Marine Consultation Summary No. 1
January 5, 2015

APPENDIX D

Trans Mountain Expansion Project
Email: info@transmountain.com | Phone: 1.866.514.6700 | Website: www.transmountain.com | @TransMtn

Mayor Mike Clay and Council
City of Port Moody
100 Newport Drive
Box 36
Port Moody, British Columbia
V3H 3E1

January 16, 2015

Dear Mayor Clay and Council,

I understand the proposed Trans Mountain Expansion Project (TMEP) was a topic of discussion at the January 6, 2015 City of Port Moody Committee of the Whole meeting. Having reviewed the slides presented at this meeting, I understand the City has a number of outstanding interests and concerns regarding our proposed Project.

As of January 16, 2015, Trans Mountain is also in receipt of the City's Round 2 Intervenor Information Requests through the formal National Energy Board (NEB) regulatory process. As many of the concerns highlighted in the January 6, 2015 presentation mirror the questions asked through the Information Request process, we will do our best to respond to the City's concerns through our Information Request responses which will be filed with the NEB in keeping with the regulatory schedule.

I understand the City of Port Moody expressed concerns following the first round of Information Requests with the depth of information provided in response to your questions. I appreciate it can be difficult to have specific concerns addressed through the formal Information Request process. Since we began our engagement process in the Spring of 2012, we have conducted ongoing engagement, including with the City of Port Moody, and appreciate the input received.

As stated in our December 21, 2014 letter to Mayor and Council, we remain committed to open and transparent dialogue with local governments, communities and stakeholders who are potentially impacted by the proposed Project. Should the City have outstanding questions or concerns, we would be pleased to hear from you. If you are interested in following up, please contact Lexa Hobenshield at lexa_hobenshield@kindermorgan.com or 604-809-9869.

Sincerely,

Lizette Parsons Bell
Lead, Stakeholder Engagement and Communications
Trans Mountain Expansion Project

.cc Kevin Ramsay, CAO

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APPENDIX E

TRANSMOUNTAIN

Trans Mountain Expansion Project

Email: info@transmountain.com | Phone: 1.866.514.6700 | Website: www.transmountain.com

July 6, 2015

Mr. Lou Pelletier
Director, Planning and Building
City of Burnaby
4949 Canada Way
Burnaby, BC
V5G 1M2

Dear Mr. Pelletier,

Re: Trans Mountain Expansion Project, Burnaby Terminal and Westridge Marine Terminal Preliminary Plan Approval (PPA) Pre-Application Meeting

As the City is aware, Trans Mountain is proposing to expand its existing pipeline system, including Burnaby Terminal (7815 Shellmont Street) and Westridge Marine Terminal (7065 Bayview Drive). The proposed terminal expansions will occur on Trans Mountain's existing properties. All of Burnaby Terminal and a portion of Westridge Marine Terminal are within the City of Burnaby. The expansion project is currently before the regulator, the National Energy Board (NEB), for review.

As previously discussed with City staff, Trans Mountain intends to submit PPA applications for the elements of the terminal expansions that are within the City. The City has identified in its evidence submitted to the NEB on May 27, 2015 that it is willing to undertake PPA reviews. As suggested by the City's PPA Guide at http://www.burnaby.ca/City-Services/Planning/Preliminary-Plan-Approval.html, anyone intending to submit a PPA application is encouraged to contact the Planning Division to discuss the PPA process, including the type of information required in support of an application.

The purpose of this letter is to request a PPA pre-application meeting in the coming weeks, preferably in the last week of July. Trans Mountain anticipates submitting the PPA applications in late August or early September.

Please contact Lexa Hobenshield at lexa_hobenshield@kindermorgan.com or 604.809.9869 to arrange the meeting. I look forward to your response.

Sincerely,

Greg Hill, P. Eng.
Senior Director, Major Projects (Facilities)
Trans Mountain Expansion Project

.cc Lexa Hobenshield, Trans Mountain Expansion Project
Dipak Dattani, City of Burnaby

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APPENDIX F

TRANSPORTATION

B81 Asia-Pacific Northern Transportation Infrastructure Strategy — Terrace

WHEREAS economic development growth in the Northwest is resulting in a steady increase to road and rail traffic along the Highway 16 corridor which is creating safety concerns and negatively impacting communities;

AND WHEREAS Highway 16 is the northern link to the Asia-Pacific Gateway, and upgrading key road transportation corridors to support trade is a priority in the Province of BC's "Pacific Gateway Transportation Strategy 2012–2020:"

THEREFORE BE IT RESOLVED that UBCM advocate for the provincial government to initiate an Asia-Pacific northern infrastructure strategy to address barriers to trade and transportation and impacts to northern communities along Highway 16, and that such a strategy include participation by northern stakeholder communities and industry.

Endorsed by the North Central Local Government Association

UBCM Resolutions Committee recommendation: ***No Recommendation***

UBCM Resolutions Committee comments:

The Resolutions Committee advises that the UBCM membership has not previously considered a resolution calling on the Province to develop a specific "Asia-Pacific northern infrastructure strategy" complete with stakeholder participation, focused on Highway 16 with the goal of addressing barriers to trade and transportation and impacts to communities.

However, the Committee is aware that members have consistently endorsed resolutions seeking a province-wide, multi-modal transportation strategy or policy that would include components such as highway upgrades; safety improvements; transportation of dangerous goods; emergency response; and coordination between different modes of transport (2013-B13, 2009-B16, 2008-B110, 2008-B107, 2003-B59, 2000-B63, 1998-A6, 1996-B88, 1995-B55, 1992-A17).

Conference decision:

B82 Comprehensive Pipeline & Energy Transport Plan — Burnaby

WHEREAS on 2013 December 16, Kinder Morgan submitted an application to the National Energy Board for the Trans Mountain Expansion Project;

AND WHEREAS the proposed expansion project in the existing dense urban context represents an intensification of related risks and impacts for Burnaby and the broader Metro Vancouver area, with the benefits distributed elsewhere on a regional, provincial and national basis:

THEREFORE BE IT RESOLVED that UBCM call on the federal government and National Energy Board, through the Federation of Canadian Municipalities and other avenues as appropriate, to oppose Kinder Morgan's Trans Mountain pipeline system expansion application;

AND BE IT FURTHER RESOLVED that UBCM call on the provincial and federal governments, through their appropriate and respective roles, to develop, in consultation with local governments, First Nations, and members of the public, a comprehensive pipeline and energy transport plan, including adequately funded provisions for emergency response, for the movement of related goods.

Endorsed by the Lower Mainland Local Government Association

UBCM Resolutions Committee recommendation: ***No Recommendation***

UBCM Resolutions Committee comments:

The Resolutions Committee advises that the UBCM membership has not previously considered a resolution calling on the federal government and the National Energy Board to oppose Kinder Morgan's Trans Mountain pipeline system expansion application; nor have they considered a resolution requesting the provincial and federal governments to develop, in consultation with local governments, First Nations and the public, a comprehensive pipeline and energy transport plan, including adequately funded provisions for emergency response.

However, the Committee would note that members endorsed a related resolution, 2011-LR6, which requested that the National Energy Board, Port Metro Vancouver, and the relevant federal cabinet ministers "ensure that any applications to expand the amount of oil transported by pipeline or tanker in British Columbia undergo: a. the highest degree of environmental assessment; and b. meaningful public consultation, including direct engagement with affected municipalities, regional authorities and British Columbia First Nations."

In response to the 2011 resolution the federal government emphasized that applications to expand federally-regulated pipeline systems "are subject to environmental assessment and regulatory review. In addition, regulatory review processes for major projects are open, and parties including municipalities, regional organizations and Aboriginal groups can submit evidence and express their views."

Port Metro Vancouver also provided a response to resolution 2011-LR6, confirming that "all projects within Port Metro Vancouver jurisdiction undergo some form of environmental review regardless of the presence of legislated triggers." Port Metro Vancouver indicated that any "significant proposal for new or expanded oil transport through the port that Port Metro Vancouver may receive" would undergo "the Port's Project Review Process, a process that is analogous to a municipal development review that covers many issues not addressed by environmental legislation."

See also resolutions B92 and C4.

Conference decision:

SELECTED ISSUES

B83 Establishing a Youth Caucus — Williams Lake

WHEREAS young adults in our communities are less likely to vote in municipal elections and engage in civic affairs;

AND WHEREAS the City of Williams Lake has offered a successful Junior Council program to the community over the past four years which has provided an opportunity for youth to learn about municipal affairs and participate in the civic affairs of the community:

THEREFORE BE IT RESOLVED that UBCM establish a youth caucus that would provide an opportunity for youth to participate in sessions to engage youth in civic affairs and that the UBCM's member communities be encouraged to establish youth councils in their communities.

Endorsed by the North Central Local Government Association

UBCM Resolutions Committee recommendation: ***No Action Required***

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APPENDIX G

2014 Report on Resolutions Received after the Deadline

A total of nine resolutions were received by the Resolutions Committee after the regular June 30 resolutions deadline and prior to the September 19 noon cut-off for late resolutions. These resolutions are "late" and the Resolutions Committee has applied the policies for dealing with resolutions received after the June 30 deadline.

The Resolutions Committee reviewed each resolution in accordance with the Conference Rules and Procedures:

33. Resolutions received after the deadline, are classified as "Emergency" and therefore appropriate for Plenary discussion only if the topic is such that it has arisen since the regular deadline date for submission of resolutions. Resolutions received after the deadline are appropriate to be referred to the Executive if the topic is such that it has arisen since the regular submission of resolutions and, in the opinion of the Resolutions Committee, the topic is non-controversial and in keeping with UBCM policy.

    Resolutions received after the deadline are not appropriate for Plenary discussion or referral if they concern a topic that had arisen or was known prior to the regular deadline for resolutions.

Those resolutions with the recommendation "not admit for debate" relate to issues that could have been submitted for consideration prior to the regular June 30 resolutions deadline. In keeping with procedures, these resolutions will be forwarded to the appropriate Area Associations for consideration in the 2015 resolutions cycle, pending approval of the sponsor.

The Resolutions Committee recommends that the late resolutions be dealt with in the following manner:

A. EMERGENCY RESOLUTIONS: ADMIT FOR PLENARY DEBATE FRIDAY, SEPTEMBER 26 AS ISSUES EMERGING SINCE THE DEADLINE

LR1	National Energy Board Public Hearing Process	Burnaby
LR2	Environmental Assessment of Trans Mountain Expansion Project	Victoria
LR3	Requiring Consequence & Response Capacity Assessment for Sunken or Submerged Diluted Bitumen	Vancouver
LR4	Discontinuation of Community Library Training Program	Taylor

B. REFER TO UBCM EXECUTIVE

N/A

C. LATE RESOLUTIONS: NOT APPROPRIATE FOR DEBATE

(Issues known before the June 30 deadline for resolutions)

LR5	Regional Governance Models	Coquitlam
LR6	Support for Proactive Action to Protect Workers	Fort St. John
LR7	Proactive Action to Protect Workers	Trail
LR8	Worker Protection Through the Westray Act	Powell River City
LR9	Local Authority for Animals in Critical Distress	Kamloops

A. EMERGENCY RESOLUTIONS: ADMIT FOR PLENARY DEBATE FRIDAY, SEPTEMBER 26 AS ISSUES EMERGING SINCE THE DEADLINE

LR1 National Energy Board Public Hearing Process Burnaby

WHEREAS on 2013 December 16, Kinder Morgan submitted an application to the National Energy Board (NEB) for the Trans Mountain Expansion Project;

AND WHEREAS the NEB made an arbitrary decision on July 15, 2014 to remove from the standard public hearing for a major pipeline project long-standing protocols which provided opportunities for public review through open meetings, oral hearings and cross examination;

AND WHEREAS the loss of the standard public hearing from the application review process constitutes a significant erosion of the democratic rights of provinces, territories, local governments, First Nations and citizens to cross-examine evidence presented, articulate concerns and voice opposition to applications;

AND WHEREAS the loss of all opportunities for intervenors to participate in oral hearing and to cross-examine evidence within the NEB regulatory review process, has broad social, environmental and economic implications that would impact all local governments and their citizens:

THEREFORE BE IT RESOLVED that UBCM call on the federal government and National Energy Board, through the Federation of Canadian Municipalities and other avenues as appropriate, to oppose the loss of the standard public hearing process from the National Energy Board's application review and tribunal process;

AND BE IT FURTHER RESOLVED that UBCM call on the provincial and federal governments, through their appropriate and respective roles, to develop, in consultation with local governments, First Nations, and citizens, the restoration of a full public hearing process to the National Energy Board's consideration of all applications.

RESOLUTIONS COMMITTEE RECOMMENDATION: ***Admit for Debate***

UBCM RESOLUTIONS COMMITTEE COMMENTS:

As indicated by the sponsor, this resolution responds to a July 2014 decision of the National Energy Board. The decision was not known prior to the June 30 submission deadline for resolutions. Therefore, the Resolutions Committee would suggest that this resolution deals with an emergent issue and meets the criteria to be admitted for debate.

The Resolutions Committee notes that the UBCM membership endorsed resolution 2011-LR6, which called on the National Energy Board, Port Metro Vancouver, and the federal government to:

"ensure that any applications to expand the amount of oil transported by pipeline ... in British Columbia undergo:

a. the highest degree of environmental assessment; and
b. meaningful public consultation, including direct engagement with affected municipalities, regional authorities and British Columbia First Nations."

LR2 Environmental Assessment of Trans Mountain Expansion Project **Victoria**

WHEREAS the Environmental Assessment Office of the Province of British Columbia ("the EAO") entered into an Agreement in 2010 with the National Energy Board ("NEB") under which the EAO accepts that the NEB assessment of a pipeline constitutes the equivalent of an assessment under the British Columbia *Environmental Assessment Act*;

AND WHEREAS Trans Mountain's responses to motions filed in early July 2014 by intervenors in the NEB hearing process for the Trans Mountain Expansion Project demonstrate that Trans Mountain is failing to adequately respond to written information requests, which are the only opportunity for intervenors to test and clarify Trans Mountain's evidence;

AND WHEREAS this failure to respond to written information requests means that intervenors are not able to properly prepare their own evidence and participate meaningfully in the assessment process for the Trans Mountain Expansion Project, in contravention of the preamble to the Agreement, which states that any assessment of a project pursuant to the *National Energy Board Act* would take into account any comments submitted during the assessment process by the public and Aboriginal peoples:

THEREFORE BE IT RESOLVED that the UBCM request that the Province direct the EAO to withdraw formally from the Agreement pursuant to Clause 6 thereof and undertake its own Environmental Assessment process for the Trans Mountain Expansion Project, which should include sufficient opportunity for meaningful participation by all interested British Columbians.

RESOLUTIONS COMMITTEE RECOMMENDATION: ***Admit for Debate***

UBCM RESOLUTIONS COMMITTEE COMMENTS:

As indicated by the sponsor, this resolution responds to a July 2014 decision of the National Energy Board. The decision was not known prior to the June 30 submission deadline for resolutions. Therefore, the Resolutions Committee would suggest that this resolution deals with an emergent issue and meets the criteria to be admitted for debate.

The Resolutions Committee notes that the UBCM membership considered but chose not to endorse two related resolutions, 2011-B168 and 2010-A1, both of which called on the provincial and federal governments to combine their respective environmental assessment processes into one harmonized environmental assessment process.

Also related, the Committee notes that members endorsed resolution 2011-LR6, which called on the National Energy Board, Port Metro Vancouver, and the federal government to:

"ensure that any applications to expand the amount of oil transported by pipeline ... in British Columbia undergo:

a. the highest degree of environmental assessment; and
b. meaningful public consultation, including direct engagement with affected municipalities, regional authorities and British Columbia First Nations."

LR3 Requiring Consequence & Response Capacity Assessment for Sunken or Submerged Diluted Bitumen **Vancouver**

WHEREAS on December 16, 2013, Kinder Morgan submitted an application to the National Energy Board for the Trans Mountain Pipeline Expansion Project to increase the transportation of diluted bitumen via pipeline through British Columbian communities, across more than 700 streams and water-crossings in 12 BC watersheds;

AND WHEREAS diluted bitumen has been shown to submerge and/or sink when spilled into freshwater environments, resulting in prolonged and costly response operations with limited success and negative impacts to local ecosystems, public and environmental health, local economies, and cultural and recreational resources;

AND WHEREAS, as per Trans Mountain's response on July 11, 2014 to intervenors in the NEB hearing, Trans Mountain maintains that in the event of a diluted bitumen spill sunken or submerged oil "would be treated as a post-emergency response function" and declined to provide any specific information about how response plans or equipment stockpiling for the project would address submerged or sunken diluted bitumen, thereby raising serious concerns about the capacity to respond to the risk currently posed to local communities and watersheds by the existing Trans Mountain pipeline:

THEREFORE BE IT RESOLVED that, for the protection of communities and ecosystems reliant on the health of watersheds across BC, the Union of BC Municipalities call on the National Energy Board to compel Trans Mountain and all other pipeline operators shipping diluted bitumen, to provide site specific consequence analyses and response plans and tactics for submerged and sunken oil to be subject to public review and approval by impacted communities;

AND BE IT FURTHER RESOLVED that UBCM call on the provincial government to conduct a full assessment of the response plans, tactics, equipment and capacity currently available within the Province of BC to respond to sunken or submerged oil.

RESOLUTIONS COMMITTEE RECOMMENDATION: ***Admit for Debate***

UBCM RESOLUTIONS COMMITTEE COMMENTS:

As indicated by the sponsor, this resolution responds to a July 2014 response from Kinder Morgan to intervenors in the NEB hearing regarding the Trans Mountain Pipeline Expansion Project. The content of Kinder Morgan's response was not known prior to the June 30 submission deadline for resolutions. Therefore, the Resolutions Committee would suggest that this resolution deals with an emergent issue and meets the criteria to be admitted for debate.

