker traffic and enhanced oil spill response: <ul style="list-style-type: none"> Enhanced tug escort through developing a tug matrix and including it as part of Trans Mountain's Tanker Acceptance Standard. An enhanced marine oil spill response regime capable of delivering 20,000 tonnes of capacity within 36 hours of notification, with dedicated resources staged within the study area 	<ul style="list-style-type: none"> encouraged to participate in WCMRC's sensitive area mapping process and learn about their approach to response planning.
6.7	<p>Marine – Socio-Economic - Benefits/ Impacts – Oil Spill Effects</p> <p>Marine – Socio-Economic – Benefits/Impacts – Financial – Oil Spill Effects</p>	District of West Vancouver Final Argument in Chief (Filing ID A75047)	<ul style="list-style-type: none"> Economic impacts on local government and municipalities as a result of a spill. Economic impacts to ocean-based economy as a result of a spill. Municipal compensation for costs associated with a spill do not cover full government and health authority costs. While the Marine Liability Act is based upon the 'polluter pays' principle, it does not ensure that all economic losses suffered by communities are compensated. First, the total compensation available is limited to \$1.44 billion. Even with additional allowance made for full access to the Ship Source Pollution Fund, there may still be a shortfall in compensation 	<ul style="list-style-type: none"> Canada's spill response regime is based on a strict 'polluter pay' principle. If a spill were to occur on the Trans Mountain pipeline system, KMC would be required to cover the entire cost of the clean-up. Neither the public, nor any level of government would be left to pay. Oil pipeline companies are required by regulation to hold \$1 billion in financial resources. Trans Mountain holds multiple reserves to ensure we have the funds to deal with an emergency situation, including cash, insurance and credit In the marine shipping industry, the polluter is also liable for all response costs through insurance and backed by an industry-funded Canadian and international compensation regime. In total, there's about \$1.5 billion available for oil spills from ships for any one incident (ssopfund.ca). If that could ever be exceeded, under the Marine Liability Act the can enact a levy of close to \$0.50 on every 	<ul style="list-style-type: none"> NEB Decision page 319 - Trans Mountain has committed to pay for the full cost to clean up any spill from the Project, and has agreed to pay the full costs of a spill, even if it exceeds Trans Mountain's insurance. In the case of a spill, malfunction or incident from the Project, Trans Mountain must pay for the full cost of cleaning up and remediating any damages caused. NEB Condition 133 - Marine shipping-related commitments Trans Mountain must file with the NEB, at least 3 months prior to loading the first tanker at the Westridge Marine Terminal with oil transported by the Project, confirmation, signed by an officer of the company, that it has implemented or caused to be implemented the following commitments related to oil tanker traffic and enhanced oil spill response: <ul style="list-style-type: none"> Enhanced tug escort through developing a tug matrix and including it as part of Trans Mountain's Tanker Acceptance Standard. An enhanced marine oil spill response regime capable of delivering 20,000 tonnes of capacity within 36 hours of notification, with dedicated resources staged within the study area 	<ul style="list-style-type: none"> Trans Mountain is committed to meeting NEB Condition 133.

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			available in the event of a larger tanker spill.	tonne of oil imported or shipped in bulk in Canada.		
Fisheries and Oceans Canada and the Canada Coast Guard						
7.1	Marine - Safety	C97-9 - Fisheries and Oceans Canada and the Canadian Coast Guard - Written Argument-in-Chief (A75070)	<ul style="list-style-type: none"> CCG wants to be consulted as a stakeholder in the Proponent's Marine Public Outreach Program 	<ul style="list-style-type: none"> As part of NEB Condition 131 – a Marine Public Outreach program must be developed by Trans Mountain in consultation of various marine regulators in support of the PPA's safety information for boaters. Trans Mountain will engage with Coast Guard in the Marine Public Outreach program 	<ul style="list-style-type: none"> NEB Condition 131 - Marine Public Outreach Program Trans Mountain must file with the NEB, at least 3 months prior to commencing operations, a report describing completed activities and observed outcomes of Trans Mountain's Marine Public Outreach Program, and any further planned activities for this program. 	<ul style="list-style-type: none"> Trans Mountain has engaged with the TERMPOL Review Committee and will continue to do so in the development and dissemination of information materials for this outreach program. CCG has part of the TERMPOL Review Committee.
Health Canada						
8.1	<p>Marine – Emergency Management – Preparedness</p> <p>Terminal – Emergency Management – Preparedness</p> <p>Marine - Environment – Water Quality – Oil Spill Effects</p> <p>Pipeline - Socio-Economic – Health – Oil Spill Effects</p> <p>Terminal – Socio-Economic – Health – Oil Spill Effects</p>	Health Canada - Letter Of Comment (A71748) 08/11/2015	<ul style="list-style-type: none"> Consider measures that can be implemented quickly and effectively to limit human exposures both in the short term immediately following a spill incident and in the long term such as that risks to human health are minimized. Consider the possible lag times for contaminants to appear in the country foods, drinking water sources and other environmental media when developing chemical monitoring plans Identify the proximity of human receptors (permanent or seasonal residents) to a pipeline right-of-way as a key criterion for determining response times and actions, including Aboriginal communities who depend on the area for country foods and drinking water Ensure that communication plans and health advisories are 	<ul style="list-style-type: none"> For any spill in Burrard Inlet that originates from the Trans Mountain pipeline or associated facilities, Kinder Morgan Canada would be the responsible party. Trans Mountain has a comprehensive EMP in place that covers all aspects of mitigation, preparedness, response and recovery of oil spills from the pipeline or associated facilities. <ul style="list-style-type: none"> Throughout the NEB's review, Trans Mountain submitted that as part of the Project, Trans Mountain would initiate an extensive consultation program for the development of the industry leading enhanced EMP. The enhanced EMP will use the existing robust EMP as a foundation and be expanded to meet the needs of the expansion project. The NEB requires ERPs to be in place, and publicly available on the Trans Mountain website prior to operation. KMC is committed to ensuring the safety of our operations. In the case of an incident related to the pipeline or associated facilities, Trans Mountain is prepared to respond quickly with detailed 	<ul style="list-style-type: none"> NEB Condition 90 - Consultation on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 months prior to commencing construction, a consultation plan for its review of its ERPs and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). NEB Condition 117 - Reporting on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 years and 1 year prior to commencing operations, detailed updates for the company's review of its EMP (toward meeting the requirements of Condition 124). NEB Condition 124 - Implementing improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 6 months prior to commencing operations, a detailed summary of its review of its ERPs (as noted in Conditions 125 and 126) and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). This filing must include a description of changes made to Trans Mountain's EMP, as required under the National Energy Board Onshore Pipeline Regulations... NEB Condition 125 - Emergency Response Plans for the Pipeline and for the Edmonton, Sumas and Burnaby 	<ul style="list-style-type: none"> Trans Mountain is committed to meeting all conditions and ongoing NEB requirements related to Emergency Response. Health Authorities will remain an important contributor to the emergency management program enhancements.