The Resolutions Committee notes that the UBCM membership considered but chose not to endorse two related resolutions, 2011-B168 and 2010-A1, both of which called on the provincial and federal governments to combine their respective environmental assessment processes into one harmonized environmental assessment process.

Also related, the Committee notes that members endorsed resolution 2011-LR6, which called on the National Energy Board, Port Metro Vancouver, and the federal government to:

"ensure that any applications to expand the amount of oil transported by pipeline ... in British Columbia undergo:

a. the highest degree of environmental assessment; and
b. meaningful public consultation, including direct engagement with affected municipalities, regional authorities and British Columbia First Nations."

LR4 Discontinuation of Community Library Training Program Taylor

WHEREAS the Community Library Training Program (CLTP) was a distance education model coordinated by the provincial government's Libraries Branch that provided professional training and certification opportunities for public library staff without the burden and expense of having to be away from their community;

AND WHEREAS the provincial government has announced the discontinuation of the CLTP without identifying alternative training and certification opportunities, leaving current CLTP participants uncertain whether they will be able to complete the program or obtain certification, and would leave public library staff across the province with a lack of options for professional training and certification:

THEREFORE BE IT RESOLVED that the Ministry of Education share with BC public libraries the details from the CLTP program review and communicate as soon as possible its plan for establishing or identifying professional training and certification opportunities for library staff at a level equivalent to the Community Library Training Program.

RESOLUTIONS COMMITTEE RECOMMENDATION: ***Admit for Debate***

UBCM RESOLUTIONS COMMITTEE COMMENTS:

In the background material accompanying this resolution, the sponsor indicates that the resolution responds to a provincial government Libraries Branch decision that was communicated to BC public library stakeholders in August 2014. The decision was not known prior to the June 30 submission deadline for resolutions. Therefore, the Resolutions Committee would suggest that this resolution deals with an emergent issue and meets the criteria to be admitted for debate.

The Resolutions Committee advises that the UBCM membership has not previously considered a resolution regarding the Community Library Training Program specifically, or in general professional training and certification opportunities for library staff.

B. REFER TO UBCM EXECUTIVE

N/A

C. LATE RESOLUTIONS: NOT APPROPRIATE FOR DEBATE

LR5 Regional Governance Models — Coquitlam

WHEREAS concerns about the democratic accountability of the Board of Directors of the Greater Vancouver Regional District (Metro Vancouver) have arisen involving board members' twofold roles as, first, politicians directly elected to serve their communities on local councils and, second, as representatives who are later selected by their respective councils to sit on the Greater Vancouver Regional District (GVRD) board;

AND WHEREAS at its May 2014 AGM, the BC Chamber of Commerce, citing issues related to the need for increased accountability and better local decision-making at the regional government level, called on the provincial government to conduct an

independent study of urban and rural regional governance models to identify best practices and efficiencies and determine the feasibility of implementing those in BC:

THEREFORE BE IT RESOLVED that the provincial government conduct a study of regional governance models, not only to identify best practices and efficiencies but also to increase democratic accountability, so as to determine the feasibility of implementing these goals in BC.

RESOLUTIONS COMMITTEE RECOMMENDATION: ***Not Admit for Debate***

UBCM RESOLUTIONS COMMITTEE COMMENTS:

As indicated by the sponsor, this resolution responds to a May 2014 resolution from the BC Chamber of Commerce. The decision was known prior to the June 30 submission deadline for resolutions. Therefore, the Resolutions Committee would suggest that this resolution does not deal with an emergent issue and does not meet the criteria to be admitted for debate.

The Resolutions Committee notes that in 1999, due to time constraints, the UBCM membership referred resolution B80 to the UBCM Executive. The resolution called on the provincial government to fund an independent assessment of two governance options: rural regional districts, and a county structure. Upon consideration, the UBCM Executive chose not to endorse the resolution.

LR6 Support for Proactive Action to Protect Workers Fort St. John

WHEREAS it has been more than two decades since the Westray mine disaster in Nova Scotia and a decade since amendments were made to the Criminal Code of Canada to hold corporations, their directors and executives criminally accountable for the health and safety of workers;

AND WHEREAS police and prosecutors are not utilizing the Westray amendments, and not investigating workplace fatalities through the lens of criminal accountability;

AND WHEREAS more than 1,000 workers a year are killed at work:

THEREFORE BE IT RESOLVED that UBCM urge the federal and provincial governments to ensure that:

- Crown attorneys are educated, trained and directed to apply the Westray amendments;
- dedicated prosecutors are given the responsibility for health and safety fatalities; and
- there is greater coordination among regulators, police and Crown attorneys so that health and safety regulators are trained to reach out to police when there is a possibility that Westray amendment charges are warranted.

RESOLUTIONS COMMITTEE RECOMMENDATION: ***Not Admit for Debate***

UBCM RESOLUTIONS COMMITTEE COMMENTS:

Refer to resolution B127 in the 2014 Resolutions Book.

LR7 Proactive Action to Protect Workers Trail

WHEREAS it has been more than two decades since the Westray mine disaster in Nova Scotia and a decade since amendments were made to the Criminal Code of Canada to hold corporations, their directors and executives criminally accountable for the health and safety of workers;

AND WHEREAS police and prosecutors are not utilizing the Westray amendments, and not investigating workplace fatalities through the lens of criminal accountability;

AND WHEREAS more than 1,000 workers a year are killed at work:

THEREFORE BE IT RESOLVED that UBCM urge the federal and provincial governments to ensure that:

- Crown attorneys are educated, trained and directed to apply the Westray amendments;
- dedicated prosecutors are given the responsibility for health and safety fatalities;
- police are educated, trained and directed to apply the Westray amendments; and
- there is greater coordination among regulators, police and Crown attorneys so that health and safety regulators are trained to reach out to police when there is a possibility that Westray amendment charges are warranted.

RESOLUTIONS COMMITTEE RECOMMENDATION: ***Not Admit for Debate***

UBCM RESOLUTIONS COMMITTEE COMMENTS:

Refer to resolution B127 in the 2014 Resolutions Book.

LR8 Worker Protection Through the Westray Act Powell River City

WHEREAS it has been more than two decades since the Westray mine disaster in Nova Scotia and a decade since amendments were made to the Criminal Code of Canada to hold corporations, their directors and executives criminally accountable for the health and safety of workers;

AND WHEREAS police and prosecutors are not utilizing the Westray amendments, and not investigating workplace fatalities through the lens of criminal accountability;

AND WHEREAS more than 1,000 workers a year are killed at work:

THEREFORE BE IT RESOLVED that UBCM urge the federal and provincial governments to ensure that:

- Crown attorneys are educated, trained and directed to apply the Westray amendments;
- dedicated prosecutors are given the responsibility for health and safety fatalities;
- police are educated, trained and directed to apply the Westray amendments; and
- there is greater coordination among regulators, police and Crown attorneys so that health and safety regulators are trained to reach out to police when there is a possibility that Westray amendment charges are warranted.

RESOLUTIONS COMMITTEE RECOMMENDATION: ***Not Admit for Debate***

UBCM RESOLUTIONS COMMITTEE COMMENTS:

Refer to resolution B127 in the 2014 Resolutions Book.

LR9 Local Authority for Animals in Critical Distress Kamloops

WHEREAS authority to remove animals in critical distress from hot vehicles is specifically established in the *Prevention of Cruelty to Animals Act* and is limited to special provincial constables under the *Police Act*, such as the Society for the Prevention of Cruelty to Animals (SPCA) and police officers, but not bylaw enforcement officers;

AND WHEREAS the *Community Charter*, which provides authority for local governments to establish bylaws for animal control, including seizure of animals "suffering" and entry onto and into property, cannot be interpreted in the same manner as the *Prevention of Cruelty to Animal Act* because specified authority has not been provided to bylaw enforcement officers by the Act;

THEREFORE BE IT RESOLVED that the Union of British Columbia Municipalities request the Province of British Columbia to:

- *Amend the Prevention of Cruelty to Animals Act* to:
  - Empower bylaw enforcement officers as "authorized agents" for the purpose of enforcing the provisions of the Act;
  - Grant specific authority for local governments to establish, by bylaw, the authority to enter without a warrant into any premises (other than a dwelling house) and any vehicle, aircraft, or vessel for the purpose of seizing any animal in critical distress to relieve the critical distress of the animal; and
- Amend the *Community Charter* to:
  - Amend Section 48 to provide authority to seize animals in "critical distress" rather than suffering;

- Add a definition for "critical distress" similar to the definition in the *Prevention of Cruelty to Animals Act*; and
- Amend Section 16 to include authority to enter without a warrant into any premises (other than a dwelling house) and any vehicle, aircraft, or vessel for the purpose of seizing an animal in critical distress to relieve the critical distress of the animal, in the same manner as the *Prevention of Cruelty to Animals Act*.

RESOLUTIONS COMMITTEE RECOMMENDATION: ***Not Admit for Debate***

UBCM RESOLUTIONS COMMITTEE COMMENTS:

In the background material for this resolution, the sponsor references a high profile incident of a Lower Mainland dog walker who left dogs in a hot vehicle, resulting in the deaths of the pets. The issue was known prior to the June 30 submission deadline for resolutions. Therefore, the Resolutions Committee would suggest that this resolution does not deal with an emergent issue and does not meet the criteria to be admitted for debate.

The Committee advises that the UBCM membership has not previously considered a resolution calling on the provincial government to amend the Prevention of Cruelty to Animals Act and the Community Charter to grant bylaw enforcement officers authority to enter dwellings or vehicles to retrieve animals in critical distress.

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APPENDIX H

From: Hobenshield, Lexa
Sent: Tuesday, May 26, 2015 11:23 AM
To: Consituency Office James Moore
Subject: Upcoming Trans Mountain Expansion Project Engagement

Greetings,

As you are aware, Trans Mountain is proposing to expand its existing Trans Mountain Pipeline. Since Spring 2012, Trans Mountain has been engaging in communities along the proposed pipeline and marine corridor on many topics; and the project is currently being reviewed by its regulator, the National Energy Board.

I wanted to drop you a note to let you know about recent and upcoming engagement activities occurring in your community related to our proposed Trans Mountain Expansion Project. As we continue to refine plans for our proposed expansion, we continue to share new information as it becomes available and seek input on aspects of the project. This spring, Trans Mountain is active in your community in many ways, including:

- **Environmental Protection Plan Workshops:** Week of May 18, 2015 – we invited community stakeholders to seek their input and local knowledge into our proposed Environmental Protection Plans related to specific parks and environmentally sensitive areas in the Lower Mainland-Fraser Valley region such as the Brunette River corridor, Fraser River Crossing between Surrey and Coquitlam, Surrey Bend Park and Salmon River.
- **Neighbourhood Information Sessions:** On June 3 and 4, 2015 - we have invited our neighbours in Burnaby/Coquitlam and Surrey/Langley to attend an information session to learn about our ongoing engineering design and construction plans; and to ensure that we have identified, and addressed where practical, community concerns with construction impact; as well as to seek input about how our neighbours would like to be advised in advance of and during construction in their neighbourhooods. These session are meant for those neighbours along the proposed pipeline corridor who may be impacted by construction of our proposed expansion.
- **Construction Webinar:** On May 27 and June 1, 2015 between 7pm and 8pm PST - we invite the public to participate in a webinar to learn more about the construction phase of the proposed expansion project. Participants must register at https://attendee.gotowebinar.com/rt/2163281797498091266
- **Construction Survey:** In the coming weeks, we are also seeking input to assist our construction planning through a brief online construction survey – the survey can be found at http://www.transmountain.com/construction-survey

In addition to these opportunities for us to engage with the community, we continue ongoing Technical Working Group discussions with local government staff and staff at other key stakeholder organizations to ensure technical information is being exchanged and incorporated into the planning process.

Should you have any questions or require additional information, I can be reached as noted below.

Sincerely,

Lexa Hobenshield
Manager, External Relations Kinder Morgan Canada
Stakeholder Engagement & Communications Trans Mountain Expansion Project
P: 604.809.9869 | **E:** lexa_hobenshield@kindermorgan.com

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January 5, 2015

APPENDIX I

Trans Mountain Expansion Project Email: info@transmountain.com | Phone: 1.866.514.6700
Website: www.transmountain.com | blog.transmountain.com | @TransMtn | youtube/com/user/TransMtn

February 19, 2015

Mr. Phil Blaker
Manager, Strategic Projects Division
City of Abbotsford
32315 South Fraser Way
Abbotsford, BC V2T 1W7

Via Email

Dear Mr. Blaker,

In January 2015, as an Intervenor, your local government submitted a list of questions related to our proposed Trans Mountain Expansion Project through the National Energy Board's (NEB) second round of Information Requests. We appreciate your commitment to participate in this important and ongoing review process. Your input will help the NEB to determine whether or not the Project should proceed and, if so, under what conditions.

On February 18, 2015, we formally responded to your questions and submitted them to the NEB. Although the NEB process has identified a very specific scope of issues they will evaluate as part of the Application, we made every effort to directly and thoroughly answer all of your questions. If you asked questions that were outside the NEB's identified List of Issues, we acknowledged that within our responses and we attempted to provide information.

Some common questions asked by Intervenors in this round that were outside the scope of the NEB's review included:

- Greenhouse gas impacts resulting from oil sands operations - those activities are already subject to environmental reviews as part of their respective regulatory processes and therefore we have not addressed questions of this type in our responses.
- Ultimate use of oil - we have not addressed questions of this type because the NEB's review focuses on impacts of our pipeline expansion.
- Current operations of our existing pipeline - because the NEB's review focuses on impacts of our pipeline expansion, we have not addressed questions of this type.
- Items potentially subject to further conditions of approval – for some questions, it is simply too early in the process. For example our Emergency Response Plans are still undergoing refinement and our ongoing engagement activities will help to develop those plans.

Our engagement is ongoing. In 2014, we offered to establish Technical Working Groups with local government staff in communities along the proposed pipeline corridor. The intent is for the Technical Working Groups to agree to meet on a regular schedule throughout the construction planning phase, with an option to continue during construction, if needed. The Technical Working Groups will provide an ongoing opportunity for Trans Mountain teams to work directly with your staff to refine engineering, routing and construction plans; and to address questions and concerns.

Should you wish to meet to discuss the responses to the Information Requests or any other matter, please contact Kristjana Hawthorne who can be reached at 604.790.5537 or kristjana_hawthorne@kindermorgan.com. Otherwise, we plan to be in touch in the course of this year with more opportunities for your community to express its interests and provide feedback on our plans.

I look forward to remaining in contact with you as our proposal proceeds and our engagement efforts advance.

Yours truly,

Lizette Parsons Bell
Lead, Stakeholder Engagement and Communications
Trans Mountain Expansion Project

Trans Mountain Expansion Project Email: info@transmountain.com | Phone: 1.866.514.6700
Website: www.transmountain.com | blog.transmountain.com | @TransMtn | youtube/com/user/TransMtn

February 19, 2015

Mr. Dipak Dattani
Director, Environmental Engineering
City of Burnaby
4949 Canada Way
Burnaby, BC V5G 1M2

Via Email

Dear Mr. Dattani,

In January 2015, as an Intervenor, your local government submitted a list of questions related to our proposed Trans Mountain Expansion Project through the National Energy Board's (NEB) second round of Information Requests. We appreciate your commitment to participate in this important and ongoing review process. Your input will help the NEB to determine whether or not the Project should proceed and, if so, under what conditions.

On February 18, 2015, we formally responded to your questions and submitted them to the NEB. Although the NEB process has identified a very specific scope of issues they will evaluate as part of the Application, we made every effort to directly and thoroughly answer all of your questions. If you asked questions that were outside the NEB's identified List of Issues, we acknowledged that within our responses and we attempted to provide information.

Some common questions asked by Intervenors in this round that were outside the scope of the NEB's review included:

- Greenhouse gas impacts resulting from oil sands operations - those activities are already subject to environmental reviews as part of their respective regulatory processes and therefore we have not addressed questions of this type in our responses.
- Ultimate use of oil - we have not addressed questions of this type because the NEB's review focuses on impacts of our pipeline expansion.
- Current operations of our existing pipeline - because the NEB's review focuses on impacts of our pipeline expansion, we have not addressed questions of this type.
- Items potentially subject to further conditions of approval – for some questions, it is simply too early in the process. For example our Emergency Response Plans are still undergoing refinement and our ongoing engagement activities will help to develop those plans.

Our engagement is ongoing. In 2014, we offered to establish Technical Working Groups with local government staff in communities along the proposed pipeline corridor. The intent is for the Technical Working Groups to agree to meet on a regular schedule throughout the construction planning phase, with an option to continue during construction, if needed. The Technical Working Groups will provide an ongoing opportunity for Trans Mountain teams to work directly with your staff to refine engineering, routing and construction plans; and to address questions and concerns. We would welcome the opportunity to establish a Technical Working Group with City of Burnaby staff.

Should you wish to meet to discuss the responses to the Information Requests or any other matter, please contact Lexa Hobenshield who can be reached at 604.809.9869 or lexa_hobenshield@kindermorgan.com. Otherwise, we plan to be in touch in the course of this year with more opportunities for your community to express its interests and provide feedback on our plans.

I look forward to remaining in contact with you as our proposal proceeds and our engagement efforts advance.