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			<p>developed in consultation with communities and health authorities</p>	<p>emergency procedures and trained professionals as outlined in Section 4.0 of Volume 7 of the application (Filing ID A3S4V5). KMC uses the Incident Command System to respond to emergencies and would work together in Unified Command with local authorities to determine the best course of action to protect the public and the environment.</p> <ul style="list-style-type: none"> • In the event of a release from its facilities, irrespective of cause KMC would immediately shut down the pipeline or other source of the release and allow the pressure to dissipate, thus stopping further release of petroleum. Emergency services would also immediately be contacted and trained KMC technicians would be dispatched to the location to secure the area and commence air monitoring to ensure air quality for those in the immediate vicinity. • Monitoring programs would track both the capture of spilled oil as well as the presence of any spill related chemical residues in different environmental media, including surface water, air, soils and/or sediment, groundwater, and extending to foodstuffs if necessary to protect public health. The results of the monitoring program(s) are used, in part, to guide decision making. • The local, provincial and/or federal authorities would be consulted to determine the best course of action to protect the public. They can implement controls or issue advisories to protect public health. • For all other marine based oil spills (not from a 	<p>Terminals Trans Mountain must file with the NEB, at least 6 months prior to commencing operations, updated Emergency Response</p> <ul style="list-style-type: none"> • NEB Condition 126 – Emergency Response Plan for Westridge marine Terminal Trans Mountain must file with the NEB at least 6 months prior to commencing operations at Westridge Marine Terminal, an updated ERP for the Westridge Marine Terminal • NEB Condition 133 - Marine shipping-related commitments Trans Mountain must file with the NEB, at least 3 months prior to loading the first tanker at the Westridge Marine Terminal with oil transported by the Project, confirmation, signed by an officer of the company, that it has implemented or caused to be implemented the following commitments related to oil tanker traffic and enhanced oil spill response: <ul style="list-style-type: none"> ▪ Enhanced tug escort through developing a tug matrix and including it as part of Trans Mountain's Tanker Acceptance Standard. ▪ An enhanced marine oil spill response regime capable of delivering 20,000 tonnes of capacity within 36 hours of notification, with dedicated resources staged within the study area 	

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				<p>Trans Mountain pipeline or facility) WCMRC would be the responder. Based on the Canadian Shipping Act 2001 (CSA), WCMRC is the certified response organization with equipment and personnel resources available along the BC coast. WCMRC works with Trans Mountain to prepare exercise and respond to emergencies involving Trans Mountain facilities such as Westridge Marine Terminal; however, WCMRC maintains their own geographic area response plans and they have undertaken a large engagement effort with Aboriginal, community groups on BC's coast as they enhance their existing plans.</p> <ul style="list-style-type: none"> Both Trans Mountain and WCMRC are collecting stakeholder feedback and seeking out new innovative technologies and best practices as part of enhancements to existing oil spill response plans. 		
8.2	<p>Terminal – Environment - Air Quality</p> <p>Marine – Environment – Air Quality</p> <p>Marine – Socio-Economic Effects – Health – Oil Spill Effects</p>	<p>Health Canada - Letter Of Comment (A71748) 08/11/2015</p>	<ul style="list-style-type: none"> Characterization of health risks for any increases in NO₂, ozone and PM 2.5 should acknowledge health risks exist below ambient air quality guideline levels. Air quality predictions and human health risk assessment should be considered interim results pending completion of engineering design. [Citing a study commissioned by Metro Vancouver], Health Canada is of the opinion that the magnitude of air quality impacts of spills into the marine environment, may be greater than what was presented in TMEP's HHRA 	<ul style="list-style-type: none"> Trans Mountain commits to design each terminal such that the ground-level air concentrations of the chemicals of potential concern, including those chemicals identified to be of particular concern by intervenors and Health Canada (e.g., benzene, nitrogen dioxide, and fine particulate matter), are below the lowest applicable Ambient Air Quality Objective established in B.C. or Alberta. To ensure that these objectives are met, Trans Mountain has also agreed to update its air quality assessment as the Project's engineering design nears or reaches completion, and to conduct ambient air quality monitoring and reporting at a new station to be installed at the Westridge Marine Terminal. Trans Mountain supports NEB Condition No. 52 which includes construction and operation of a new ambient air monitoring station at the 	<p>NEB Condition 52 - Air Emissions Management Plan for the Westridge Marine Terminal Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction at the Westridge Marine Terminal, an AEMP for the Westridge Marine Terminal that includes:</p> <ol style="list-style-type: none"> locations of air monitoring sites (on a map or diagram), including the rationale for the locations selected; confirmation that the new fixed air monitoring stations will be installed and operating at least one year prior to commencing operations at the Westridge Marine Terminal to establish robust local baseline data; the methods and schedule for ambient monitoring of contaminants of potential concern in air (e.g., particulate matter [including diesel particulate matter and speciation of PM_{2.5}], nitrogen oxides (including NO₂), sulphur dioxide, hydrogen sulphide, ozone, mercaptans, reduced visibility and volatile organic compounds) following a recognized protocol (e.g. National Air Pollution Surveillance program or U.S. Environmental Protection 	<ul style="list-style-type: none"> Trans Mountain is committed to meetings Conditions 52 and 53 for Westridge Marine Terminal and working with regulatory agencies to ensure air quality monitoring data will be made publicly available.

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				<p>Westridge Marine Terminal that will measure a number of contaminants of potential concern such as DPM (possibly as elemental carbon) and speciated PM2.5</p> <ul style="list-style-type: none"> The overall risk of such a spill event and subsequent air quality issues was not discussed by Levelton. The occurrence of the instantaneous loss of containment of 16,000 m³ from a double-hulled vessel travelling at low speeds while under Pilot control and assisted by tethered and escort tugs at any location in Burrard Inlet is a highly improbable event and should be described along with the report's conclusions. <p>[Levelton Consultants Ltd. (Levelton) was retained by Metro Vancouver to characterize air contaminant emissions and conduct air dispersion modelling for four hypothetical spill scenarios in Burrard Inlet (English Bay, First Narrows, Second Narrows and Westridge Terminal) relating to the instantaneous loss of containment of the entire contents (16,000 m³, 8,000 m³ for Westridge) of diluted bitumen from a carrier departing from the Westridge Terminal. See C234-7-7 - Exhibit 03, Air Quality Impacts from Simulated Oil Spills in Burrard Inlet and English Bay - A4L7Y8]</p> <ul style="list-style-type: none"> As stated in Section 60.12.3 – Levelton, of Reply Evidence: a number of errors have been identified in the Levelton report, the most significant of which are: <ul style="list-style-type: none"> The oil spill volumes modelled were much larger than what is viable or credible in the selected locations. Levelton overstates the amount of benzene available for evaporation by a factor of 5 compared to the reference for benzene described in the report and the 	<p>Agency), and emissions source tracking;</p> <ul style="list-style-type: none"> d) representative meteorological data (e.g. wind speed, wind direction, air temperature and relative humidity) for the monitoring period; e) description of monitoring equipment and procedures for monitoring station data recording, assessment, quality assurance and reporting details, including a description of how the real time and non-continuous air quality monitoring data will be made available to the public; f) a particulate matter management plan; g) a description of the public and Aboriginal communication and complaint response processes; h) the criteria or thresholds that, if triggered or exceeded, would require implementing additional mitigation measures; i) a description of additional mitigation measures that would be implemented as a result of the monitoring data or ongoing concerns; and j) a summary of its consultations with Appropriate Government Authorities, potentially affected Aboriginal groups and affected landowners/tenants. In its summary, Trans Mountain must provide a description and justification for how Trans Mountain has incorporated the results of its consultation, including any recommendations from those consulted, into the plan. <ul style="list-style-type: none"> NEB Condition 53 - Fugitive Emissions Management Plan for the Westridge Marine Terminal Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction at the Westridge Marine Terminal, a FEMP for the Westridge Marine Terminal. 	

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				<p>online crudemonitor.ca database.</p> <ul style="list-style-type: none"> • Approximately 84% of the simulations are not realistic since they do not adhere to the day-time departure rule for laden ships leaving the Westridge Marine Terminal, and consequently, this further overstates benzene concentrations in the air as dispersion is occurring under night-time meteorological conditions. Night time conditions, with lower winds and a lower mixing height, favour higher airborne concentrations of evaporated volatiles. • Based on various factors identified above, it is clear that Levelton significantly over-estimated higher airborne concentrations of evaporated volatiles, by two orders of magnitude. • In addition to the calculation errors describe above, the figures shown in Levelton grossly overstate the potential air emissions risk of any specific oil spill by presenting multiple spills at once. 		

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Metro Vancouver						
9.1	Marine - Environment – Wildlife & Vegetation – Oil Spill Effects	Metro Vancouver Final Submission (Filing ID A75092)	<ul style="list-style-type: none"> Impacts of a spill in Burrard Inlet. 	<ul style="list-style-type: none"> For accidents and malfunctions, as indicated in Trans Mountain's reply argument, Trans Mountain conducted a series of HHRAs with the aim of identifying and understanding the potential health effects that might be experienced by people in the unlikely event of an oil spill. Some of the major conclusions that emerged from the HHRAs were: <ul style="list-style-type: none"> In the unlikely event of an oil spill, there was no obvious indication that people's health would be seriously adversely affected by acute inhalation exposure to the chemical vapours released during the early stages of a spill under any of the simulated oil spill scenarios examined; and In the unlikely event of an oil spill, the health effects that could be experienced by people in the area would likely be confined to mild, transient sensory and/or non-sensory effects, attributable largely to the irritant and central nervous system depressant properties of the chemicals. Odours also might be noticed, which could contribute to added discomfort and irritability The exposure and hazard/effects assessment methodology is described in Section 5.0 of Volume 8 B of the Application (Filing ID A3S4K7) A complete ERA of marine oil spill, including spill trajectory modelling can be found in Volume 8B (Filing IDs A3S4K7 through A3S4R2) of the Application. 	<ul style="list-style-type: none"> NEB Condition 133 - Marine shipping-related commitments Trans Mountain must file with the NEB, at least 3 months prior to loading the first tanker at the Westridge Marine Terminal with oil transported by the Project, confirmation, signed by an officer of the company, that it has implemented or caused to be implemented the following commitments related to oil tanker traffic and enhanced oil spill response: <ul style="list-style-type: none"> Enhanced tug escort through developing a tug matrix and including it as part of Trans Mountain's Tanker Acceptance Standard. An enhanced marine oil spill response regime capable of delivering 20,000 tonnes of capacity within 36 hours of notification, with dedicated resources staged within the study area 	<ul style="list-style-type: none"> Trans Mountain continues to engage with stakeholders around multiple aspects of the Project, to share information and seek input. Metro Vancouver has agreed to move forward with a TWG to discuss topics of mutual interest and resolve outstanding concerns. Trans Mountain has and will continue to invite Metro Vancouver to participate in its Emergency Response engagement, training and exercises where critical information about impact to a community in the event of an oil spill is exchanged.
9.2	Terminal – Socio-Economic – Benefits / Impacts - Economic	Metro Vancouver Final Submission (Filing ID A75092)	<ul style="list-style-type: none"> Induced economic benefits from the Project are considered, but induced impacts (costs) are not considered. In particular, Trans Mountain should consider 	<ul style="list-style-type: none"> As stated in Trans Mountain's reply argument, Consultation with municipalities has helped to identify, mitigate and minimize social and economic impacts upon communities; The scope of the economic impact assessment 	<ul style="list-style-type: none"> NEB Decision, Section 6.1.8 - the Board notes that Trans Mountain has provided several commitments to address the concerns of participants related to crossing methods, traffic control during construction, crossing depths, future developments, and potential impact to existing infrastructure. 	<ul style="list-style-type: none"> Trans Mountain intends to continue to share information and seek input through Technical Working Groups with local governments and other key stakeholders. Trans Mountain