Yours truly,

Lizette Parsons Bell
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February 19, 2015

Mr. Dana Soong
Manager, Utility Programs
City of Coquitlam
500 Mariner Way
Coquitlam, BC V3K 7B6

Via Email

Dear Mr. Soong,

In January 2015, as an Intervenor, your local government submitted a list of questions related to our proposed Trans Mountain Expansion Project through the National Energy Board's (NEB) second round of Information Requests. We appreciate your commitment to participate in this important and ongoing review process. Your input will help the NEB to determine whether or not the Project should proceed and, if so, under what conditions.

On February 18, 2015, we formally responded to your questions and submitted them to the NEB. Although the NEB process has identified a very specific scope of issues they will evaluate as part of the Application, we made every effort to directly and thoroughly answer all of your questions. If you asked questions that were outside the NEB's identified List of Issues, we acknowledged that within our responses and we attempted to provide information.

Some common questions asked by Intervenors in this round that were outside the scope of the NEB's review included:

- Greenhouse gas impacts resulting from oil sands operations - those activities are already subject to environmental reviews as part of their respective regulatory processes and therefore we have not addressed questions of this type in our responses.
- Ultimate use of oil - we have not addressed questions of this type because the NEB's review focuses on impacts of our pipeline expansion.
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- Items potentially subject to further conditions of approval – for some questions, it is simply too early in the process. For example our Emergency Response Plans are still undergoing refinement and our ongoing engagement activities will help to develop those plans.

Our engagement is ongoing. In 2014, we offered to establish Technical Working Groups with local government staff in communities along the proposed pipeline corridor. The intent is for the Technical Working Groups to agree to meet on a regular schedule throughout the construction planning phase, with an option to continue during construction, if needed. The Technical Working Groups will provide an ongoing opportunity for Trans Mountain teams to work directly with your staff to refine engineering, routing and construction plans; and to address questions and concerns.

Should you wish to meet to discuss the responses to the Information Requests or any other matter, please contact Lexa Hobenshield who can be reached at 604.809.9869 or lexa_hobenshield@kindermorgan.com. Otherwise, we plan to be in touch in the course of this year with more opportunities for your community to express its interests and provide feedback on our plans.

I look forward to remaining in contact with you as our proposal proceeds and our engagement efforts advance.

Yours truly,

Lizette Parsons Bell
Lead, Stakeholder Engagement and Communications
Trans Mountain Expansion Project

TRANSMOUNTAIN

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Email: info@transmountain.com | Phone: 1.866.514.6700 | Website: www.transmountain.com | @TransMtn

February 19, 2015

Jen Fretz
Director of Public Works and Utilities
City of Kamloops
955 Concordia Way
Kamloops BC
V2C 6V3

Dear Ms. Fretz;

In January, 2015 the City of Kamloops submitted as an Intervenor a list of questions related to our proposed Trans Mountain Expansion Project by way of the National Energy Board's (NEB) round of Information Requests. We appreciate your commitment to participate in this important and ongoing review process. Your input will help the NEB to determine whether or not the Project should proceed and, if so, under what conditions.

On February 18, 2015 Trans Mountain formally responded to your questions, by submission through the NEB process which has a very specific scope of issues they will evaluate. We made every effort to directly and thoroughly answer your questions. If you asked questions that were outside the NEB's List of Issues, we acknowledged that in our responses but we attempted to provide some additional information, even though it was not required.

Some common questions asked by Intervenors in this round that were outside the scope of the NEB's review including:

- Greenhouse gas impacts resulting from oil sands operations - those activities are already subject to environmental reviews as part of their respective regulatory processes and therefore we have not addressed questions of this type in our responses.
- Ultimate use of oil - we have not addressed questions of this type because the NEB's review focuses on impacts of our pipeline expansion.
- Current operations of our existing pipeline - because the NEB's review focuses on impacts of our pipeline expansion, we have not addressed questions of this type.
- Items potentially subject to further conditions of approval – for some questions, it is simply too early in the process. For example our emergency response plans are still undergoing refinement and our ongoing engagement activities will help to finalize those plans.

Our engagement is ongoing. We have begun to establish Technical Working Groups with local government staff in communities along the proposed pipeline corridor and will continue to roll these out in Q2/Q3 2015. The intent is for the Technical Working Groups to meet as required on a mutually agreeable schedule throughout the construction planning phase, with an option to continue through construction, if needed. The Technical Working Groups will provide an ongoing opportunity for Trans Mountain teams to work directly with the relevant government staff to refine engineering, routing and construction plans; and to address questions and concerns.

Please contact Kate Stebbings at 250 318 8487 / kate_stebbings@transmountain.com if you would like more information or would like to schedule the next meeting of the Kamloops Technical Working Group.. Otherwise, we will be in touch over the coming year with more opportunities for the City of Kamloops residents to express interests and provide feedback on our plans.

I look forward to remaining in contact with you as our proposal proceeds and our engagement efforts advance.

Yours truly,

L.M. Parsons Bell

Lizette Parsons Bell
Lead, Stakeholder Engagement and Communications
Trans Mountain Expansion Project

Trans Mountain Expansion Project Email: info@transmountain.com | Phone: 1.866.514.6700
Website: www.transmountain.com | blog.transmountain.com | @TransMtn | youtube/com/user/TransMtn

February 19, 2015

Mr. Mark Allison
Manager, Strategic Initiatives and Sustainability
City of New Westminster
511 Royal Avenue
New Westminster, BC V3L 1H9

Via Email

Dear Mr. Allison,

In January 2015, as an Intervenor, your local government submitted a list of questions related to our proposed Trans Mountain Expansion Project through the National Energy Board's (NEB) second round of Information Requests. We appreciate your commitment to participate in this important and ongoing review process. Your input will help the NEB to determine whether or not the Project should proceed and, if so, under what conditions.

On February 18, 2015, we formally responded to your questions and submitted them to the NEB. Although the NEB process has identified a very specific scope of issues they will evaluate as part of the Application, we made every effort to directly and thoroughly answer all of your questions. If you asked questions that were outside the NEB's identified List of Issues, we acknowledged that within our responses and we attempted to provide information.

Some common questions asked by Intervenors in this round that were outside the scope of the NEB's review included:

- Greenhouse gas impacts resulting from oil sands operations - those activities are already subject to environmental reviews as part of their respective regulatory processes and therefore we have not addressed questions of this type in our responses.
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- Items potentially subject to further conditions of approval – for some questions, it is simply too early in the process. For example our Emergency Response Plans are still undergoing refinement and our ongoing engagement activities will help to develop those plans.

Our engagement is ongoing. Should you wish to meet to discuss the responses to the Information Requests or any other matter, please contact Lexa Hobenshield who can be reached at 604.809.9869 or lexa_hobenshield@kindermorgan.com. Otherwise, we plan to be in touch in the course of this year with more opportunities for your community to express its interests and provide feedback on our plans.

I look forward to remaining in contact with you as our proposal proceeds and our engagement efforts advance.

Yours truly,

Lizette Parsons Bell
Lead, Stakeholder Engagement and Communications
Trans Mountain Expansion Project

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February 19, 2015

Mr. Kevin Ramsay
Chief Administrative Officer
City of Port Moody
100 Newport Drive
Port Moody, BC V3H 3E1

Via Email

Dear Mr. Ramsay,

In January 2015, as an Intervenor, your local government submitted a list of questions related to our proposed Trans Mountain Expansion Project through the National Energy Board's (NEB) second round of Information Requests. We appreciate your commitment to participate in this important and ongoing review process. Your input will help the NEB to determine whether or not the Project should proceed and, if so, under what conditions.

On February 18, 2015, we formally responded to your questions and submitted them to the NEB. Although the NEB process has identified a very specific scope of issues they will evaluate as part of the Application, we made every effort to directly and thoroughly answer all of your questions. If you asked questions that were outside the NEB's identified List of Issues, we acknowledged that within our responses and we attempted to provide information.

Some common questions asked by Intervenors in this round that were outside the scope of the NEB's review included:

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- Current operations of our existing pipeline - because the NEB's review focuses on impacts of our pipeline expansion, we have not addressed questions of this type.
- Items potentially subject to further conditions of approval – for some questions, it is simply too early in the process. For example our Emergency Response Plans are still undergoing refinement and our ongoing engagement activities will help to develop those plans.

Further, Emergency Preparedness and Response remains a key topic of interest among the Information Requests received in this latest round. We acknowledge the interest of Intervenors to seek more information about the Emergency Management Program (EMP) and opportunities to engage on the updated EMP for the Project. As indicated in the responses to Information Requests, we will conduct a consultation program as part of developing the updated EMP as described in the pertinent NEB draft conditions. We will invite your local government to participate in the process.

To reiterate, we rely on Western Canada Marine Response Corporation (WCMRC) for marine response in Burrard Inlet. We encourage local governments in the Greater Vancouver region like yours, to participate with WCMRC on the development of oil spill Emergency Response Plans including Geographic Response Strategies (GRS) and Geographic Response Plans (GRP) for Burrard Inlet and, based upon the community's interest, other locations in the Salish Sea.

Our engagement is ongoing. Should you wish to meet to discuss the responses to the Information Requests or any other matter, please contact Lexa Hobenshield who can be reached at 604.809.9869 or lexa_hobenshield@kindermorgan.com. Otherwise, we plan to be in touch in the course of this year with more opportunities for your community to express its interests and provide feedback on our plans.

I look forward to remaining in contact with you as our proposal proceeds and our engagement efforts advance.

Yours truly,

Lizette Parsons Bell
Lead, Stakeholder Engagement and Communications
Trans Mountain Expansion Project

Trans Mountain Expansion Project
Email: info@transmountain.com | Phone: 1.866.514.6700 | Website: www.transmountain.com | @TransMtn

February 19, 2015

Mr. Jason Daviduk
Project Engineer, Design and Construction
City of Surrey
13450 104 Avenue
Surrey, BC V3T 1V8

Via Email

Dear Mr. Daviduk,

In January 2015, as an Intervenor, your local government submitted a list of questions related to our proposed Trans Mountain Expansion Project through the National Energy Board's (NEB) second round of Information Requests. We appreciate your commitment to participate in this important and ongoing review process. Your input will help the NEB to determine whether or not the Project should proceed and, if so, under what conditions.

On February 18, 2015, we formally responded to your questions and submitted them to the NEB. Although the NEB process has identified a very specific scope of issues they will evaluate as part of the Application, we made every effort to directly and thoroughly answer all of your questions. If you asked questions that were outside the NEB's identified List of Issues, we acknowledged that within our responses and we attempted to provide information.

Some common questions asked by Intervenors in this round that were outside the scope of the NEB's review included:

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Our engagement is ongoing. In 2014, we offered to establish Technical Working Groups with local government staff in communities along the proposed pipeline corridor. The intent is for the Technical Working Groups to agree to meet on a regular schedule throughout the construction planning phase, with an option to continue during construction, if needed. The Technical Working Groups will provide an ongoing opportunity for Trans Mountain teams to work directly with your staff to refine engineering, routing and construction plans; and to address questions and concerns.

Should you wish to meet to discuss the responses to the Information Requests or any other matter, please contact Christie Libby who can be reached at 778.833.2172 or christie_libby@transmountain.com. Otherwise, we plan to be in touch in the course of this year with more opportunities for your community to express its interests and provide feedback on our plans.

I look forward to remaining in contact with you as our proposal proceeds and our engagement efforts advance.

Yours truly,

L. M. Parsons Bell

Lizette Parsons Bell
Lead, Stakeholder Engagement and Communications
Trans Mountain Expansion Project

TRANSMOUNTAIN

Trans Mountain Expansion Project
Email: info@transmountain.com | Phone: 1.866.514.6700 | Website: www.transmountain.com | @TransMtn

February 19, 2015

Mr. Robert Woodland,
Corporate Administrator,
City of Victoria
#1 Centennial Square
Victoria BC V8W 1P6

Dear Mr. Woodland

In December 2014, the City of Victoria submitted as an Intervenor a list of questions related to our proposed Trans Mountain Expansion Project by way of the National Energy Board's (NEB) round of Information Requests. We appreciate your commitment to participate in this important and ongoing review process. Your input will help the NEB to determine whether or not the Project should proceed and, if so, under what conditions.

On February 18, 2015 we formally responded to your questions, by submission through the NEB process which has a very specific scope of issues they will evaluate. We made every effort to directly and thoroughly answer your questions. If you had asked questions that were outside the NEB's List of Issues, we acknowledged that in our responses but we still attempted to provide some additional information, even though it was not required.

Some common questions asked by Intervenors in this round that were outside the scope of the NEB's review including:

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- Items potentially subject to further conditions of approval – for some questions, it is simply too early in the process. For example our emergency response plans are still undergoing refinement and our ongoing engagement activities will help to finalize those plans.

Our engagement is ongoing. Despite the requirements of the IR process, we will continue to find opportunities to meet with Victoria to discuss those matters that are of concern and interest to your community. We are currently working with the Mayor's office to find a mutually agreeable time to arrange a meeting in the near future, and I look forward to that.

In the meantime, please do feel free to contact Chris Tupper at chris_tupper@transmountain.com or 250-661-5053 if you have any questions or need clarification on any matters relating to the proposed expansion project.

Yours truly,

Lizette Parsons Bell
Lead, Stakeholder Engagement and Communications
Trans Mountain Expansion Project

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February 19, 2015

Mr. Paul Gipps
Chief Administrative Officer
Fraser Valley Regional District
45950 Cheam Avenue
Chilliwack, BC V2P 1N6

Via Email

Dear Mr. Gipps,

In January 2015, as an Intervenor, your local government submitted a list of questions related to our proposed Trans Mountain Expansion Project through the National Energy Board's (NEB) second round of Information Requests. We appreciate your commitment to participate in this important and ongoing review process. Your input will help the NEB to determine whether or not the Project should proceed and, if so, under what conditions.

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Should you wish to meet to discuss the responses to the Information Requests or any other matter, please contact Lexa Hobenshield who can be reached at 604.809.9869 or lexa_hobenshield@kindermorgan.com. Otherwise, we plan to be in touch in the course of this year with more opportunities for your community to express its interests and provide feedback on our plans.

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Yours truly,

Lizette Parsons Bell
Lead, Stakeholder Engagement and Communications
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February 19, 2015

Mr. Roger Quan
Director, Air Quality and Environment
Metro Vancouver
4330 Kingsway
Burnaby, BC V5H 2A5

Via Email

Dear Mr. Quan,

In January 2015, as an Intervenor, your local government submitted a list of questions related to our proposed Trans Mountain Expansion Project through the National Energy Board's (NEB) second round of Information Requests. We appreciate your commitment to participate in this important and ongoing review process. Your input will help the NEB to determine whether or not the Project should proceed and, if so, under what conditions.

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Yours truly,

Lizette Parsons Bell
Lead, Stakeholder Engagement and Communications
Trans Mountain Expansion Project

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Website: www.transmountain.com | blog.transmountain.com | @TransMtn | youtube/com/user/TransMtn

February 19, 2015

Mr. Roeland Zwaag
Director, Public Works Engineering Division
Township of Langley
4700 224 Street
Township of Langley, BC V2Z 1N4

Via Email

Dear Mr. Zwaag,

In January 2015, as an Intervenor, your local government submitted a list of questions related to our proposed Trans Mountain Expansion Project through the National Energy Board's (NEB) second round of Information Requests. We appreciate your commitment to participate in this important and ongoing review process. Your input will help the NEB to determine whether or not the Project should proceed and, if so, under what conditions.

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I look forward to remaining in contact with you as our proposal proceeds and our engagement efforts advance.

Yours truly,

Lizette Parsons Bell
Lead, Stakeholder Engagement and Communications
Trans Mountain Expansion Project

Marine Consultation Summary No. 1
January 5, 2015

APPENDIX J

TRANSMOUNTAIN

Trans Mountain Expansion Project
Email: info@transmountain.com | Phone: 1.866.514.6700 | Website: www.transmountain.com | @TransMtn

April 17, 2015

Mayor Murray Skeels
Bowen Island Municipality
981 Artisan Lane
Bowen Island, BC V0N 1G2

VIA EMAIL mskeels@bimbc.ca

Dear Mayor Skeels,

I have read the joint declaration of non-confidence in the National Energy Board (NEB) process related to Trans Mountain Expansion Project as released by the City of Vancouver on March 31, 2015. In your letter you expressed concerns that the NEB process is inadequate because of the exclusion of oral cross-examination of evidence and because, in your opinion, Trans Mountain has not answered questions adequately.

The NEB process includes approximately 17 months of review and takes into consideration our Application, several rounds of questions from Intervenors and the NEB, one round of comments, as well as written evidence and oral evidence from Intervenors.

With some 400 Intervenors and 1,200 Commenters, including local governments, many communities are participating in the regulatory process in a formal manner. We are committed to a transparent and full process as defined by the NEB but it isn't the only way we are having conversations about the pipeline and the project. We continue to have productive discussions with municipalities up and down the pipeline route. Many of these conversations with local governments have already resulted in community benefits agreements with close to $5 million in funding committed to date for local projects and initiatives covering 85 per cent of the pipeline corridor. For example. we recently announced an agreement with Thompson Rivers University for $500,000 in funding to provide training and opportunities for students to study in BC's Interior.

We are aware that not every Mayor or every community in BC will be in favour of our proposed expansion Project. However, as we have indicated in our letter to you in December 2014, we are ready and willing to meet with you at any point.

Trans Mountain believes that the correct approach for review of a project is achieved through a rigorous NEB process, and I hope the regulatory authority can be respected for the important role it plays in our society. If you have concerns about how our project could impact your community I welcome you to engage directly with us in parallel to the regulatory process.

As always, my team and I are happy to sit down with any community interested in providing feedback or discussing the Project. I would welcome hearing from you directly or you can contact Stephanie Snider at stephanie_snider@transmountain.com or 604.444.6819.

Sincerely,

Ian Anderson
President, Kinder Morgan Canada Inc.

TRANSMOUNTAIN

Trans Mountain Expansion Project
Email: info@transmountain.com | Phone: 1.866.514.6700 | Website: www.transmountain.com | @TransMtn

April 17, 2015

Mayor Darrell Mussalto
City of North Vancouver
141 West 14th Street
North Vancouver, BC V7M 1H9

VIA EMAIL dmussatto@cnv.org

Dear Mayor Mussatto,

I have read the joint declaration of non-confidence in the National Energy Board (NEB) process related to Trans Mountain Expansion Project as released by the City of Vancouver on March 31, 2015. In your letter you expressed concerns that the NEB process is inadequate because of the exclusion of oral cross-examination of evidence and because, in your opinion, Trans Mountain has not answered questions adequately.

The NEB process includes approximately 17 months of review and takes into consideration our Application, several rounds of questions from Intervenors and the NEB, one round of comments, as well as written evidence and oral evidence from Intervenors.

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We are aware that not every Mayor or every community in BC will be in favour of our proposed expansion Project. However, we want to try and address concerns or interests you might have and as we indicated in our letter to you in December 2014, we are ready and willing to meet with you at any point.

Trans Mountain believes that the correct approach for review of a project is achieved through a rigorous NEB process, and I hope the regulatory authority can be respected for the important role it plays in our society. I welcome you to engage directly with us in parallel to the regulatory process.

As always, my team and I are happy to sit down with any community interested in providing feedback or discussing the Project. I would welcome hearing from you directly or you can contact Stephanie Snider at stephanie_snider@transmountain.com or 604.444.6819.

Sincerely,

Ian Anderson
President, Kinder Morgan Canada Inc.

TRANSMOUNTAIN

Trans Mountain Expansion Project
Email: info@transmountain.com | Phone: 1.866.514.6700 | Website: www.transmountain.com | @TransMtn

April 17, 2015

Mayor Gregor Robertson
City of Vancouver
453 West 12th Avenue
Vancouver, BC V5Y 1V4

VIA EMAIL gregor.robertson@vancouver.ca

Dear Mayor Robertson,

I have read the joint declaration of non-confidence in the National Energy Board (NEB) process related to Trans Mountain Expansion Project as released by the City of Vancouver on March 31, 2015. In your letter you expressed concerns that the NEB process is inadequate because of the exclusion of oral cross-examination of evidence and because, in your opinion, Trans Mountain has not answered questions adequately.

The NEB process includes approximately 17 months of review and takes into consideration our Application, several rounds of questions from Intervenors and the NEB, one round of comments, as well as written evidence and oral evidence from Intervenors.

With some 400 Intervenors and 1,200 Commenters, including local governments, many communities are participating in the regulatory process in a formal manner. We are committed to a transparent and full process as defined by the NEB but it isn't the only way we are having conversations about the pipeline and the project. We continue to have productive discussions with municipalities up and down the pipeline route. Many of these conversations with local governments have already resulted in community benefits agreements with close to $5 million in funding committed to date for local projects and initiatives covering 85 per cent of the pipeline corridor. For example, we recently announced an agreement with Thompson Rivers University for $500,000 in funding to provide training and opportunities for students to study in BC's Interior.

We are aware that not every Mayor or every community in BC will be in favour of our proposed expansion Project. However, as we indicated in our letter to you in December 2014, we are ready and willing to meet with you at any point.

Trans Mountain believes that the correct approach for review of a project is achieved through a rigorous NEB process, and I hope the regulatory authority can be respected for the important role it plays in our society. I welcome you to engage directly with us in parallel to the regulatory process.

As always, my team and I are happy to sit down with any community interested in providing feedback or discussing the Project. I would welcome hearing from you directly or you can contact Stephanie Snider at stephanie_snider@transmountain.com or 604.444.6819.

Sincerely,

Ian Anderson
President, Kinder Morgan Canada Inc.

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April 17, 2015

Mayor Patricia Heintzman
District of Squamish
37955 Second Avenue, P.O. Box 310
Squamish, BC V8W 0A3

VIA EMAIL pheintzman@squamish.ca

Dear Mayor Heintzman,

I have read the joint declaration of non-confidence in the National Energy Board (NEB) process related to Trans Mountain Expansion Project as released by the City of Vancouver on March 31, 2015. In your letter you expressed concerns that the NEB process is inadequate because of the exclusion of oral cross-examination of evidence and because, in your opinion, Trans Mountain has not answered questions adequately.

The NEB process includes approximately 17 months of review and takes into consideration our Application, several rounds of questions from Intervenors and the NEB, one round of comments, as well as written evidence and oral evidence from Intervenors.

With some 400 Intervenors and 1,200 Commenters, including local governments, many communities are participating in the regulatory process in a formal manner. We are committed to a transparent and full process as defined by the NEB but it isn't the only way we are having conversations about the pipeline and the project. We continue to have productive discussions with municipalities up and down the pipeline route. Many of these conversations with local governments have already resulted in community benefits agreements with close to $5 million in funding committed to date for local projects and initiatives covering 85 per cent of the pipeline corridor. For example. we recently announced an agreement with Thompson Rivers University for $500,000 in funding to provide training and opportunities for students to study in BC's Interior.

We are aware that not every Mayor or every community in BC will be in favour of our proposed expansion Project. However, as we have indicated in our letter to you in December 2014, we are ready and willing to meet with you at any point.

Trans Mountain believes that the correct approach for review of a project is achieved through a rigorous NEB process, and I hope the regulatory authority can be respected for the important role it plays in our society. If you have concerns about how our project could impact your community I welcome you to engage directly with us in parallel to the regulatory process.

As always, my team and I are happy to sit down with any community interested in providing feedback or discussing the Project. I would welcome hearing from you directly or you can contact Stephanie Snider at stephanie_snider@transmountain.com or 604.444.6819.

Sincerely,

Ian Anderson
President, Kinder Morgan Canada Inc.

TRANSMOUNTAIN

Trans Mountain Expansion Project

Email: info@transmountain.com | Phone: 1.866.514.6700 | Website: www.transmountain.com | @TransMtn

April 17, 2015

Mayor Derek Corrigan
City of Burnaby
4949 Canada Way
Burnaby, BC V5G 1M2

VIA EMAIL

Dear Mayor Corrigan:

I have read your joint-declaration of non-confidence in the National Energy Board (NEB) process related to Trans Mountain Expansion Project. In your letter you expressed concerns that the NEB process is inadequate because of the exclusion of oral cross-examination of evidence and because, in your opinion, Trans Mountain has not answered questions adequately.

The NEB process includes approximately 17 months of review and takes into consideration our Application, several rounds of questions from Intervenors and the NEB, one round of comments, as well as written evidence and oral evidence from Intervenors.

With some 400 Intervenors and 1,200 Commenters, including local governments, many communities are participating in the regulatory process in a formal manner. We are committed to a transparent and full process as defined by the NEB but it isn't the only way we are having conversations about the pipeline and the project. We are continuing to have productive discussions with municipalities all up and down the pipeline route. Many of these conversations with local governments have already resulted in community benefits agreements with close to $5 million in funding committed to date for local projects and initiatives covering 85 per cent of the pipeline corridor. For example, we recently announced an agreement with Thompson Rivers University for $500,000 in funding to provide training and opportunities for students to study in BC's Interior.

We are aware that not every Mayor or every community in BC will be in favour of our proposed expansion Project. However, we are ready and willing to meet with you at any point.

Trans Mountain believes that the correct approach for review of a project is achieved through following a rigorous NEB process, and I hope that regulatory authority can be respected for the important role it plays in our society; and I welcome you to engage in both it and in parallel to it, with us directly.

As always, my team and I are happy to sit down with any community interested in providing feedback or discussing the Project. I would welcome hearing from you directly or you can contact Lexa Hobenshield, External Relations manager at lexa_hobenshield@kindermorgan.com or 604.809.9869.

Sincerely,

Ian Anderson
President, Kinder Morgan Canada Inc.

TRANSMOUNTAIN

Trans Mountain Expansion Project
Email: info@transmountain.com | Phone: 1.866.514.6700 | Website: www.transmountain.com | @TransMtn

April 17, 2015

Mayor Jonathan Cote
City of New Westminster
511 Royal Avenue
New Westminster, BC V3L 1H9

VIA EMAIL

Dear Mayor Cote:

I have read your joint-declaration of non-confidence in the National Energy Board (NEB) process related to Trans Mountain Expansion Project. In your letter you expressed concerns that the NEB process is inadequate because of the exclusion of oral cross-examination of evidence and because, in your opinion, Trans Mountain has not answered questions adequately.

The NEB process includes approximately 17 months of review and takes into consideration our Application, several rounds of questions from Intervenors and the NEB, one round of comments, as well as written evidence and oral evidence from Intervenors.

With some 400 Intervenors and 1,200 Commenters, including local governments, many communities are participating in the regulatory process in a formal manner. We are committed to a transparent and full process as defined by the NEB but it isn't the only way we are having conversations about the pipeline and the project. We are continuing to have productive discussions with municipalities all up and down the pipeline route. Many of these conversations with local governments have already resulted in community benefits agreements with close to $5 million in funding committed to date for local projects and initiatives covering 85 per cent of the pipeline corridor. For example, we recently announced an agreement with Thompson Rivers University for $500,000 in funding to provide training and opportunities for students to study in BC's Interior.

We are aware that not every Mayor or every community in BC will be in favour of our proposed expansion Project. However, we are ready and willing to meet with you at any point.

Trans Mountain believes that the correct approach for review of a project is achieved through following a rigorous NEB process, and I hope that regulatory authority can be respected for the important role it plays in our society; and I welcome you to engage in both it and in parallel to it, with us directly.

As always, my team and I are happy to sit down with any community interested in providing feedback or discussing the Project. To arrange to meet, please contact Lexa Hobenshield, External Relations manager at lexa_hobenshield@kindermorgan.com or 604.809.9869.

Sincerely,

Ian Anderson
President, Kinder Morgan Canada Inc.

TRANSMOUNTAIN

Trans Mountain Expansion Project
Email: info@transmountain.com | Phone: 1.866.514.6700 | Website: www.transmountain.com | @TransMtn

April 16, 2015

Mayor Lisa Helps
City of Victoria
1 Centennial Square
Victoria, BC V8W 1P6

VIA EMAIL

Dear Mayor:

I have read your joint-declaration of non-confidence in the National Energy Board (NEB) process related to Trans Mountain Expansion Project. In your letter you expressed concerns that the NEB process is inadequate because of the exclusion of oral cross-examination of evidence and because, in your opinion, Trans Mountain has not answered questions adequately.

The NEB process includes approximately 17 months of review and takes into consideration our Application, several rounds of questions from Intervenors and the NEB, one round of comments, as well as written evidence and oral evidence from Intervenors.

With some 400 Intervenors and 1,200 Commenters, including local governments, many communities are participating in the regulatory process in a formal manner. We are committed to a transparent and full process as defined by the NEB but it isn't the only way we are having conversations about the pipeline and the project. We are continuing to have productive discussions with municipalities all up and down the pipeline route. Many of these conversations with local governments have already resulted in community benefits agreements with close to $5 million in funding committed to date for local projects and initiatives covering 85 per cent of the pipeline corridor. For example. we recently announced an agreement with Thompson Rivers University for $500,000 in funding to provide training and opportunities for students to study in BC's Interior.

We are aware that not every Mayor or every community in BC will be in favour of our proposed expansion Project. For example, the Mayors of Vancouver and Burnaby have previously declared their opposition and the Mayor of Burnaby has refused to meet outside of the formal process to discuss the Project.

Nonetheless, I would like to thank you for taking the time to meet with my staff last week to briefly discuss a number of updates to our proposed Project. It is my hope that we will have an opportunity to connect in the near future, and to that end, have asked that my staff remain in contact with your office on potential meeting dates.

In conclusion, Trans Mountain believes that the correct approach for review of a project is achieved through following a rigorous NEB process, and I hope that regulatory authority can be respected for the important role it plays in our society, and I welcome you to engage in both it and in parallel to it, with us.

As always, my team and I are happy to sit down with any community interested in providing feedback or discussing the Project.

Sincerely,

Ian Anderson
President, Kinder Morgan Canada Inc.

Marine Consultation Summary No. 1
January 5, 2015

APPENDIX K

TRANSMOUNTAIN

Trans Mountain Expansion Project
Email: info@transmountain.com | Phone: 1.866.514.6700 | Website: www.transmountain.com | @TransMtn

03 March 2015

Mr. Sadhu Johnston
City of Vancouver
453 W 12th Ave
Vancouver, B.C. V5Y 1V4

Sent via email to sadhu.johnston@vancouver.ca

Dear Mr. Johnston,

I am writing in response to the letter addressed to my colleague Lizette Parsons Bell dated February 23, 2015.

Though we are disappointed that the City of Vancouver ("City") refused Trans Mountain's offer to engage further about the Trans Mountain Expansion Project ("Project"), we remain committed to working and communicating with the City. It is our sincere hope that you reconsider your position and engage in consultation. In the meantime, however, we shall take this opportunity to correct some errors in your letter of February 23, 2015:

Point 1

> *"Trans Mountain's decision to withhold key documents and information from the hearing process, thereby avoiding public scrutiny, while at the same time offering to engage in private discussions with individual stakeholders undermines the public hearing process and compromises the Board's ability to properly assess the issues... "*

Ongoing engagement both within and outside of the regulatory process is appropriate and expected. The National Energy Board ("NEB" or "Board") expects that consultation between an applicant and stakeholders will *"continue throughout the regulatory process, as well as the construction and operations phases of a project"* (NEB Filing Manual, Chapter 3.0, Section 3.4.1).

In addition, the NEB Draft Conditions for the Project (Filing ID A59688) related to emergency response explicitly require engagement as part of the compliance reporting for the enhancement of the emergency management plan ("EMP"). For example, Condition No. 49 stipulates that updates on the development process for the new plan must be filed with the NEB two years, one year and six months before the Project goes into operations. As discussed above, we are required to report publicly to the NEB on all stakeholder engagement we have undertaken whether part of the formal regulatory process (*i.e.*, intervenor information requests / responses) or part of the engagement / consultation process.

2844 Bainbridge Avenue, PO Box 84028, Bainbridge, Burnaby, BC, V5A 4T9 CANADA

Point 2

"Trans Mountain is only interested in engaging with the City in planning for the future proposed pipeline expansion, which may never proceed, and is refusing to engage with the City about Trans Mountain's existing Emergency Preparedness and Response."

As you point out in your letter, Hearing issues #11 and #12 on the NEB's List of Issues focus on planning, safety and security of the Project. As such, the existing EMP is not relevant to the expansion Project. Further, in Ruling No. 50 (Filing ID A4G5I9) the NEB determined that it was "satisfied that sufficient information has been filed from the existing EMP documents to meet the Board's requirements at this stage in the process." Nonetheless, Trans Mountain acknowledges the interest of intervenors to seek more information about the existing EMP documents related to the Trans Mountain Pipeline system ("TMPL"), which is why a redacted copy of the existing Emergency Response Plans were filed publicly (with limited redactions of "personal," "security," and "commercial" information).

Although the full details of the EMP documents are not appropriate to include as part of a public filing, the intent of our February 19, 2015 letter was to express our willingness to meet with the City to discuss any of the City's concerns that cannot be addressed through the current regulatory process (such as, Trans Mountain's existing and updated EMP documents).

Point 3

"Trans Mountain's lack of disclosure raises additional concerns about the risks that the current pipeline, terminal and tanker operations pose to the City, its residents and businesses."

TMPL is regulated by the NEB and has been for over 50 years. The expansion will also be regulated by the NEB through the *National Energy Board Onshore Pipeline Regulations* ("OPR"). The OPR provides lifecycle regulation for all aspects of the pipeline's operation including requirements for emergency response programs. Trans Mountain must maintain and update the EMP throughout the lifecycle of the current (and expanded) TMPL. In addition, NEB staff conduct emergency response exercise evaluations and emergency procedures manual reviews at regular intervals to verify that companies are prepared to anticipate, prevent, manage, and mitigate emergency situations.

The updated EMP depends on the final detailed design of the Project which will not be prepared unless and until: (i) the Project receives approval; and, (ii) Kinder Morgan Canada Inc. ("KMC") reviews the conditions of any such approval. As such, the updated EMP cannot be provided during the NEB's regulatory review of the Project; it simply does not exist as yet. However, to ensure affected parties have the opportunity to express concerns and provide input that will inform the updated EMP, KMC has and will continue to conduct consultation as part of developing the updated EMP (as described in NEB Draft Conditions 42, 49-51, 52 – 54, 56 and 60 related to emergency management).

The City has participated in the first phase of our emergency response engagement program, and we hope that involvement will continue as we advance the consultation program.

In addition to working with local governments, Trans Mountain remains a committed member of Burrard Inlet's port and shipping community and continues to actively engage with many entities in the

Inlet. Port Metro Vancouver ("PMV") remains a critical response partner for all tenants of Vancouver's port and Trans Mountain is committed to continue coordination with PMV safety and emergency response initiatives as it has done for many years. Trans Mountain is supportive of the leadership PMV is coordinating the Municipal Emergency Response Coordination Committee ("MERCC") of which we understand the City is a member. We also applaud the City for its role in commissioning two new fireboats for other municipalities in coordination with PMV. Any foreseeable incident where the City feels it could be subject to impacts from the current or expanded pipeline operations would by nature include PMV in the response. We are encouraged that the City is developing new relationships with groups such as Western Canada Marine Response Corporation, PMV and members of the MERCC collaboratively to improve regional and local government preparedness and response capacity.