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	Marine – Socio-Economic – Benefits / Impacts - Economic Terminal – Environment – Climate Change		induced GHG emissions and impacts from associated economic activities	is defined in Volume 5B of the Application (Filing ID A3S1R5)	The Board expects Trans Mountain to work with municipalities and utility companies during detailed engineering and construction to address these concerns. <ul style="list-style-type: none"> NEB Condition 13 - Socio-Economic Effects Monitoring Plan Trans Mountain must file with the NEB for approval, at least 6 months prior to commencing construction, a plan for monitoring potential adverse socio-economic effects of the Project during construction. 	has issued an updated draft Terms of Reference to all municipal governments along the expansion route, inviting them to participate in TWGs and to review and comment on the draft Terms of Reference.
9.3	Pipeline – Design – Pipeline Integrity – Earthquakes / Seismic Events	Metro Vancouver Final Submission (Filing ID A75092)	<ul style="list-style-type: none"> Design of the pipeline has not taken adequately into consideration seismic hazards. 	<ul style="list-style-type: none"> Trans Mountain will recognize all seismic hazard areas along the entire TMEP alignment including Metro Vancouver and will design and construct the pipeline in accordance with the BCBC and NBCC requirements for an earthquake with a 1:2475 annual probability of exceedance. Furthermore, Trans Mountain will adopt proven materials and undertake design in accordance with CSA Z662, Oil and Gas Pipeline Systems. 	<ul style="list-style-type: none"> NEB Condition 68 - Seismic reports – liquefaction potential Trans Mountain must file with the NEB, at least 3 months prior to commencing construction, a final report that identifies all sites along the Project, that have “Very High,” “High,” and “Moderate” liquefaction-triggered ground movement potential, and that describes how the potential for liquefaction-triggered ground movement will be mitigated at each site. NEB Condition 69 - Fault studies Trans Mountain must file with the NEB, at least 3 months prior to commencing construction, the results of fault-mapping studies that were ongoing during or undertaken after the OH-001-2014 proceeding, for use in the detailed design of the Project. This filing must include conclusions regarding possible seismic activity during the Holocene epoch for Sumas Fault, Vedder Mountain Fault, Fraser River- Straight Creek Fault and Rocky Mountain Trench, and other possible hidden faults, as well as the potential for compounding risks due to the proximity of the Vedder Mountain and Sumas Faults. 	<ul style="list-style-type: none"> Trans Mountain has issued an updated draft Terms of Reference to all municipal governments along the expansion route, inviting them to participate in TWGs and to review and comment on the draft Terms of Reference.
9.4	Terminal – Environment – Air Quality Marine – Environment – Air Quality Marine –	Metro Vancouver Final Submission (Filing ID A75092)	<ul style="list-style-type: none"> Environmental impacts on air, land and water, due to emissions from pipeline and marine terminal facility operations, marine shipping activities and accidents or malfunctions. 	<ul style="list-style-type: none"> As described in Trans Mountain's final argument, Trans Mountain's ESA is supported by detailed studies such as wildlife, fish, vegetation and geotechnical assessments and TLRU and TMRU studies which provide a thorough understanding of the current uses of land and resources for traditional purposes. The ESA also includes multiple and Environmental Alignment Sheets which contain 	<ul style="list-style-type: none"> NEB Decision page 336 - The Board acknowledges that there is an existing regulatory regime governing air emissions from tankers underway or in transit. All Project related tankers and barges are required to follow international and federal regulations, and apply best practices during operations. These tankers would carry an International Air Pollution Prevention Certificate and be required to have onboard a volatile organic compound management plan. NEB Condition 52 - Air Emissions Management Plan for the 	<ul style="list-style-type: none"> Trans Mountain continues to engage with stakeholders around multiple aspects of the Project, to share information and seek input, including AEMPs Trans Mountain's draft EPPs have been posted on its website for comment for a period of three months. Stakeholders are invited

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	Environment – Oil Spill Effects Marine – Socio-Economic – Benefits / Impacts			a comprehensive suite of well- understood and field-proven mitigation techniques to address potential issues that may arise. <ul style="list-style-type: none"> • The complete ESA can be found in Volume 5 (for pipeline and facilities) and Volume 8 (for marine transportation) • Trans Mountain has demonstrated in the ESA that the potential adverse environmental effects of the pipeline and other Project facilities will be reduced or eliminated by way of general and site specific mitigation measures based upon current industry-accepted standards, consultation with regulatory authorities, interested groups and individuals, engagement with Aboriginal groups and the professional judgment of the assessment team. • The ESA concluded that the pipeline and associated facilities (e.g., pump stations, terminals, Westridge Marine Terminal) will not likely result in significant adverse environmental effects on any element or indicator.935 None of the intervenors have filed evidence that affects that conclusion. • As stated in Section 4.3.15.1 of Volume 8A of the Application (Filing ID A3S4Y3) through the implementation of the mitigation measures, the residual effects associated with the increase in marine transportation on the environmental and socio-economic elements were considered to be not significant in all cases except one. Given that past and current activities are considered to have caused significant adverse effects on the southern resident killer whale population, the effects associated with the increased Project-related marine vessel traffic on this species is considered to be significant. • In its final argument, Trans Mountain affirms: • Where significant adverse environmental 	<p>Westridge Marine Terminal Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction at the Westridge Marine Terminal, an AEMP for the Westridge Marine Terminal</p> <ul style="list-style-type: none"> • NEB Condition 132 - Marine Mammal Protection Program Trans Mountain must file with the NEB, at least 3 months prior to commencing operations, a Marine Mammal Protection Program that focuses on effects from the operations of Project related marine vessels. 	to provide their feedback through the website and TWG discussion. <ul style="list-style-type: none"> • Trans Mountain has issued an updated draft Terms of Reference to all municipal governments along the expansion route, inviting them to participate in TWGs and to review and comment on the draft Terms of Reference.

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				<p>effects exist for the southern resident killer whale, Trans Mountain submits that multi-party solutions are the most appropriate approach to managing effects on critical habitat and any associated effects on traditional use of the population. The MARINE MAMMAL PROTECTION PROGRAM identifies and integrates multi-party solutions for this reason.</p> <ul style="list-style-type: none"> The construction and operation of the Project, subject to the Board's conditions, and the extensive regulatory regime that is currently in place, can be carried out in a manner that will have no unacceptable environmental or socio-economic impacts. 		
9.5	Terminal – Emergency Management – Preparedness	Metro Vancouver Final Submission (Filing ID A75092)	<ul style="list-style-type: none"> Contingency planning in the event of a spill or accident during construction and / or operation of the Project. 	<ul style="list-style-type: none"> Trans Mountain has access to \$750 million in insurance for a land-based spill. Compensation frameworks and insurance covering a land-based spill are described in responses to NEB IR Nos. 1.08b to 1.08h (Page 24 of 481 in Filing ID A3W9H8). In the event that a liability occurs that is in excess of its insurance, Trans Mountain expects that any losses and claims would be paid out of cash reserves and cash flow from operations, which are illustrated in the response to NEB IR Nos. 1.09a and 1.09b (Page 29 of 481 in Filing IDs A3W9H8 and A3W9I1). Those responses illustrate that Trans Mountain expects that it would have cash available over the first 5 years of approximately \$2.1 billion and a cash reserve balance at the end of Year 5 of approximately \$150 million. To the extent there is insufficient cash available Trans Mountain would either draw on credit facilities, issue debt, or borrow from its parent depending on the extent of the loss and its immediacy. Trans Mountain efforts will further be dedicated to reducing the chances of such unlikely events 	<ul style="list-style-type: none"> NEB Condition 89 - Emergency Response Plans for construction Trans Mountain must file with the NEB, at least 2 months prior to commencing construction, a Project-specific ERP, including the Trans Mountain Expansion Project ERP and site-specific ERPs as referenced in Volume 4B, Section 5.4.2 of its Project application (Filing A3S1K6), that would be implemented during the construction phase. The plan(s) must include spill contingency measures that Trans Mountain will employ in response to accidental spills attributable to construction activities, 24-hour medical evacuation, fire response, and security. NEB Condition 90 - Consultation on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 months prior to commencing construction, a consultation plan for its review of its ERPs and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). NEB Condition 117 - Reporting on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 years and 1 year prior to commencing operations, detailed updates for the company's review of its EMP (toward meeting the requirements of Condition 124). 	<ul style="list-style-type: none"> Trans Mountain continues to engage with stakeholders around multiple aspects of the Project, including ongoing engagement on ERPs to share information and seek input Trans Mountain has and will continue to invite Metro Vancouver to participate in its Emergency Response engagement, training and exercises. Trans Mountain has issued an updated draft Terms of Reference to all municipal governments along the expansion route, inviting them to participate in TWGs and to review and comment on the draft Terms of Reference.

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				<p>occurring, and to developing comprehensive contingency plans that mitigate impacts in the unlikely event that they do occur.</p>	<ul style="list-style-type: none"> • NEB Condition 124 - Implementing improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 6 months prior to commencing operations, a detailed summary of its review of its ERPs (as noted in Conditions 125 and 126) and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). This filing must include a description of changes made to Trans Mountain's EMP, as required under the National Energy Board Onshore Pipeline Regulations... • NEB Condition 125 - Emergency Response Plans for the Pipeline and for the Edmonton, Sumas and Burnaby Terminals Trans Mountain must file with the NEB, at least 6 months prior to commencing operations, updated Emergency Response • NEB Condition 126 – Emergency Response Plan for Westridge Marine Terminal – Trans Mountain must file with the NEB, at least 6 months prior to commencing operations at Westridge Marine Terminal. an updated ERP for the Westridge Marine Terminal 	
9.6	<p>Marine – Environment – Wildlife & Vegetation</p> <p>Marine – Tanker Navigation</p>	Metro Vancouver Final Submission (Filing ID A75092)	<ul style="list-style-type: none"> • Impacts to wildlife as a result of increased tanker traffic in Burrard Inlet. 	<ul style="list-style-type: none"> • In its final argument, Trans Mountain states: The marine ESA provides the Board with the information necessary to understand the environmental and socio-economic effects resulting from the Project-related increase in marine traffic from the geographic area extending between the Westridge Marine Terminal and a location known as "Buoy J" (<i>i.e.</i>, the 12 mile nautical territorial limit) at the entrance to the Strait of Juan de Fuca, covering the internationally established shipping lanes and the waters and lands closely adjoining these lanes. • As stated in Section 4.3.15.1 of Volume 8A of the Application (Filing ID A3S4Y3) through the implementation of the mitigation measures, the residual effects associated with the increase in marine transportation on the environmental and 	<ul style="list-style-type: none"> • NEB Condition 132 - Marine Mammal Protection Program Trans Mountain must file with the NEB, at least 3 months prior to commencing operations, a Marine Mammal Protection Program that focuses on effects from the operations of Project related marine vessels. 	<ul style="list-style-type: none"> • Short term projects, scientific studies and education initiatives are being considered to better understand potential threats associated with commercial vessel related activities. As discussed in Trans Mountain's evidence, projects are currently under consideration by the ECHO. Program relating to underwater noise and vessel strikes. Trans Mountain has entered into a funding agreement with Vancouver Fraser Port Authority, wherein Trans Mountain has agreed to contribute \$1.6 million to VFPA's ECHO Program, which seeks to better understand and manage

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				<p>socio-economic elements were considered to be not significant in all cases except one. Given that past and current activities are considered to have caused significant adverse effects on the southern resident killer whale population, the effects associated with the increased Project-related marine vessel traffic on this species is considered to be significant.</p> <ul style="list-style-type: none"> • In its final argument, Trans Mountain affirms: <ul style="list-style-type: none"> ▪ Where significant adverse environmental effects exist for the southern resident killer whale, Trans Mountain submits that multi-party solutions are the most appropriate approach to managing effects on critical habitat and any associated effects on traditional use of the population. The MARINE MAMMAL PROTECTION PROGRAM identifies and integrates multi-party solutions for this reason. • The construction and operation of the Project, subject to the Board's conditions, and the extensive regulatory regime that is currently in place, can be carried out in a manner that will have no unacceptable environmental or socio-economic impacts. 		<p>potential effects on cetaceans (<i>i.e.</i>, whales, porpoises, and dolphins) resulting from commercial vessel activities throughout the southern coast of BC Through the ECHO program, VFPA will work in collaboration with government agencies, Aboriginal, marine industry users (including Trans Mountain), non-government organizations and scientific experts to examine threats to at-risk cetaceans in the region. Under the umbrella of the ECHO Program, a series of individual</p> <ul style="list-style-type: none"> • Trans Mountain intends to review all the results of the ECHO Program studies with a view to incorporating the resulting recommendations in the Marine Mammal Protection Program.
9.7	<p>Pipeline – Environment – Wildlife & Vegetation</p> <p>Terminal – Environment – Wildlife & Vegetation</p> <p>Pipeline – Socio-</p>	<p>Metro Vancouver Final Submission (Filing ID A75092)</p>	<ul style="list-style-type: none"> • Impacts to sensitive ecosystems, designated conservation areas, parks, fish-bearing waterways and habitat that supports Species at Risk, public recreation, tourism and fisheries. 	<ul style="list-style-type: none"> • The mitigation and restoration measures proposed for the Project are designed to meet or exceed those required by Federal and Provincial agencies. • Mitigation measures are incorporated within the project design to reduce the spatial scale, duration, and intensity of effects to manage the potential for serious harm to fishes and their habitat. These measures include, for example, adherence to the Least Risk Biological Window (LRBW) for all proposed isolated trenched crossings of fish-bearing watercourses within 	<ul style="list-style-type: none"> • NEB Condition 3 - Environmental protection Trans Mountain must implement or cause to be implemented, at a minimum, all of the policies, practices, programs, mitigation measures, recommendations, and procedures for the protection of the environment included or referred to in its Project application or to which it otherwise committed on the record of the OH-001-2014 proceeding • NEB Condition 13 - Socio-Economic Effects Monitoring Plan Trans Mountain must file with the NEB for approval, at least 6 months prior to commencing construction, a plan for monitoring potential adverse socio-economic effects of the Project during construction. 	<ul style="list-style-type: none"> • Trans Mountain continues to engage with stakeholders around multiple aspects of the Project, to share information and seek input, including to recreational user groups and parks • Trans Mountain has issued an updated draft Terms of Reference to all municipal governments along the expansion route, inviting them to participate in TWGs and to review and comment on the draft