As we enter the latter half of the regulatory review, engagement on the Project is ongoing. We will continue to include the City in our engagement efforts (as indicated in the NEB draft conditions and as committed in the responses to the latest round of Information Requests) in the hope that we may indeed "work through issues" consistently identified by the City and, in so doing, incorporate such information and learnings into the new Project plans.

Yours truly,

John Clarke, B.Sc. Hons., P.Eng.
Lead, Emergency Management
Trans Mountain Expansion Project

Marine Consultation Summary No. 1
January 5, 2015

APPENDIX L

TRANSMOUNTAIN

Trans Mountain Expansion Project
Email: info@transmountain.com | Phone: 1.866.514.6700 | Website: www.transmountain.com

VIA ELECTRONIC SUBMISSION

May 26, 2015

Mr. Roger Quan
Director, Air Quality and Climate Change
Metro Vancouver
4330 Kingsway
Burnaby, BC
V5H 4G8
(604) 432-6200

Dear Mr. Quan,

Trans Mountain Pipeline ULC ("Trans Mountain") is in receipt of a letter from Metro Vancouver dated April 17, 2015 to Mr. David Chadder of RWDI, who is an expert consultant to Trans Mountain on the Trans Mountain Expansion Project ("the Project"). The letter references an email from Mr. Chadder (on behalf of Trans Mountain) to Mr. Roger Quan and the Lower Fraser Valley Air Quality Coordinating Committee ("LFVAQCC") on March 26, 2015 seeking comments from the LFVAQCC on a document titled the draft Work Plan for CMAQ Modelling Update for the Project ("the Draft Work Plan").

Before addressing some of the points Mr. Quan made in the letter, it is important to set out Trans Mountain's understanding of the background leading up to the Draft Work Plan.

In motions to compel adequate responses on Information Request ("IR") No. 1 filed on July 4, 2014, both Environment Canada and Metro Vancouver requested Trans Mountain update its photochemical modelling (*i.e.,* also referred to as CMAQ) using the updated Marine Emissions Inventory Tool ("MEIT") developed for Environment Canada (NEB Filing IDs A3Y8R8 and A3Y8G9). In its explanation for claiming Trans Mountain's IR responses were inadequate and asking Trans Mountain to update its model using MEIT, Environment Canada acknowledged that:

> "MEIT-based marine emissions have been made available to the proponent (see GoC EC IR No. 1.057) for the dispersion modelling. Unfortunately, the spatially allocated and chemically speciated photochemical version of this marine emissions inventory will not be externally available for a few months." (NEB Filing ID A3Y8G9).

The following week, Trans Mountain responded to both Metro Vancouver's and Environment Canada's motions indicating that it recognized an update to the CMAQ model would be valuable to the members of the LFVAQCC. Trans Mountain committed to undertake a similar modelling effort using the updated MEIT when it became available. Trans Mountain also committed to meeting with the LFVAQCC members in Q3 2014 to discuss a possible update to the CMAQ model "incorporating MEIT calculated marine emissions and limited CMAQ model performance evaluation." However, Trans Mountain remained of the view that "the information, analysis and conclusions contained in the assessment is reliable and can be used as a basis for evaluating the Project and meets the NEB's Filing Manual requirements. Accordingly, Trans

Mountain does not agree that it should be required to conduct an additional assessment as part of the regulatory review using CMAQ modelling." (NEB Filing ID A3Z1S2)

On September 26, 2014, the NEB denied both Environment Canada's and Metro Vancouver's motion to compel an update to the CMAQ modelling within the NEB's review process (NEB Filing ID A63066).

Despite the NEB's decision that the update to the CMAQ model would not be required as part of its regulatory process, Trans Mountain initiated engagement with the LFVAQCC members and met face-to-face at Metro Vancouver's offices on September 25, 2014 to discuss the issues raised by the LFVAQCC members in the NEB's process.

At this meeting, Trans Mountain and LFVAQCC discussed a possible update to the CMAQ model for the Project. Trans Mountain and LFVAQCC agreed to jointly develop a work plan but did not discuss a timeline or roles and responsibilities.

At this same meeting, Metro Vancouver asked Trans Mountain to consider other projects that were announced after Trans Mountain had developed its original air quality assessment in Trans Mountain's updated cumulative effects assessment and CMAQ model (see Action Item #12 in Filing ID A4H6E0). Metro Vancouver committed to provide the air assessment information on these projects. Metro Vancouver made this commitment in September 2014 and, to date, no information has been received from Metro Vancouver. In an email from Mr. Roger Quan dated March 15, 2015, Mr. Quan responded to RWDI's reminder to provide the emissions data for these projects by saying "we [Metro Vancouver] will begin to compile the information we have available and send this to you as soon as possible." To date, Trans Mountain has not been provided with this information.

In light of the above, Trans Mountain disagrees that it's request for input from the LFVAQCC on the Draft Work Plan is inconsistent "with the consultative approach we have been trying to follow through technical meetings" and that Trans Mountain's intent to not submit the updated CMAQ modelling within the NEB process precludes an opportunity for further discussion between Trans Mountain and the LFVAQCC. On the contrary, Trans Mountain's ongoing approach to engaging the LFVAQCC has included two substantive technical meetings (September 25, 2014 and November 13, 2014) and numerous responses to the questions and issues raised by members of the LFVAQCC including:

- December 1, 2014: responses to questions raised at the September and November 2014 meetings;
- December 22: responses to the outstanding questions raised at the November 2014 meeting; and
- April 27, 2015: responses to informal IRs from Environment Canada. RWDI continues to work on the few outstanding informal IR responses to Environment Canada, to be complete by the end of May 2015.

Trans Mountain's focus has been to address LFVAQCC's concerns and answer questions related to the Project irrespective of whether it is required for the NEB's regulatory review process.

Trans Mountain would like to address one specific point in Mr. Quan's April 17 letter. Mr. Quan stated the LFVAQCC would not be able to provide input to the draft Work Plan in the "compressed time frame"

requested by Trans Mountain. Trans Mountain notes that discussions about an update to the CMAQ modelling took place at both the September 2014 and November 2014 meetings between Trans Mountain and LFVAQCC. Trans Mountain also responded to Metro Vancouver's IR No. 2.3.1a, indicating that it would consult with the LFVAQCC in Q1 2015 on the modelling plan (NEB Filing ID A4H8U8).

As a follow-up to this commitment, Trans Mountain requested that RWDI contact Metro Vancouver in March 2015. Trans Mountain notes that RWDI contacted Mr. Quan directly on March 13, 2015 by email to "initiate a consultation process with the LFVAQCC with respect to the work plan for the updated CMAQ photochemical model study for the TMEP." RWDI followed this initial contact on March 26, 2015 and sent the Draft Work Plan to Mr. Quan to share with the members of the LFVAQCC in advance of the March 31, 2015 LFVAQCC meeting.

On April 17, 2015, Metro Vancouver, on behalf of the LFVAQCC, indicated that it would not have time to provide input to the Draft Work Plan because of the "compressed time frame" for input. RWDI followed up with Metro Vancouver on April 23, 2015 offering to meet with the LFVAQCC face-to-face during the week of April 27, 2015 to discuss the Draft Work Plan and, to date, neither RWDI nor Trans Mountain has received a response from the LFVAQCC on this offer to extend the time frame for input. The LFVAQCC has expressed concerns regarding the time frame for input into the Draft Work Plan, but, despite repeated attempts by Trans Mountain to discuss this issue, has remained silent on the process and timeline it would suggest to update the CMAQ model for the Project.

While Trans Mountain understand the LFVAQCC has many priorities, Trans Mountain is disappointed with LFVAQCC's response as Trans Mountain understood this was an important issue and was hopeful the parties could work together on developing a mutually acceptable Work Plan. Trans Mountain remains committed to proceeding with updating the CMAQ model based on the technical approach in the Draft Work Plan, using information it can publicly access and the updated MEIT database. Trans Mountain would be pleased to share the results of the updated CMAQ model for the Project with the LFVAQCC.

Regards,

Lesley Matthews
Regulatory Lead
Trans Mountain Expansion Project

Marine Consultation Summary No. 1
January 5, 2015

APPENDIX M

Trans Mountain Pipeline ULC
Trans Mountain Expansion Project
Responses to Letter of Comment
submitted to the NEB on April 15, 2015 from
Wilderness Tourism Association of BC (WTABC)

Reference:

On April 15, 2015, the Wilderness Tourism Association of BC (WTABC) submitted its Letter of Comment (Filing ID A4K5V3) to the National Energy Board (NEB) regarding the Trans Mountain Expansion Project (TMEP), Hearing Order OH-001-2014.

Trans Mountain wishes to clarify comments made about its Project, by the WTABC in its Letter of Comment.

Response:

Table A-1 provides Trans Mountain's response to various WTABC's comments. The reference numbering in Table A-1 matches the numbering in the WTABC Letter of Comment.

ABBREVIATIONS AND ACRONYMS

This table lists the abbreviations and acronyms used in this response.

Term	Meaning
AIS	Automated Information System
CAC	criteria air contaminants
CH4	methane
CLWB	Cold Lake Winter Blend
CO	carbon monoxide
CPAWS	Canadian Parks and Wilderness Society
DFO	Fisheries and Oceans Canada
DNV	Det Norske Veritas
EBA	EBA, A Tetra Tech Company
EPP	Environmental Protection Plans
GAR	geographic area of response
ILI	In Line Inspection
IR	Information Request
KMC	Kinder Morgan Canada
MRA	Movement Restricted Area
NEB	National Energy Board
NO2	nitrogen dioxide
NPS	
PSF	Pacific Salmon Foundation
PQERA	Preliminary Quantitative Ecological Risk Assessment
RSA	Regional Study Area
SO2	sulphur dioxide
TMEP	Trans Mountain Expansion Project
TMP	Trans Mountain Pipeline
TSS	traffic separation scheme
VOC	Volatile organic compounds
WCMRC	Western Canada Marine Response Corporation
WMT	Westridge Marine Terminal
WTABC	Wilderness Tourism Association of BC

TABLE A-1

TMEP Response to Wilderness Tourism Association of BC (WTABC) Comments

WTABC Reference Number	WTABC Letter of Comment Content	TMEP Response
1.5.	In general, the WTABC is not supportive of the project as it is presently conceived. We have however outlined a number of interests and concerns in this Letter of Comment, and provide recommendations that could potentially address and mitigate some of our sector's more pressing concerns related to the proposed pipeline expansion, and particularly the increase in marine - based oil tanker traffic.	• Trans Mountain appreciates this opportunity to understand WTABC's position regarding our expansion project. • Trans Mountain's interactions with WTABC were initiated early in its engagement process which our records show involved prior leadership of the WTABC. Trans Mountain would like the opportunity to engage with the current leadership of WTABC to discuss the interests and concerns raised in its Letter of Comment, and to better understand the recommendations and mitigation measures suggested by WTABC.

4.1.	This $5.4 billion proposed pipeline expansion project would result in the twinning of Kinder Morgan's existing Trans Mountain Pipeline (TMP), with an origin in Edmonton, Alberta and a terminus at the Westridge Marine Terminal in Burnaby, British Columbia.	• Trans Mountain would like to clarify that the terminus of our proposed pipeline expansion is at our Burnaby Terminal rather than the Westridge Marine Terminal as noted by WTABC in its Letter of Comment. Beyond that terminus, two parallel delivery lines are proposed to be installed from the Burnaby Terminal to the Westridge Marine Terminal.
		• Section 2.0 of Volume 2 of the Application - Project Overview (Filing ID A3S0Q8) describes the expansion to include 994 km of new, buried pipeline segments that twin (or "loop") the existing pipeline in Alberta and BC, consisting of:
		  ○ three new 914 mm (NPS 36) OD buried pipeline segments totaling approximately 987 km:
		  ▪ Edmonton to Hinton – 339.4 km;
		  ▪ Hargreaves to Darfield – 279.4 km;
		  ▪ Black Pines to Burnaby – 367.9 km; and
		• Two parallel 3.6 km long 762 mm (NPS 30) OD buried delivery lines from the Burnaby Terminal to the Westridge Marine Terminal.
		• An updated map of the proposed expansion is provided below.

TABLE A-1

TMEP Response to Wilderness Tourism Association of BC (WTABC) Comments

WTABC Reference Number	WTABC Letter of Comment Content	TMEP Response
		

TABLE A-1

TMEP Response to Wilderness Tourism Association of BC (WTABC) Comments

WTABC Reference Number	WTABC Letter of Comment Content	TMEP Response
4.3	The pipeline travels through or directly adjacent to some of the most significant nature based tourism areas of British Columbia, including Mt. Robson Provincial Park (near the headwaters of the Fraser River) and Wells Gray Provincial Park (near the headwaters of the Thompson River), which contain some of the province's (and the world's) most abundant wild salmon stocks, grizzly and Black bear habitat, caribou, moose, wolves, and other "charismatic mega-fauna" which our province's tourism brand is built.	• Trans Mountain's website (http://www.transmountain.com/bc-parks) describes its expansion plans relative to BC Parks and Protected Areas. The website also provides information and links to Trans Mountain's Stage 2 Boundary Adjustment Application. • Trans Mountain's existing pipeline from Edmonton, AB to Burnaby, BC passes through eight BC Parks and Protected Areas. In planning for the proposed Expansion Project Trans Mountain was able to identify route alternatives that would avoid three of those parks: Coldwater River Provincial Park, Coquihalla River Provincial Park and Rearguard Falls Provincial Park. • In BC only three provincial parks (Finn Creek Park, North Thompson River Park, and Bridal Veil Falls Park), one protected area (Lac du Bois Grasslands) and one recreational area (Coquihalla Summit) would be impacted by the proposed Trans Mountain Expansion Project. • Following a 45 day public comment period that ran from August 28, 2014 to October 12, 2014, Trans Mountain submitted its Stage 2 Boundary Adjustment Application for the parks and protected area within the proposed pipeline corridor. BC Parks is reviewing the Application and will make a recommendation for each park before submitting for Ministerial review and Cabinet decision. If the adjustment application is approved, the Boundary Adjustment would result in the removal of land required for the Trans Mountain Pipeline Expansion right-of-way from the provincial park or protected area for the period of construction and until restoration is complete. • A Resources Use Permit was submitted in October 2014 for the recreation area. If the permit is approved, the Boundary Adjustment would result in the removal of land required for the Trans Mountain Pipeline Expansion right-of-way from the recreation area for the period of construction and until restoration is complete. • If the lands required for the Project are removed from the Finn Creek, North Thompson River and Bridal Veil Provincial Parks, the Ministry of Environment may seek government approval to establish those lands as a protected area under the Environment and Land Use Act to allow the

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		Minister of Environment to continue to manage those areas. • Following completion of Project construction, the lands removed from the parks through the Boundary Adjustment may be returned to park or protected area status with operations authorized under a park use permit. Operations would be limited to the right- of-way. As an example of Trans Mountain's commitment to environmental stewardship, the Trans Mountain system through Jasper National Park and Mount Robson Provincial Park seven years ago is setting new standards in pipeline construction and environmental restoration. Kinder Morgan Canada (KMC) committed to a five-year post-construction monitoring program of the Anchor Loop project. Since 2008, the program has been evaluating the success and effectiveness of environmental protection and restoration measures. The results show restoration efforts have been successful, as indicated by: Successful establishment of seed-producing native grass species in upland areas, functional and stable riparian and wetland area, evidence of increasing species diversity in aquatic, riparian and terrestrial plant communities, forests located near the right-of-way show no increase in insect population or diseases following construction clearing, wildlife trees and visual barriers being used by wildlife as habitat features, and successful recovery of areas disturbed during construction. • Beyond rivers and streams, the team also carefully considered the project's impact on local wildlife, such as the Bighorn sheep, making every effort to limit the project's potential impact on local ecosystems. KMC fulfilled its promise to return the right-of-way and surrounding highly-visible and environmentally-sensitive area to its original condition prior to the construction. And in order to preserve the area's natural beauty and tourist attraction, the Company collaborated with Parks Canada to develop a restoration program to keep the integrity of the ecosystem. • In 2008 an expansion of a 158 km section of the Trans Mountain pipeline was completed through Jasper National Park and Mount Robson Provincial Park (the "Anchor Loop" Project). Great care was taken to manage project impacts including a Restoration Plan to ensure the project would result in a net ecological and cultural gain for both Jasper National Park and Mount Robson Provincial Park. In 2010, Kinder Morgan Canada received a prestigious Emerald Award from the Alberta Emerald

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		Foundation. Each year, Emerald Awards "recognize and reward the excellent environmental initiatives undertaken each year by large and small corporations, individuals, not-for-profit associations, community groups and governments." More information about the Anchor Loop expansion is available at www.transmountain.com/anchor-loop
4.8.	Most notably and concerning to the WTABC, the project would result in an increase in bulk crude tanker loading at Westridge Marine Terminal, from five (5) tankers per month to thirty four (34) tankers per month. This would mean that the present approximately 60 tankers per year navigating the pristine coastal waters of BC's west coast would increase to 408. This is an estimated 580% increase in tanker traffic in the Straight of Juan de Fuca, Haro Straight, Salish Sea (Georgia Strait), English Bay and Burrard Inlet. The pipeline expansion would also entail expanded transportation of light and heavy crude products by both rail and transport truck, although these increases may be variable and have not been quantified by the proponent.	• If approved, Trans Mountain expects tanker traffic to increase from about 60 tankers per year to around 408 per year. It is expected that the future mix of vessels will be primarily Aframax tankers (largest vessel permitted to transit Burrard Inlet) to achieve the desired throughput at Westridge Marine Terminal. The current two to three export oil barges per month and one to two import jet fuel barges per month are not forecast to change; only the tanker traffic is expected to increase as a result of the pipeline expansion. • TMEP is unaware of how the expansion project would lead to an increase in crude rail or crude truck transportation. It is likely that the pipeline expansion would offset these means of transport. Additionally, there are no truck or rail oil transport measures considered within the Application or the current project as proposed. • In order to accommodate the increase in traffic the Westridge Marine Terminal will be expanded. The existing single tanker berth will be replaced with three new berth faces. Existing marine traffic for the study area was assessed based on Automated Information System (AIS) data and other vessel traffic information. Using a combination of economic forecasting, regional project announcements, and interviews, the amount of future traffic has been forecast for 2018, 2020, 2025, and 2030. These projected traffic volumes were used in TERMPOL Study 3.15 (Filing ID A3S5F4) to estimate the probability of spills both with and without the proposed TMEP traffic for the years 2018 and 2028. The former is expected to be the first full year of service for TMEP, the latter is used to assess the effect of additional traffic growth on risk after 10 years of operation. The forecast is used to assess the effect of TMEP traffic on other users of the waterways and vice versa. The traffic study is discussed in detail in TERMPOL 3.2 (Filing ID A3S4R7). Information from the traffic study was used in Termpol 3.15 to calculate the contributions by vessel type to the annual distance sailed in the study area, since the total

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		distance sailed by vessels is a better measure of navigational risk than simply the number of vessel sailings. • The assessment shows that if the project proceeds, the additional "sailed nautical miles" for the new Trans Mountain tankers will increase approximately 70 per cent from 2012 tanker mileage levels in the region. If all types of vessels (not just tankers) are included, the additional TMEP traffic represents an increase of just 3.2 per cent in the total nautical miles sailed. Additional tanker traffic calling at Westridge Marine Terminal due to the Trans Mountain Pipeline Expansion was compared with the projected 2018 traffic since the project estimated completion date is 2018. The comparison is suitable since the traffic increase from the project approval with the projected 2018 traffic counts to accurately estimate the impact the project will have on the waterways in 2018. • With TMEP the tanker traffic east of the Second Narrows (Cross Section 5) just west of Westridge Marine Terminal is forecast to increase by (in 2018) by 209 per cent. Similarly, average tanker traffic for all cross sections is forecast to increase by about 136 per cent. Table 6-26 shows the projected forecasts of tankers compared with additional sailings of tankers from TMEP in 2018. Table 6-27 shows the projected forecasts of vessels compared with additional sailings of tankers from TMEP in 2018.