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	Economic – Benefits /Impacts Terminal – Socio-Economic – Benefits / Impacts			<p>the Lower Mainland, conducting fish salvages where there is known or potential fish presence within the Project footprint, and water quality monitoring where high sensitivity fish habitat may be present. Conservative LRBWs have also been applied to protect salmonid species and/or other species of risk where they may have potential to occur, regardless of whether or not they were captured within the Local Study Area during Trans Mountain field investigations. In addition, impacts to functional riparian habitat will be avoided or minimized by limiting disturbances to riparian areas and implementing minimum riparian setback distances for temporary and permanent facilities. Mitigation and restoration measures considered in the assessment for fish, fish habitat, and surface water quality are provided in Table 7.2.7-2 of Section 7.2.7 of Volume 5A ESA – Biophysical (TERA December 2013; Filing ID A3S1Q9) and the Pipeline EPP (Volume 6B; Filing ID A3S2S3)</p> <ul style="list-style-type: none"> Additional site-specific mitigation measures will also be applied to watercourses identified as proposed critical habitat or potential habitat for species at risk. For details on site-specific mitigation for species at risk, please refer to Sections 10.1 and 10.3 of Supplemental Fisheries (BC) Technical Report (Triton Environmental Consultants 2014) This supplemental technical report was recently provided to the National Energy Board (NEB) and is available as an attachment to NEB IR No. 3.039a (NEB IR No. 3.039a – Attachment 1; Filing ID A4H1Z2). On several occasions Trans Mountain has confirmed verbally and in writing our commitment to use the Mayfair CP Rail siding 	<ul style="list-style-type: none"> NEB Condition 44 - Wildlife Species at Risk Mitigation and Habitat Restoration Plans Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction, Wildlife Species at Risk Mitigation and Habitat Restoration Plans for each species whose draft, candidate, proposed, or final critical habitat is directly or indirectly affected by the Project. NEB Condition 75 - Nooksack Dace and Salish Sucker Management Plan a) Trans Mountain must construct all watercourse crossings located within nooksack dace or salish sucker proposed or final critical habitat, as defined by DFO Recovery Strategies for the species, using trenchless crossing methods with entry and exit points located outside of the riparian habitat area, unless demonstrated to be not feasible. b) At least 3 months prior to commencing construction of any watercourse crossing located within nooksack dace or salish sucker proposed or final critical habitat, Trans Mountain must file a list of these watercourse crossings, and, for each, indicate whether or not a trenchless crossing method is feasible. 	<p>Terms of Reference.</p> <ul style="list-style-type: none"> Trans Mountain's draft EPPs have been posted on its website for comment for a period of three months. Stakeholders are invited to provide their feedback through the website and TWG discussion. Trans Mountain will request that stakeholders with specific environmental expertise meet to review and provide input to draft Environmental Plans.

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				as temporary workspace for the Fraser River crossing trenchless crossing for the Trans Mountain Expansion Project. As our design proceeds we will confirm access, however we commit to restricting access to existing disturbed areas such as the rail siding or existing roadways.		
9.8	<p>Marine – Environment – Air Emissions</p> <p>Marine – Environment – Climate Change</p>	Metro Vancouver Final Submission (Filing ID A75092)	<ul style="list-style-type: none"> Increase of Green House Gas Emissions as a result of the Project. 	<ul style="list-style-type: none"> As stated in Trans Mountain's final argument, the ESA concluded that the residual environmental effects of increased Project-related marine vessel traffic on marine GHG emissions will not be significant. For more details of the assessment, see exhibit B18-29 - V8A 4.2.12.2 TO T5.2.2 MAR TRANS ASSESS (December 17, 2013) (A3S4Y3), 8A-272. 	<ul style="list-style-type: none"> NEB Condition 140 - Post-construction greenhouse gas assessment report Trans Mountain must file with the NEB for approval, within 2 months after commencing operations, an updated GHG assessment report specific to the Project. NEB Condition 142 - Greenhouse Gas Emissions Offset Plan – Project construction Trans Mountain must file with the NEB for approval, within 4 months after commencing operations, a plan for providing offsets for all direct GHG emissions generated from Project construction, as determined in Condition 140. 	<ul style="list-style-type: none"> As per NEB Condition 142, the Trans Mountain Expansion Project will be the first pipeline in Canada required by the National Energy Board to offset all direct GHG emissions generated from Project construction. Building a new pipeline and its associated facilities will generate emissions and. Trans Mountain will be unable to mitigate all of those emissions. Trans Mountain will however take responsibility for these emissions by developing a carbon management plan for Project construction incorporating a variety of initiatives, including investments in carbon offset projects.
9.9	<p>Pipeline – Socio-Economic – Oil Spill Effects - Infrastructure and Services</p> <p>Marine – Socio-Economic – Oil Spill Effects - Infrastructure and Services</p>	Metro Vancouver Final Submission (Filing ID A75092)	<ul style="list-style-type: none"> Pipeline and / or spill Impacts on liquid waste infrastructure. Construction impacts to infrastructure and services including pipeline and Tanker impacts on existing water infrastructure. 	<ul style="list-style-type: none"> Trans Mountain has engaged specialized engineering consultants recommended by Metro Vancouver to provide advice on TMEP crossing the methane collection system in place throughout Eaglequest (Coquitlam landfill site) and along the United Boulevard corridor. Trans Mountain has engaged BGC Engineering to investigate geotechnical recommendations to avoid differential settlement. Trans Mountain has agreed with the City of 	<ul style="list-style-type: none"> NEB Condition 14 - Technical working group – Terms of Reference Trans Mountain must file with the NEB, at least 6 months prior to commencing construction, Terms of Reference for TWGs established in order to address specific technical and construction issues with affected municipalities. The terms of reference must be developed in consultation with participating municipalities, and facility owners and operators that will be affected by the Project. NEB Condition 49 - Technical working group reports Trans Mountain must file with the NEB, at least 4 months prior to commencing construction and every 6 months thereafter until after commencing operations, a report describing the activities undertaken by the TWGs during the reporting period and the 	<ul style="list-style-type: none"> Trans Mountain has issued an updated draft Terms of Reference to all municipal governments along the expansion route, inviting them to participate in TWGs and to review and comment on the draft Terms of Reference.