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<table>
<tr><th>WTABC Reference Number</th><th>WTABC Letter of Comment Content</th><th>TMEP Response</th></tr>
<tr><td colspan="3">

Table 6-26: Increase to Number of Tanker Sailings from TMEP Tanker Traffic

Cross Section	Projected Sailings of Tankers in 2018 (without TMEP)	Additional Sailings of Tankers from TMEP	% increase
1 - Victoria	1,515	696	46%
2 - Haro Strait	495	696	141%
3 - Strait of Georgia	487	696	143%
4 - Burrard Inlet	486	696	143%
5 - Westridge Terminal	333	696	209%

Table 6-27: Increase to Number of Vessels Sailings from TMEP Tanker Traffic

Cross Section	Projected Sailings of Vessels in 2018 (without TMEP)	Additional Sailings of Tankers from TMEP	% increase
1 - Victoria	19,840	696	4%
2 - Haro Strait	9,505	696	7%
3 - Strait of Georgia	18,727	696	4%
4 - Burrard Inlet	13,061	696	5%
5 - Westridge Terminal	7,332	696	9%

</td></tr>
<tr><td>5.3.</td><td>However, we do not support the present project as it is constituted, and believe that the risks to businesses in our sector are immense, with little or no regard being given, to date, to preventing and mitigating these potential risks.</td><td>• Trans Mountain is committed to minimize potential effects of the Project, specifically the increase in tanker traffic and to manage and mitigate accidental risk related to the loading and transit of the tankers. As part of this commitment and to meet TERMPOL guidelines, Trans Mountain assigned Det Norske Veritas (DNV) to conduct a marine traffic and cargo</td></tr>
</table>

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		handling risk assessment and identification of potential risk reducing measures. The full report is available in Volume 8C, TERMPOL 3.1.5 General Risk Analysis and Intended Methods of Reducing Risks (Filing ID A3S5F4). At the same time, Trans Mountain has engaged Western Canada Marine Response Corporation (WCMRC) proposing significant improvements to the existing oil spill response regime for the area. The WCMRC 2013 study (Filing ID A3S5I9) describes an enhanced response regime capable of delivering 20,000 tonnes of response capacity within 36 hours with dedicated resources within the study area. This $100 million enhancement represents a doubling of the response capacity and a delivery time of existing planning standards. These enhancements will reduce times for initiating a response to two hours for the harbour and six hours for the remainder of the study area and parts of the West Coast of Vancouver Island. These reduced times will be achieved by creating new bases locations along the tanker route. Meeting response capacities within the designated times requires redundancy of equipment, as a result the overall capacity of dedicated response equipment available in the area will be in excess of 30,000 tonnes. Also, based on the increased shoreline oiling identified by spill modelling, the recommendations by WCMRC is to have the means to deal with more shoreline cleaning, i.e. increase the existing shoreline cleaning standard from 500 m/day to 3,000m/day for this region.
5.5.	As shown by the pipeline rupture at the Kalamazoo River in Michigan, crude products such as diluted bitumen can be extremely difficult to contain and remediate from waterways. When a spill occurs from a pipeline or from a tanker the condensate evaporates and forms a poisonous cloud. The bitumen, being heavier than freshwater, sinks in waterbodies such as streams and rivers. In salt water, it sinks to a point in the water column where it reaches the density of the salt water, making surface containment a literal impossibility.	In May 2013, Trans Mountain conducted applied research on the fate and behaviour of dilbit in a marine environment (Gainford study, Polaris and WCMRC, 2013 [A3S5G7]). The purpose of the study was to further the knowledge of dilbit in general and, more specifically, to investigate the behavior of dilbit when spilled into a marine environment. Some of the basic questions to be answered were: 1. Will diluted bitumens sink or float in marine waters? 2. Will diluted bitumens behave any differently than other heavy crude oils as they weather? 3. Is the performance of the equipment currently stockpiled by North American oil spill recovery organizations adequate to mechanically remove diluted bitumens off the surface of the water?

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		The study's multi-disciplinary Project Team was tasked with designing and executing a controlled test to evaluate the fate and behavior of dilbit discharged into a simulated marine environment similar to that of Burrard Inlet (Vancouver, BC, Canada) where the Westridge Marine Terminal is located. The Gainford study included a weathering test of dilbit spilled in a marine environment over a 10-day period. That study and other tests have shown that, like other crude oils, while the density increases as the lighter components evaporate, the rate at which this occurs diminishes as the density and viscosity of the oil increases. Although the relative density of the dilbit observed in the Gainford study reached that of fresh water, it took 8-10 days for this to happen. No evidence of sunken or submerged dilbit in the marine environment simulated for the tests was observed during the Gainford study. Typically, once released into the marine environment all hydrocarbons begin to "weather" and after a period of time can submerge or begin to sink. When released into water lighter components of hydrocarbons will begin to evaporate, some will dissolve into the water column, and the remainder will float as long as the density of the remaining oil is less than the density of the water into which it was released. Wave action can cause water-in-oil emulsions which will drive the mixture towards neutral buoyancy. Adhesion to bottom sediment (e.g., beaches, riverbeds) or other sinking material can cause the oil to be submerged. These are the mechanisms that caused some of the oil released in the Enbridge Kalamazoo spill to submerge in the river. Weathering processes are discussed in greater detail in Section 5.2 of Volume 7 of the Facilities Application (Filing IDs A3S4V5 and A3S4V6). A comparison of the properties of diluted bitumen crudes with other oils can be found in Technical Report 8C-12 S8 of Volume 8C (Filing ID A3S5G7).
5.6.	With the region's tides and currents being renowned for their strength and severity, particularly in the challenging navigation channels near Haro Strait, the diffusion of crude oil products would be immediate, unmanageable, and catastrophic.	Trans Mountain commissioned a number of studies as part of an iterative risk assessment process to properly evaluate the location and severity of threats to increased shipping of oils, including diluted bitumen oils by tanker from the Westridge Marine Terminal in Burnaby. These included: • a quantitative risk assessment conducted by DNV (General Risk

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		Analysis and Intended Methods of Reducing Risks, Volume 8C, TR 8C-12, TERMPOL 3.15 (Filing ID A3S5F4); • research and tests of representative diluted bitumen oil to better understand the characteristics of this type of oil (see Gainford Study in Volume 8C, TR 8C-12, S7 Filing ID A3S5G7); and, • modelling to predict transport and fate of oil released from hypothetical spill scenarios by EBA (Modeling the Fate and Behaviour of Marine Oil Spills for the Trans Mountain Expansion Project (Volume 8C, TR 8C-12, S9 Filing ID A3S5G9). Stochastic oil spill fate modelling simulations for the credible worst case scenario were performed for a complete annual cycle including winter (January to March), spring (April to June), summer (July to September), and fall (October to December) to take into consideration seasonal variations in winds and currents. To be conservative, no consideration was given to possible mitigation, such as oil spill response activities. Outputs of the stochastic modeling included: wind speed and direction charts, probability contours for surface water oiling, probability contours for shoreline oiling, time to first contact and length of shoreline oiling, length of shoreline contacted per coastal class, amount of dissolved oil, mass balance results (including on-water and on-shore oiling, oil evaporated, dispersed, biodegraded, and dissolved), as well as average slick area and thickness. Additional details of the stochastic modelling completed by EBA are provided in Modeling the Fate and Behaviour of Marine Oil Spills for the Trans Mountain Expansion Project (Filing ID A3S5G9).
5.7.	The bitumen and oil products, known to be toxic to fish and wildlife at relatively low concentrations, would coat the benthic zone of our most critical marine habitats, and would spread to shoals, reefs, floodplains, and the overall intertidal zone of one of the most biodiverse temperate marine regions of the world.	The most critical and responsible emergency preparedness strategy is to prevent a spill from occurring at all. However, in the case of a spill, Trans Mountain is prepared to respond quickly with detailed emergency procedures and trained professionals. The amount and type of equipment used in any spill response operation is governed by the environmental conditions prevalent in the area of the incident. Most areas of response can be divided into a number of distinct operating environments, based on factors such as

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		wind, sea state, tides, currents, and bathymetric features. These operating environments are defined as follows: • Unsheltered waters — waters where on-water oil recovery operations are normally affected by environmental conditions. Larger vessels or ships are normally needed to operate safely in these waters. • Sheltered waters — waters where on-water oil recovery operations can be carried out effectively with minimal disruption from environmental conditions. As an example, this environment is one in which small barges (18m - 30m) and small boats (6m–12m) can operate safely. • Shoreline — the intertidal zone between the maximum low tide and maximum high tide, including the back shore area affected by storm conditions. (Note: Includes some on-water oil recovery capability for near shore treatment operations, due to the rise and fall of the tide and the resultant immersion of the intertidal zone). As the certified Response Organization for coastal waters of British Columbia, WCMRC is required to be able to respond to a 10,000 tonne[2] oil spill. However, the WCMRC 2013 study (Filing ID A3S5I9) describes an enhanced response regime capable of delivering 20,000 tonnes of response capacity within 36 hours with dedicated resources within the study area (see response to 5.3 above). To meet this challenge WCMRC maintains a cache of equipment and personnel capable of providing adequate response to the spills that may be expected in its geographic area of response (GAR). WCMRC is funded through a tariff charged to every vessel transporting petroleum to or from ports of the West Coast of Canada. WCMRC is composed of a team of spill response professionals trained specifically in the response to and recovery of water-based oil spills. Their ability to effectively manage and direct spill response procedures within the first few hours after response activation significantly reduces the negative impacts oil can have on the surrounding environment. In the event of a spill, WCMRC personnel immediately respond

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		with carefully designed strategies and countermeasures. WCMRC maintains various response-oriented warehouses and equipment caches that can be activated such as containment booms, skimmers and vessels. WCMRC is working through coastal mapping process to identify sensitive areas through an extensive engagement process. A credible worst case spill scenario at the Westridge Marine Terminal resulting from an incident during loading of a tanker was outlined in Volume 7, Section 8.0 of the facilities application "A Hypothetical Scenario: Westridge Marine Terminal Release Reaching Burrard Inlet".
5.8.	Notably, a number of the region's keystone species are already under threat and/or have sensitive and declining populations. Most notable is the region's once abundant salmon populations, including Chinook, Sockeye, Pink, Chum, and Coho. Many other important species that are relied upon by the tourism industry in this region include orcas, dolphins, sea otters, seals, sea lions, and others. A catastrophic spill in this region would threaten most or all of these species.	As noted above, spill prevention is critical so as to avoid any adverse impacts to the marine environment – no marine spill is acceptable to TMEP. Nonetheless a Preliminary Quantitative Ecological Risk Assessment (PQERA) Technical Report (TR 8B-7 of Volume 8B, Filing ID A3S4K7) was prepared to evaluate the ecological risks that could arise following accidental crude oil spills along the marine transportation route for loaded vessels leaving the Westridge Marine Terminal (WMT) between the Port of Vancouver and international waters west of Juan de Fuca Strait. The Detailed Quantitative Ecological Risk Assessment was later filed with the NEB on May 14, 2014 in response to NEB IR No. 1.64d) Attachment 1 (NEB Filing ID A3W9K1) The primary focus of the PQERA was the evaluation of the potential negative environmental effects to marine ecological receptors that could result from a hypothetical accidental crude oil spill during marine transportation. Cold Lake Winter Blend (CLWB) was identified as a representative diluted bitumen for this purpose. The selection of the accident locations was informed by consideration of navigational hazards, as well as ecological and socio-economic values in their vicinity. Stochastic oil spill fate modeling that was carried out to support the PQERA provides consideration of a range of weather and marine conditions that could prevail during an accidental oil spill, including season-specific behaviour, trajectories, and fate. Spatial boundaries for this PQERA included the geographic extent where potential effects were expected to be measurable and considered the oil spill footprint, as well as a Regional Study Area (RSA) surrounding the marine shipping lanes, which

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		extend from the WMT through Burrard Inlet, south through the southern part of the Strait of Georgia, the Gulf Islands and Haro Strait, westward past Victoria and through the Juan de Fuca Strait, to the 12 nautical mile limit of Canada's territorial sea. The northern boundary of the RSA was limited to the southern portion of the Strait of Georgia. Six hypothetical oil spill scenarios were evaluated as part of this PQERA which can be found in Section 4.4 of Technical Report TR-8 B7 "Ecological Risk Assessment of Marine Transportation Spills (Filing ID A3S4K7). These include scenarios representing two crude oil spill volumes at each of three potential spill locations (Strait of Georgia, Arachne Reef in the Gulf Islands, and Race Rocks in the Juan de Fuca Strait).
5.10.	We were shocked to learn that Trans Mountain's own estimate of the probability of a notable spill over the next 50 years is 19%, whereas the probability of a major, catastrophic spill (8.25 million litres or more) is ten percent (10%).[viii] According to the DNV report commissioned by Trans Mountain, the probability of a catastrophic oil spill in the region is "only" increased by 30% with the introduction of this single project. The likelihood of a minor oil spill (<10m3) increases from once every 234 years to once every 34 years, while the probability of a worst-case spill increases from once every 1,655 years to once every 234 years.[ix] The very use of qualifying terms such as a spill "only" once every 34 years is troubling and calls into question the grasp of the seriousness of the issue by the project proponent, Kinder Morgan / TMP and its consultants. We would consider this risk increase to be significant. The same DNV report also comments that "…in the majority of these vessels the bunker oil tanks will be protected by a double hull," and are less likely to rupture in the event of minor accidents. For an issue of this magnitude, the qualifier 8 "majority" provides little comfort to our stakeholders regarding quality control of these vessels. Are 51% of the bunker oil tanks protected by a double hull? 99%? Are double hulls not a statutory requirement for these Aframax vessels?	Again, to be clear – no oil spill is acceptable. Significant efforts are in place today and proposed as part of this Application to prevent any marine spill. As part of a duly comprehensive Application, Trans Mountain considers and seeks to quantify this risk to understand it, not to set out what it believes to be acceptable or not. Anticipated tanker traffic associated with TMEP represents an incremental increase to the daily marine vessel traffic that currently occurs in Burrard Inlet. As stated in Trans Mountain's response to NEB IR No. 3.74a (Filing ID A4H1V2), based on 2012 AIS data, vessels (tankers and barges) calling at the Westridge Marine Terminal currently constitute three per cent of all traffic (Volume 8C, TERMPOL 3.2 [A3S4R7and A3S4R8]). This number is expected to increase to 11 per cent of all traffic in the future, should the Project be approved. The percentage of Project-related marine vessels is relatively conservative because it is very possible that other terminals in this area might expand their vessel calls beyond what has been forecasted. This incremental increase due to the proposed Project is only a portion of the projected cumulative increase in marine traffic, based on likely industry developments. The previous oil spill frequency calculation has changed. See NEB IR No. 4.13a (Filing ID A4K4W3). The section from the DNV report that mentions "only" is copied below: The

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		conclusion of these results is: • With the Trans Mountain Expansion Project, the Trans Mountain tanker traffic will increase by about 580 per cent and so will the in transit oil cargo spill accident frequency related to the Trans Mountain tanker traffic if further mitigation measures are NOT implemented. • With additional risk mitigation measures, i.e. increasing the escort tug level and implementing a moving safety zone as described in Case 1b, the in transit oil cargo spill frequency will only increase by 31 per cent. The term "only" should not be read in relationship to this direct increase in spill frequency during loading at Westridge (once in 34 years with the project). All vessels built after August 2010 are provided with double hull bunker tanks. This is common to ALL vessels, non-tankers and tankers. Further, tanker acceptance criteria are in place at Westridge Marine Terminal (see Section 3 of Technical Report TR 8C-07 TERMPOL 3.9 – Ship Specifications found in Volume 8C Marine Transportation (Filing ID A3S4T2)).
5.19.	The estimated 580% increase in bulk crude tanker traffic in the confined straits and channels of the southwest coast of British Columbia would have a notable impact on the overall quality of the natural surroundings in the region.	This statement is incorrect. As stated in the response to 5.10, vessels (tankers and barges) calling at the Westridge Marine Terminal currently constitute three per cent of all traffic in the Salish Sea (Volume 8C, TERMPOL 3.2 [A3S4R7 and A3S4R8]). Potential effects and mitigation measures related to the increase in project-related marine vessel traffic on traditional marine resource use are discussed in Volume 8B, Section 6.0. (Filing ID A56022). Trans Mountain's corporate responsibility and regulatory obligation is to first minimize any potential impacts or damages to the extent practical by using and adapting responsive construction and operations practices; and second, provide mitigation to reverse or treat any remaining impacts. A comprehensive assessment of potential impacts is documented in the Environmental and Socio-Economic Assessment included in Volume 5A (Filing IDs A3S1Q9, A3S1R0, A3S1R1 and A3S1R2), Volume 5B (Filing IDs A3S1S7, A3S1S8, A3S1S9 and A3S1T0). Pipeline and Facility specific

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		Environmental Protection Plans (EPPs) were provided in Volume 6B (Filing IDs A3S2S3 and A3S2S4) and Volume 6C (Filing IDs A3S2S6 and A3S2S7), respectively. These EPPs contain recommended mitigation measures and contingency plans for anticipated impacts that could be experienced during construction.
5.21.	In the case of the TMP project, the cumulative visual impacts of an estimated 800 or more (one-way) passages of bulk crude tankers in the narrow confines of the region's marine corridors would pose a range of potential deterring impacts for clients of some specific nature based tourism product sectors, particularly whale watching, sport fishing, pleasure cruises, kayak tours, scuba diving, and other activities that are predicated on the pristine environment of the region. There would also be ancillary and likely lesser impacts – though still noteworthy – on land-based activities such as beach-going, golfing, and hiking, where the oil shipping routes would be in prominent view.	Please refer to the TMEP response to 4.8 above for the correct percentage increase in tanker traffic in Georgia Strait, Haro Strait, Burrard Inlet, WMT and Strait of Juan de Fuca (Victoria). Visual modelling was conducted of the proposed expanded Westridge Marine Terminal from three vantage points in the Metro Vancouver Region: from the Capitol Hill neighbourhood in the City of Burnaby; Cates Park in the District of North Vancouver; and the Belcarra Picnic Area. Visual simulations from these observer viewpoints are provided in the Application, Technical Report 5D-5 in Volume 5D, Viewshed Modelling Analysis Technical Report (TERA Environmental Consultants December 2013) (Filing IDs A3S2K2, A3S2K4 and A3S2K6) in the following figures: • Figures 4.10 & 4.11: from the vantage point of Cates Park, across the Burrard Inlet in the District of North Vancouver (approximately 1.3 km north of the WMT) • Figures 4.12 & 4.13: from Capitol Hill neighbourhood in the City of Burnaby (approximately 1.9 km west of the WMT) • Figures 4.14 & 4.15: from Belcarra Picnic Area, across the Burrard Inlet (approximately 3.2 km northeast of the WMT)
5.23.	However, these potential impacts on human activity, including but not limited to tourism, appear to focus exclusively on the land - based component of the project and not the marine component. In addition, the actual ESA is not published on the Trans Mountain website so we have no way of knowing the details of the potential risks and mitigation strategies being considered.	The ESA was filed with the Facilities Application and is available on the Trans Mountain website in Volumes 5A, 5B, 5C and 5D (http://www.transmountain.com/facilities-application). The marine-based components of the Project, including marine tourism are discussed in Volume 8B, TR8B-6 of the Facilities application which is available on the NEB website (Filing IDs A3S4K4, A3S4K5 and A3S4K6) and the Trans Mountain website (http://transmountain.s3.amazonaws.com/application14/V8B_MAR_TRANS_

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		TECH_RPT/0597.html). Environmental Protection Plans were also filed with the Facilities Application and are available on the Trans Mountain website provided above, in Volumes 6A, 6B, 6C, 6D and 6E and the NEB website (Filing ID A56013). Specifically, the Westridge Marine Terminal EPP in Volume 6D identifies mitigation measures to be implemented during Project activities; provides instructions for carrying out construction activities in a manner that will avoid or reduce adverse environmental effects; and serves as reference information for the environmental inspection staff to support decision-making process and provides direction to more detailed information (*i.e.,* resource-specific mitigation management and contingency plans, etc.).
5.24.	We thus conclude that, to date, no analysis or planning has been undertaken to assess visitor sensitivity to visual impacts of bulk crude tanker or other container 10 ship traffic in ecotourism-intensive zones. Based on prior research in the field of forestry, however, we expect these impacts to be low to moderate for the type of visual impact that could be expected to result from this project, a level of impact that would require some mitigation.	Marine-based eco-tourism operations that were identified as being potentially affected by the construction and operation of the expanded Westridge Marine Terminal include commercial marine tourism operators that depend on the quality of the recreational experience for their livelihood, which includes ecotourism operators such as whale-watching and wildlife-viewing tour operators and kayak tour guides. Section 4.5 of Technical Report 8B-6 in Volume 8B, Marine Commercial, Recreational and Tourism Use – Marine Transportation Technical Report (Vista Strategy Corp. and TERA Environmental Consultants December 2013) (Filing ID A3S4K6) provides information on marine tourism activities in Burrard Inlet, the Strait of Georgia, Haro Strait and Juan de Fuca Strait. While this report is focused on Marine Transportation and not the construction and operations of the Westridge Marine Terminal, it provides the detailed context for marine tourism use in the Burrard Inlet, which is the marine area potentially affected by the construction and operations of the Westridge Marine Terminal. Refer to the TMEP response to IR No 1 from Canadian Parks and Wilderness Society (CPAWS) - BC Chapter (Filing ID A3X5X8).
5.25.	The estimated 580% increase in bulk crude tanker traffic would also result in incremental deterioration of the region's air quality and water quality. These impacts will be exacerbated in the more constricted navigational points such as near Sidney Island, Turn Point, South Pender Island, and Saturna Island,	The increase in traffic as stated is incorrect. Please see 5.19 above for a discussion regarding the estimated percentage increase in bulk crude tanker traffic.

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TMEP Response to Wilderness Tourism Association of BC (WTABC) Comments

WTABC Reference Number	WTABC Letter of Comment Content	TMEP Response
	where delays in passage may occur. These cumulative impacts on air and water pollution could be notable, particularly during the summer peak tourism season.	In the Executive Summary of Technical Report 8B-3 of Volume 8B of the Application (Filing ID A3S4J7), Trans Mountain acknowledges that the Project will result in the following air emissions: • criteria air contaminants (CACs), a group of commonly found contaminants typically formed from combustion for which there are ambient air quality criteria, including PM, carbon monoxide (CO), nitrogen dioxide (NO2), and sulphur dioxide (SO2); • Volatile organic compounds (VOCs) 1, a group of organic compounds with sufficiently high vapour pressures under ambient conditions to evaporate from the liquid form of the compound and enter the surrounding air; and, GHGs, including carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O). Through its public consultation and Aboriginal engagement efforts, Trans Mountain received feedback related to marine transportation/the Project, including concerns regarding: • increases in CAC and greenhouse gas emissions as a result of increased vessel traffic; • increases in odour emissions as a result of increased vessel traffic; and, • Potential for the development of ozone and secondary particulate matter due to the increase in vessel traffic. In order to study the potential effects of the Project on air quality, Trans Mountain engaged RWDI Consulting Engineers & Scientists to conduct an extensive air quality study. The results of the study are included in the Application, Volume 8B - Marine Air Quality and Greenhouse Gas Marine Transportation Technical Report for the Trans Mountain Pipeline ULC Trans Mountain Expansion Project (Filing IDs A3S4J7, A3S4J8, A3S4J9, A3S4K0, A3S4K1). The air quality mitigation measures that resulted from the study are

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TMEP Response to Wilderness Tourism Association of BC (WTABC) Comments

WTABC Reference Number	WTABC Letter of Comment Content	TMEP Response
		included in the report, in Table 7.1 (Filing ID A3S4J7). Further updates to the report were conducted and are included in Technical Update #2 (Filing ID A4A4E3) and Technical Update #4 (Filing IDs A4F5H7, A4F5H8, A4F5H9, A4F5I0, A4F5I1, A4F5I2). Ultimately, Trans Mountain will ensure that all Project-related tankers will, at minimum, adhere to federal standards that may reduce air emissions, including standards for bunker fuel, and GHG emissions.
5.26.	According to the Government of Canada Commission of Inquiry into the Decline of Sockeye Salmon in the Fraser River (the "Cohen Commission") report, Volume 2, published in October 2012, the most likely cause of decline of the Fraser River sockeye run in 2009 was "ocean conditions (physical and biological) inside Georgia Strait." The report cites cumulative impacts of municipal wastewater/sewage, industrial activity, shipping, and other non-- -point source contamination to be potentially significant factors impacting water quality and marine habitats, creating adverse oceanic conditions for migratory salmon. Adverse water quality in the Georgia Strait in particular was singled out as a potentially significant stressor of wild salmon along their migratory paths.	Salmon habitat enhancement in Burrard Inlet is of interest to many stakeholders that provided feedback at Trans Mountain engagement events related to marine development. As referenced in City of Port Moody IR 2.5.2 a) Marine Ecosystem Resiliency (Filing ID A4H8G7): • Beyond standard environmental mitigation and compensation measures, Trans Mountain, in cooperation with local communities, Aboriginal groups, regulatory authorities, and other stakeholders is committed to exploring ways to help further recovery of fish habitat that may be affected by TMEP activities. • In response to stakeholder feedback and input from Aboriginal groups identifying salmon habitat as a priority for Burrard Inlet, Trans Mountain has already committed a $50,000 donation in January 2015 to the Pacific Salmon Foundation (PSF) for the purposes of Salmon Habitat enhancement in Burrard Inlet (refer to City of Port Moody IR No. 2.5.2a - Attachment 1 (Filing ID A4H8I4). • Trans Mountain has also confirmed it will replace an aging fish pen located at Westridge Marine Terminal that has been used for over 20 years (since 1992) in a community partnership with KMC and Fisheries and Oceans Canada (DFO) (refer to City of Port Moody IR No. 2.5.2a – Attachment 2 (Filing ID A4H8I5)). The initiative began in 1992 as part of the federal Salmonid Enhancement Program with the goal of increasing the number of salmon in Burrard Inlet. DFO staff transport Coho and Chinook salmon from local hatcheries to the Westridge Marine Terminal in Burnaby, where the fish are placed in

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TMEP Response to Wilderness Tourism Association of BC (WTABC) Comments

WTABC Reference Number	WTABC Letter of Comment Content	TMEP Response
		a pen to become acclimatized to salt water. The salmon smolts are fed by Trans Mountain employees for seven to ten days, before the fish are released with help from students from Westridge Elementary School.
5.27.	As mentioned previously, the WTABC is also concerned about a possible pipeline rupture in the overland corridor of the Trans Mountain Pipeline. While some of these concerns are mitigated by the fact that this project primarily replaces and expands on an existing pipeline, the overall project nonetheless increases the incremental pipeline rupture risk over the long term. With two pipelines in place, and a tripling of capacity, a potential rupture is both more likely and would be more severe.	To clarify, the proposed Project is to complete the twinning of the existing pipeline system by adding approximately 994 km of new pipeline. 73% of the proposed route will use the existing right-of-way, 17% would follow other linear infrastructure such as TELUS, Hydro or highways, and 10% would be new right-of-way. See Section 2.8.2.5 in Volume 4A (NEB Filing ID A3S0Y8) Oil pipelines such as TMEP are not designed to have a limited life, because the fundamental material properties of steel do not change appreciably with time, and therefore pipelines have an indefinite life as long as preventative maintenance and integrity management practices are in place. Kinder Morgan Canada has a strong focus on regular preventive maintenance and a well-developed integrity management program including regular inspections with the best available In Line Inspection (ILI) technology. With application of the latest technology, and sound operating practices, the TMP has an indefinite lifespan. Improvements have been made in pipe steel metallurgy, pipe manufacturing, and inspection and quality control processes. Improvements have also been made in the materials for coating pipelines and for the application and testing of coatings to protect the pipe from time dependent degradation mechanisms like external corrosion. These material advancements coupled with improved engineering design standards and practices and construction improvements make the risk of a failure on a new pipeline extremely low. Similarly, technological advancements have been incorporated into today's integrity management programs, including risk management, and these programs are designed and regulated to reduce the risk of a spill on existing pipelines, such as TMP, to a similarly low probability. Section 8.0 of Volume 4C of the Application (Filing ID A3S1L1) provides information on System Integrity Management including Risk Assessment. Oil spill risk assessments are discussed in Section 3.0 of Volume 7the Facilities

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TMEP Response to Wilderness Tourism Association of BC (WTABC) Comments

WTABC Reference Number	WTABC Letter of Comment Content	TMEP Response
		application (Filing ID A3S4V5).
5.28.	During construction of the pipeline, it is expected that there will be some positive and negative impacts on nature based tourism related to construction employment. There may be some nominal positive economic impacts in our industry resulting from the induced impacts of work crews (spending of construction crew salaries on nature based tourism and/or lodging). While these have not been quantified, they are expected to be minimal for the nature based tourism sector. We expect that the overall accommodation and foodservices sector will stand to benefit more significantly from these induced impacts.	Worker expenditures along the pipeline corridor are described in Technical Report 5D-3 of Volume 5D in the Application (Filing ID A3S2J7). Findings are consistent with WTABC assumption that biggest expenditure categories are expected to be on meals and accommodation, however third largest category is recreation products and services ($42M).
5.29.	On the other hand, there are anticipated negative impacts that are expected to result during the construction phase. The pipeline traverses regions that are extensively used by tenured tourism operators such as wilderness guides and public recreationists (hikers, skiers, snowmobilers). Some of these areas may be closed to tenured tourism operators, there will be increased vehicle traffic and noise, and other possible impacts on tourism businesses.	Short-term impacts resulting from construction of the proposed expansion can be mitigated both by time (given the short term nature of pipeline construction) and the confined area of construction. The limited area affected, the limited duration of construction and the restoration following construction all work together to mitigate impacts for recreation users. Furthermore, access across trails can be maintained during construction and restoration activities to avoid having larger areas closed off from recreation use. Section 11.4 of Technical Report 5D-2 of Volume 5D of the Application (Filing ID A3S2J5) describes anticipated effects on Human Occupancy and Resource Use – including marine commercial, recreational and tourism use related to the Westridge Marine Terminal - as well as mitigation measures that have been established to minimize negative effects and enhance Project-related opportunities. The Socio-Economic Effects Assessment in Volume 5B (Filing ID A3S1R4) evaluates the socio-economic effects of the construction, operations and decommissioning phases of the project and where necessary identifies site-specific mitigation measures. In addition, Trans Mountain has prepared a Socio-Economic Management Plan (Appendix C of Volume 6B) (Filing ID A3S2S3) that provides more detail regarding mitigation and enhancement measures proposed by Trans Mountain to manage the socio-economic effects of the Project.

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WTABC Reference Number	WTABC Letter of Comment Content	TMEP Response
5.31.	*Table 1: Risk Analysis of TMP Expansion on B.C. Nature Based Tourism*	In the preceding responses Trans Mountain has corrected the assumptions laid out in Table 1. Trans Mountain welcomes the opportunity to meet with the WTABC to clarify any questions WTABC may have about the Project and better understand concerns raised in the WTABC letter of comment. To schedule a meeting with Trans Mountain, please contact Stephanie Snider Regional Specialist, Stakeholder Engagement 604.781.8389 Stephanie_Snider@transmountain.com
5.32	The primary though not exclusive concern registered by the WTABC in these proceedings is related to the specific routing of the marine shipping component of this project. This region has the highest density of marine-based "trails" (common marine recreation pathways), docks, mooring sites, beach campsites, and other amenities used by tourists and recreationists in B.C.	It is important to note that tankers calling on Westridge Marine Terminal today and post-expansion, are utilizing existing and well-established marine shipping lanes. In concert with the Application submitted to the NEB for review, Trans Mountain also participated in a TERMPOL review process, under the direction of Transport Canada. TERMPOL is a voluntary technical review that focuses on the route ships will take within Canadian waters and includes the process of cargo transfer from ship to shore. The intent of TERMPOL is to identify opportunities for improvement of a specific project proposal to better enhance marine safety. The TERMPOL review is based on technical studies prepared by Trans Mountain (Volume 8C of the Application, Filing ID A56023). These studies were submitted to the TERMPOL Review Committee, a committee composed of representatives from federal departments or agencies with marine regulatory responsibilities who are subject matter experts. The Committee conducted its review and Transport Canada subsequently published its report on 11 December 2014 (Filing ID A4F8Z4). The report is intended to assist Trans Mountain in establishing the marine safety aspects of the Project. In TERMPOL Review Process Report on the Trans Mountain Expansion Project, Transport Canada states, "The shipping route to and from Trans Mountain's terminal to the open sea is well established and used by deep sea tankers as well as other vessel types such as cargo vessels, cruise ships, and ferries.