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				<p>Coquitlam to pave curb to median (both lanes) when construction is complete along United Boulevard.</p> <ul style="list-style-type: none"> The rip rap encasing protecting Metro Vancouver water lines are part of a number of factors limiting the width of the channel at Second Narrows for transiting tankers. The PMV MRA rules for Second Narrows define the allowable beam (<i>i.e.</i>, width) and draft (<i>i.e.</i>, depth) of tankers in relation with the channel. Tankers have to maintain an under keel clearance of 10% over a channel width of 2.85 times the vessel's beam and are restricted to daylight transit. Since the center of the Second Narrows channel is relatively deep in comparison to the vessel's draft it is typically the width of the channel that determines the allowable draft and therefore the extent to which a tanker can be loaded. The effect of the draft restrictions on cargo capacity were taken into consideration by Trans Mountain when estimating the extent of tanker traffic that might result from the Project Draft restrictions and under keel clearance requirements are explained in section 2.1.4 of Volume 8A (Filing ID A3S4X4) 	<p>outcomes of these activities.</p> <ul style="list-style-type: none"> NEB Condition 93 - Water well inventor Trans Mountain must file with the NEB, at least 2 months prior to commencing construction, an inventory of physically verified (ground-truthed) water wells that are within 150 meters of either side of the center of the pipeline right-of-way. NEB Condition 94 - Consultation reports – protection of municipal water sources Trans Mountain must file with the NEB, at least 2 months prior to commencing construction, and on or before 31 January of each year during construction and of the first 5 years after commencing operations, a report on Trans Mountain's consultations with municipalities and regional districts, communities, and Aboriginal groups related to the protection of municipal and community water sources, including those sources currently relied upon and sources identified for potential future use. NEB Condition 130 - Groundwater Monitoring Program Trans Mountain must file with the NEB for approval, at least 3 months prior to commencing operations, a Groundwater Monitoring Program that pertains to all terminals and pump stations, and for any vulnerable aquifers along the pipeline route. 	
9.10	Economic Benefit / Impact	Metro Vancouver Final Submission (Filing ID A75092)	<ul style="list-style-type: none"> Current construction schedule may impact concurrent solid waste construction projects in Metro Vancouver. 	<ul style="list-style-type: none"> Trans Mountain invited Metro Vancouver to form a TWG in spring 2015 in part to learn more about local government's planned projects in order to efficiently coordinate construction and maintenance activities. In part, the TWG TORs stated "<i>Consistent with the Project's approach to open and transparent engagement and communications, the intent of the meetings is to discuss in detail site-specific locations and issues as they relate to the proposed TMEP Project. Where stakeholders have interests in proximity to the proposed</i> 	<ul style="list-style-type: none"> NEB Condition 14 - Technical working group – Terms of Reference Trans Mountain must file with the NEB, at least 6 months prior to commencing construction, Terms of Reference for TWGs established in order to address specific technical and construction issues with affected municipalities. The terms of reference must be developed in consultation with participating municipalities, and facility owners and operators that will be affected by the Project. NEB Condition 49 - Technical working group reports Trans Mountain must file with the NEB, at least 4 months prior to commencing construction and every 6 months thereafter until after commencing operations, a report describing the activities 	<ul style="list-style-type: none"> Trans Mountain continues to engage with stakeholders around multiple aspects of the Project, including ongoing engagement on ERPs) to share information and seek input to our detailed construction plans to minimize impact to neighbours during construction. Trans Mountain has issued an updated draft Terms of Reference to all municipal governments along

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				<p><i>TMEP alignment, the purpose of these Terms of Reference and the TWG meetings are to improve communication, create an opportunity to share information or discuss issues of interest, and resolve differences in alignment and detailed design options between the TMEP Team and the stakeholder. The targeted outcome of the TWG meetings will evolve over time and may include various topics of interest related to the proposed TMEP. Initially, key outcomes from TWG meetings will be focused on engineering aspects and as-built information to aid the progression of the detailed design. These key outcomes will achieve the following:</i></p> <ul style="list-style-type: none"> ▪ <i>Ensure the TMEP Team understands impacts to stakeholder land, infrastructure, operations, parks and other interests;</i> ▪ <i>Discuss alignment and design options for the pipeline and understand stakeholder preferences;</i> ▪ <i>Gather as-built information, design details of stakeholder future expansion works and operations information to ensure the pipeline is designed with the most accurate information available;</i> ▪ <i>Collaborate and work together to design least impact solutions"</i> 	<p>undertaken by the TWGs during the reporting period and the outcomes of these activities.</p> <ul style="list-style-type: none"> • NEB Condition 62 - Construction schedule Trans Mountain must file with the NEB, at least 3 months prior to commencing construction, a construction schedule identifying the major construction activities expected and, on a monthly basis, on the first working day of each calendar month from the commencement of construction until after commencing operations, updated detailed construction schedules. 	<p>the expansion route, inviting them to participate in TWGs and to review and comment on the draft Terms of Reference.</p>
Pacific Pilotage Authority						
10.1	<p>Marine – Tanker Safety</p> <p>Marine – Tanker Navigation</p>	<p>Pacific Pilotage Authority - Letter of Comment (Filing ID A4Q7T1), 06/19/2015</p>	<ul style="list-style-type: none"> • Safe navigation of vessels with increase in vessels for TMEP • Avoidance of conflict with other marine waterway users including Aboriginal groups, commercial fisheries and recreational/tourism boating traffic. 	<ul style="list-style-type: none"> • PPA regularly conducts risk assessments and introduces new methodology for handling tankers to enhance safety. As described in the PPA's letter of comment, Kinder Morgan has worked with the maritime community to conduct fast time simulations in the Georgia Strait area, resulting in amendments to "Notice to Industry for Liquid Bulk Carriers in excess of 	<ul style="list-style-type: none"> • NEB Condition 91 - Plan for implementing, monitoring, and complying with marine shipping-related commitments Trans Mountain must file with the NEB, at least 2 months prior to commencing construction, a plan describing how it will implement, monitor, and ensure compliance with its marine shipping-related commitments identified in Condition 133. • NEB Condition 131 - Marine Public Outreach Program Trans Mountain must file with the NEB, at least 3 months prior 	<ul style="list-style-type: none"> • Trans Mountain will continue to consult and support the PPA as per Conditions No. 91, 131, 133, and 144.

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				<p>40,000 summer deadweight tonnes." The changes include the new requirement for both escort tugs to remain tethered until the vessel is two miles west of First Narrows.</p> <ul style="list-style-type: none"> As part of NEB Condition 131 – a Marine Public Outreach program must be developed by Trans Mountain in consultation of various marine regulators in support of the PPA's safety information for boaters. 	<p>to commencing operations, a report describing completed activities and observed outcomes of Trans Mountain's Marine Public Outreach Program, and any further planned activities for this program.</p> <ul style="list-style-type: none"> NEB Condition 133 - Marine shipping-related commitments Trans Mountain must file with the NEB, at least 3 months prior to loading the first tanker at the Westridge Marine Terminal with oil transported by the Project, confirmation, signed by an officer of the company, that it has implemented or caused to be implemented the commitments related to oil tanker traffic and enhanced oil spill response NEB Condition 144 - Ongoing implementation of marine shipping-related commitments Trans Mountain must file with the NEB, on or before 31 January of each year after commencing operations, a report, signed by an officer of the company, documenting the continued implementation of Trans Mountain's marine shipping-related commitments noted in Condition 133, any non-compliances with the requirements of these commitments, and the actions taken to correct these non-compliances. 	
Village of Belcarra						
11.1	<p>Terminal – Environment – Noise and light</p> <p>Terminal – Environment – Wildlife & Vegetation</p>	<p>C369-6-1 - Belcarra Submission to NEB Re TMEP - A4L5G5 Filing Date 05/26/2015</p>	<ul style="list-style-type: none"> Westridge Marine Terminal tanker noise and light impact on surrounding residents 	<ul style="list-style-type: none"> In response to Village of Belcarra IR 1.8, Trans Mountain committed to undertake noise and light studies. NEB Condition 80 (Noise Management Plan for construction), NEB Condition 81 (Westridge Marine Terminal EPP) and NEB Condition 82 (Light Emissions Management Plan for Westridge Marine Terminal) all address aspects of noise and light concerns. In addition, Trans Mountain is inviting input to its EPPs in fall 2016. 	<ul style="list-style-type: none"> NEB Condition 82 - Light Emissions Management Plan for the Westridge Marine Terminal Trans Mountain must file with the NEB, at least 3 months prior to commencing construction at the Westridge Marine Terminal, a Light Emissions Management Plan for the Westridge Marine Terminal 	<ul style="list-style-type: none"> Trans Mountain has a complaints management process in place for current operations that will be reviewed and updated to monitor community feedback during construction and future operations of the expansion Project. Trans Mountain's complaints management process has communications protocols in place with the Vancouver Fraser Port Authority community relations line to ensure any terminal related issues will be captured and

TABLE U-1

ISSUES SUMMARY AND RESOLUTIONS TABLE FOR APPLICABLE STAKEHOLDERS AND COMMUNITIES WHO PARTICIPATED IN NEB PROCESS

ID	Issue/Concern	Source of Issue	Issue Description	Trans Mountain's Response	Addressed with NEB Condition or TMEP Commitment (Filing ID A77045)	Ongoing Resolution Strategy
11.2	Marine – Emergency Response	C369-6-1 - Belcarra Submission to NEB Re TMEP - A4L5G5 Filing Date 05/26/2015	<ul style="list-style-type: none"> Emergency response aspects including spill containment boom technology, location specific oil spill response plans, pre-staged equipment, response time 	<ul style="list-style-type: none"> Trans Mountain continues to refine its ERPs in consultation with First Responders and other stakeholders; and Belcarra is aware of the Project's work with WCMRC which has resulted in over \$150-million-dollar investment package to half response times and increase response capacity to twice the required government mandate. 	<ul style="list-style-type: none"> NEB Condition 133 - Marine shipping-related commitments Trans Mountain must file with the NEB, at least 3 months prior to loading the first tanker at the Westridge Marine Terminal with oil transported by the Project, confirmation, signed by an officer of the company, that it has implemented or caused to be implemented the commitments related to oil tanker traffic and enhanced oil spill response NEB Condition 144 - Ongoing implementation of marine shipping-related commitments Trans Mountain must file with the NEB, on or before 31 January of each year after commencing operations, a report, signed by an officer of the company, documenting the continued implementation of Trans Mountain's marine shipping-related commitments noted in Condition 133, any non-compliances with the requirements of these commitments, and the actions taken to correct these non-compliances. NEB Condition 91 - Plan for implementing, monitoring, and complying with marine shipping-related commitments Trans Mountain must file with the NEB, at least 2 months prior to commencing construction, a plan describing how it will implement, monitor, and ensure compliance with its marine shipping-related commitments identified in Condition 133. NEB Condition 89 - Emergency Response Plans for construction Trans Mountain must file with the NEB, at least 2 months prior to commencing construction, a Project-specific ERP, including the Trans Mountain Expansion Project ERP and site-specific ERPs as referenced in Volume 4B, Section 5.4.2 of its Project application (Filing A3S1K6), that would be implemented during the construction phase. The plan(s) must include spill contingency measures that Trans Mountain will employ in response to accidental spills attributable to construction activities, 24-hour medical evacuation, fire response, and security. NEB Condition 90 - Consultation on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 months prior to commencing construction, a consultation plan for its review of 	<p>addressed.</p> <ul style="list-style-type: none"> Trans Mountain will continue to meet with first responders and emergency managers along the pipeline system to meet, enhance information and potentially 'contribute to the enhancement of the current plans.

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ID	Issue/Concern	Source of Issue	Issue Description	Trans Mountain's Response	Addressed with NEB Condition or TMEP Commitment (Filing ID A77045)	Ongoing Resolution Strategy
					<p>its ERPs and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5).</p> <ul style="list-style-type: none"> • NEB Condition 117 - Reporting on improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 2 years and 1 year prior to commencing operations, detailed updates for the company's review of its EMP (toward meeting the requirements of Condition 124). • NEB Condition 124 - Implementing improvements to Trans Mountain's Emergency Management Program Trans Mountain must file with the NEB, at least 6 months prior to commencing operations, a detailed summary of its review of its ERPs (as noted in Conditions 125 and 126) and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing ID A3S4V5). This filing must include a description of changes made to Trans Mountain's EMP, as required under the National Energy Board Onshore Pipeline Regulations... • NEB Condition 125 - Emergency Response Plans for the Pipeline and for the Edmonton, Sumas and Burnaby Terminals Trans Mountain must file with the NEB, at least 6 months prior to commencing operations, updated Emergency Response • NEB Condition 126 - Emergency Response Plan for Westridge Marine Terminal - Trans Mountain must file with the NEB, at least 6 months prior to commencing operations at Westridge Marine Terminal. an updated ERP for the Westridge Marine Terminal 	
11.3	Marine – Environment – Wildlife & Vegetation	C369-6-1 - Belcarra Submission to NEB Re TMEP - A4L5G5 Filing Date 05/26/2015	<ul style="list-style-type: none"> • Net environmental benefits for Burrard Inlet as a result of TMEP 	<ul style="list-style-type: none"> • Trans Mountain has been working with organizations with the intent of legacy benefits for stream restoration. • In 2015 Trans Mountain committed \$50K in funding to the Pacific Salmon Foundation for use as habitat for salmon in Burrard Inlet. 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Trans Mountain continues to contribute to local environmental initiatives as part of its community benefit and sponsorship programs.
11.4	Marine – Tanker Safety – Boating	C369-6-1 - Belcarra Submission to NEB	<ul style="list-style-type: none"> • Safety concerns for small vessel craft sharing waterways with more 	<ul style="list-style-type: none"> • During the NEB review, Trans Mountain undertook a recreational vessel traffic study 	<p>NEB Condition 131 - Marine Public Outreach Program Trans Mountain must file with the NEB, at least 3 months prior</p>	<ul style="list-style-type: none"> • Trans Mountain will continue to look for opportunities to present

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ID	Issue/Concern	Source of Issue	Issue Description	Trans Mountain's Response	Addressed with NEB Condition or TMEP Commitment (Filing ID A77045)	Ongoing Resolution Strategy
	Safety	Re TMEP - A4L5G5 Filing Date 05/26/2015	Project-related tankers.	east of Second Narrows Bridge. This was completed subsequent to filing of the Application (filed as part of Technical Update No. 2 filed in August 2014 – NEB Filing IDs A4A414 , A4A415 and A4A416)	to commencing operations, a report describing completed activities and observed outcomes of Trans Mountain's Marine Public Outreach Program, and any further planned activities for this program	boating safety materials and help to raise the awareness of safe conduct of waterway users around deep draft vessels.