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		Liquid bulk carriers of the size proposed under the Project currently use the existing route to transport crude oil. There are already a number of safeguards and requirements in place along the route that contribute to marine safety." Furthermore, Finding #9 of the report states, "Trans Mountain's commitment to require via its tanker acceptance process that Project tankers steer a course no more northerly than due West (270°) upon exiting the Juan de Fuca Strait will enhance safety and protection of the marine environment by providing the shortest route out of the Canadian EEZ." Given the statements contained in the TERMPOL Report, and Trans Mountain's own research and findings (contained in the Application), Trans Mountain is confident in the safe passage of its vessels along the proposed shipping route. References: *TERMPOL Review Committee. 2014. TERMPOL Review Process Report on the Trans Mountain Expansion Project. Ottawa, Ont. 57 pp.*
5.35 and 5.36	Figure 3: Recognized Marine Recreation Use Areas in SW B.C. demonstrates, there is a dense clustering of marine recreation sites in the Southwestern corner of B.C. These regions would be impacted by a catastrophic oil spill as well as from cumulative impacts from minor spills, and/or ancillary impacts from visuals, noise, air, and water pollution.	In TMEP's Application, potential Project-related effects on Marine commercial, recreational and tourism use were identified. These effects include: • interactions between Project-related marine vessels and other marine users, where other marine activity uses or crosses the designated shipping lanes; • possible physical disturbances to shoreline areas or marine facilities from the wakes generated by Project-related marine vessels, where the shipping lanes are near shore; • possible physical disturbances to small vessels from the wakes generated by Project-related marine vessels;

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		• sensory disturbance of marine users due to transits of Project-related marine vessels; and • the presence of Project-related marine vessels contributing to negative perspectives of marine users. Volume 8B of the Application (Filing ID A56022), the Marine Commercial, Recreational and Tourism Use Technical Report, discusses these potential effects at length and Table 5.3.1 of the Report provides mitigation measures related to increased project-related marine vessel traffic on marine commercial, recreational and tourism use. As part of Trans Mountain's assessment of the risks of increased shipping of crude oils, including diluted bitumen oils by tanker from their Westridge Marine Terminal in Burnaby, several risk assessment studies have been undertaken including, but not limited to, a quantitative risk assessment (conducted by DNV), an ESA (conducted by TERA, 2013), research and tests of representative diluted bitumen crude oil to better understand the characteristics of this type of crude oil (Polaris & WCMRC, 2013) and the fate and behaviour of the oil through spill modelling by EBA, A Tetra Tech Company (EBA). Mitigation of risks is an essential consideration in Trans Mountain's submissions, both in terms of avoiding accidents and reducing their consequences should they occur. The existing tanker safety regime is based on local experience and international best practices. It is comprehensive, well established, and has proven to be effective. Further to the current safety regime, Trans Mountain engaged WCMRC to propose enhanced planning standards and how they could be implemented to accommodate additional marine traffic that will result from the project. WCMRC is the certified Canadian oil spill response organization that operates along B.C.'s coast.
5.37	Perhaps most notable, the Northern Saanich Peninsula and Southern Gulf Islands are world-renowned recreation and boating destinations, and pillars of	As discussed in 5.36 above, Trans Mountain is aware of potential Project-related effects on marine commercial, recreational and tourism use. This is

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	BC's nature based tourism sector. This region is also the most significant navigational constriction point (outside of the Burrard Inlet bridges), making an increase in bulk crude tanker traffic in this region a higher risk to nature based tourism revenues in B.C.	discussed in detail in Technical Report 8B-6 of Volume 8B of the Application, the Marine Commercial, Recreational and Tourism Use Technical Report (Filing IDs A3S4K4, A3S4K5 and A3S4K6). The sailing route from Westridge Marine Terminal to high seas outside the mouth of Juan de Fuca Strait is a relatively uncomplicated route from a navigational perspective. The most challenging part is the start of the route from the terminal through the Second and First Narrows in the Vancouver harbour area, which is a Movement Restricted Area (MRA). The whole sailing route has a traffic separation scheme (TSS) and is monitored and guided by the Canadian Coast Guard MCTS and U.S. Coast Guard VTS. Thus it can be concluded that the sailing route is well managed and has a high level of risk control in place. In the TERMPOL Review Process Report on the Trans Mountain Expansion Project, Transport Canada states, "The shipping route to and from Trans Mountain's terminal to the open sea is well established and used by deep sea tankers as well as other vessel types such as cargo vessels, cruise ships, and ferries." Furthermore, Transport Canada concludes in their report that the increase in large vessel transits per day is unlikely to pose a significant safety issue, especially considering the: • characteristics of the shipping route; • current vessel traffic; • national, including international, regulatory frameworks governing safe navigation and collision avoidance; • comprehensive traffic routing measures, with traffic separation schemes; • Vessel Traffic Services; and

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		• mandatory pilotage, including additional requirements for oil tankers in the area. References: *TERMPOL Review Committee. 2014. TERMPOL Review Process Report on the Trans Mountain Expansion Project. Ottawa, Ont. 57 pp.* Additionally, in respect of the areas noted, there exists today established maritime industry activity, including the transiting of tankers and other large commercial vessels in and out of various ports of call in the region.
5.39	Within the Salish Sea (Strait of Georgia), navigational challenges may abate somewhat, however the concentration of nature based tourism amenities and businesses remains high. This is particularly the case for the eastern shoreline of Vancouver Island, Howe Sound, and the Sunshine Coast. These regions are highly dependent upon nature based tourism to provide income and employment.	There is a long history of marine transportation of crude oil and refined petroleum products within this region (over 100 years). Therefore, for most parts the transport risk factors associated with the Project already exist in the region. The safety regime in place today for both the existing tanker traffic and the operation of the Westridge Marine Terminal has been developed and continually improved since the terminal entered service in 1953. The regime is based on regulatory requirement, local experience and international best practices. It is comprehensive, well established and has proven to be effective. The increase in traffic resulting from the Trans Mountain tanker traffic (60 to 408 tankers per year – each sailing direction) is found to have a negligible effect on the total incident frequency in the region. With or without the Project, Trans Mountain tanker traffic remains a small part of total traffic in the region. In its concluding remarks, the TERMPOL Review Process Report on the Trans Mountain Expansion Project states, “The existing Canadian marine laws and regulations, including international frameworks, complemented by the enhanced safety measures Trans Mountain has in place or is committed to implementing and the recommendations contained within this report will provide for safer shipping in support of the proposed Project. Tankers and shipping operations, like any other vessel operations, will have to comply fully with national, including

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		international, regulatory frameworks. Through Trans Mountain's oil tanker vetting and acceptance process, tanker operators will have to follow Trans Mountain's additional safety enhancements as committed to through the TERMPOL Review Process, which are designed to reduce the risks during operations." References: *TERMPOL Review Committee. 2014. TERMPOL Review Process Report on the Trans Mountain Expansion Project. Ottawa, Ont. 57 pp.*
6.2	That the project applicant, Trans Mountain, be compelled to consult directly with the Wilderness Tourism Association to review the details of this Letter of Comment.	Trans Mountain welcomes the opportunity to meet directly with the WTABC and discuss their comments and concerns. To schedule a meeting with Trans Mountain, please contact Stephanie Snider Regional Specialist, Stakeholder Engagement 604.781.8389 Stephanie_snider@transmountain.com
6.3.	That a condition of NEB approval of this project be the development of a comprehensive and public ESA that includes the identification of potential impacts on nature based tourism of the marine shipping component of the project, including but not limited to the potential risks identified in this Letter of Comment, and a comprehensive risk mitigation strategy related to the relevant risks identified.	After two years of consultation, In December 2013, Trans Mountain filed an eight-volume, 15,000-page Facilities Application, which contained the environmental socio-economic assessment. The preceding responses to WTABC's questions and comments provide precise direction on where potential project-related impacts to marine tourism are discussed. More generally, the following may be of interest to the WTABC: • Volume 8B – Marine Commercial, Recreational and Tourism Use Technical Report (Filing ID A56022) • Volume 8C – TERMPOL 3.2 – Origin, Destination and Marine Traffic Volume Survey (Filing IDs A3S4R7, A3S4R8, A3S4R9) • Volume 8C – TERMPOL 3.15 – General Risk Analysis and Intended Methods of Reducing Risks (Filing IDs A3S5F4, A3S5F6, A3S5F8) Section 1.5.3.1 of Volume 3A of the Application (Filing ID A3S0R3) describes

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TMEP Response to Wilderness Tourism Association of BC (WTABC) Comments

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		a series of Environmental and Socio-economic Assessment (ESA) hosted by Trans Mountain. Regional marine ESA workshops provided information on the proposed approach to the completion of the Project marine ESA and sought input from stakeholders regarding study approach and methodology. The workshops also provided an opportunity for Trans Mountain to share information related to the other marine studies underway, including risk analysis, fate and effect testing, and preliminary dock design. Stakeholders in attendance included local and regional government representatives, naturalists and local stewardship groups, commercial and recreational fishery associations, tourism and recreational marine-based operators, commercial wharf operators, Aboriginal communities, and local and/or regional emergency managers. Regional marine ESA workshops, held in North Vancouver on May 22, 2013, and Langford on May 23, 2013.
6.4	The WTABC would also like to make an Information Request (IR) to receive all relevant documentation related to the "Environmental and Socio-- - economic Assessment: Human Activity & Land Use," and any other relevant documentation related to impacts on marine-- - based tourism operators in British Columbia.	This material was filed with Trans Mountain's Facilities Application. Please see Volume 8B – Marine Commercial, Recreational and Tourism Use Technical Report (Filing IDs A3S4K4, A3S4K5, and A3S4K6).
7.2	We urge the NEB to consider tourism and recreation values and interests as one of the primary areas of risk related to the project, and develop mandatory mitigation strategies to be put in place in the event that the project is authorized to proceed.	Trans Mountain appreciates the time and consideration taken by the WTABC in crafting this letter of comment. Over the last three years Trans Mountain and its consultants have conducted extensive engagement and communications activities to inform Aboriginal communities, stakeholders, the public and regulatory authorities about the approach to assessing potential environmental and socio-economic effects of the Project, and to seek input throughout the Project planning process. Upon review of the response provided herein, Trans Mountain believes that WTABC may reach different conclusions, with the additional reference material and corrected facts. Trans Mountain has as part of its Application and in the response discussed herein, considered tourism and recreation values and interests and is proposing a number of prevention and response

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WTABC Reference Number	WTABC Letter of Comment Content	TMEP Response
		efforts to address these. As discussed in 6.2 above, Trans Mountain welcomes the opportunity to meet directly with the WTABC and discuss their comments and concerns. To schedule a meeting with Trans Mountain, please contact: Stephanie Snider Regional Specialist, Stakeholder Engagement 604.781.8389 Stephanie_snider@transmountain.com

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January 5, 2015

APPENDIX N

TRANSMOUNTAIN

Construction of the expanded Westridge Marine Terminal will include the installation of approximately 200 piles. The extension of the foreshore will be necessary to accommodate new piping and equipment, including metering systems, dock sending traps, dock delivery lines, VRUs and VCU, electrical systems, fire-water and foam systems, storm-water management systems, and control building and spill response equipment.

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TRANSMOUNTAIN EXPANSION PROJECT

Westridge Marine Terminal

May 2015

Westridge Marine Terminal joined Green Marine, a voluntary environmental program, in 2013 to benchmark and commit to continuous year-over-year improvement in the terminal's environmental performance. Green Marine encourages participants to go beyond regulatory compliance and to implement concrete and measurable actions to reduce their environmental footprint.

Trans Mountain has a management system that promotes the use of best practices and measurably understand environmental impacts. In 2014, Trans Mountain's Westridge Marine Terminal was independently verified at a Green Marine Level 3 rating in all categories applicable to terminal operators. Here are some of the initiatives implemented at the terminal to reduce the environmental footprint:

- A comprehensive study was conducted on the combustion efficiency of the Vapour Combustion Unit (VCU) at the terminal and the results were incorporated into revised standard operating procedures for the VCU. Trans Mountain will conduct annual combustion efficiency testing of the Westridge Marine Terminal existing VCU.
- All ships docking at the terminal are enclosed with an oil spill containment boom while transferring cargo.
- Water that accumulates around the storage tank area is captured in secondary containment before being visually inspected and passed through oil detection instrumentation.
- Emergency response equipment is on-site and all employees are regularly trained in spill response.
- Maintenance work conducted on dock machinery (e.g., cranes) is done with spill protection measures in place. Additionally, the entire dock area is impermeable and fitted with scupper plugs.
- All foreshore areas are inspected daily in order to quickly identify any potential issues.
- International tanker best practices (ISGOTT) are actively applied under the oversight of a Loading Master who attends every vessel that calls at Westridge.
- All ship's masters docking at the terminal are briefed on noise reduction and other local requirements.
- Installation of a new ambient air monitoring station (2015).
- Terminal employees are encouraged to use public transportation.
- The idling of vehicle engines is limited through a no-idling policy.

Tankers are held to strict internationally accepted build, manning, maintenance and operating quality standards mandated by the International Maritime Organization and Canadian Shipping Act and verified by Class Societies.

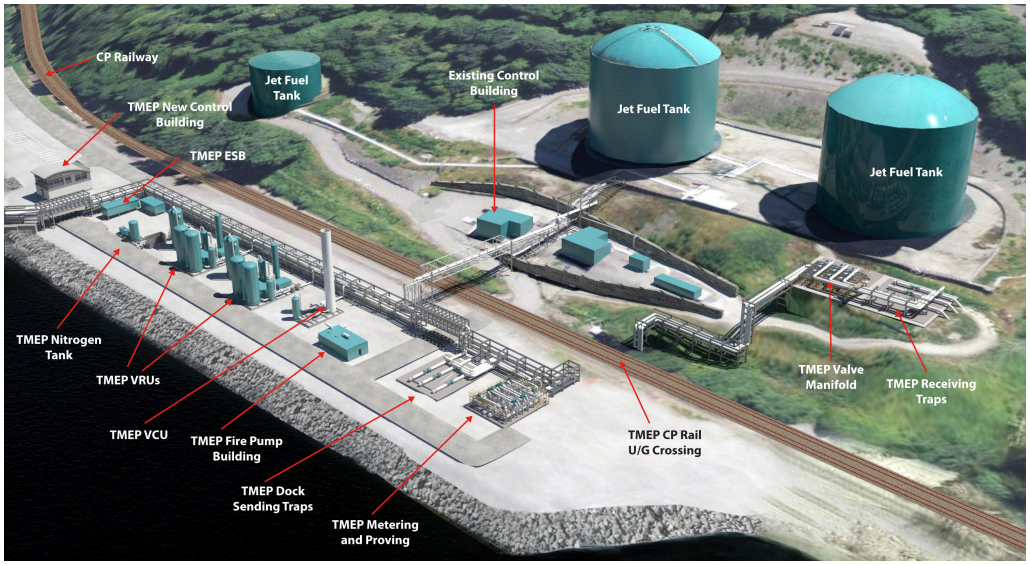
Before a tanker is allowed to transfer cargo at the Westridge Terminal, Trans Mountain's Loading Master conducts a physical inspection of the vessel and ensures the vessel and its crew are prepared for a safe loading.

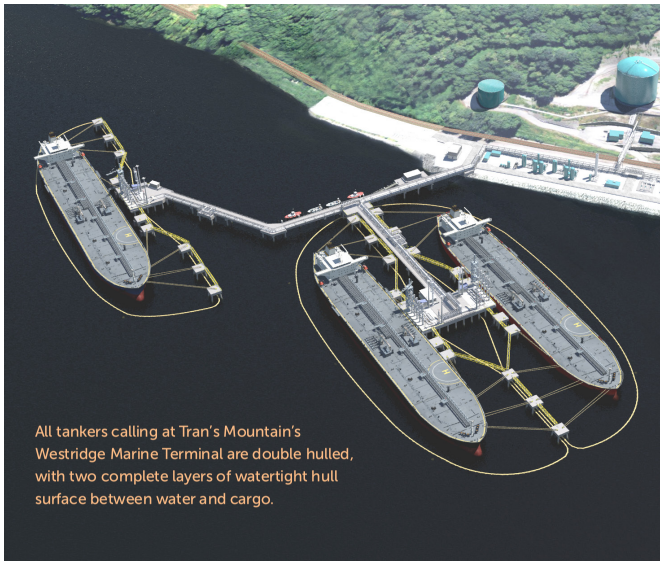
TRANSMOUNTAIN

Westridge Marine Terminal E X P A N S I O N

Trans Mountain is proposing an expansion by completing the twinning of its existing 1,150-kilometre pipeline between Edmonton, Alberta and Burnaby, British Columbia. As part of the proposed Project, Trans Mountain will replace the existing single berth at Westridge Marine Terminal with three new berths, each capable of accommodating up to Aframax-size vessels. There will also be one new utility dock for tugs, boom boats and emergency response vessels.

Tanker traffic calling at Westridge Marine Terminal is expected to increase from approximately five Aframax-size tankers per month to 34 tankers per month.





All tankers calling at Tran's Mountain's Westridge Marine Terminal are double hulled, with two complete layers of watertight hull surface between water and cargo.

Terminal design features that reduce its environmental footprint include:

- The dock is located and designed so as to minimize its footprint and need for dredging.
- Each berth will have its own spill containment boom that will continue to be deployed around every vessel.
- Emission impacts will be mitigated with the installation of:
  - Two new Vapour Recovery Units (VRUs) to recover and recycle the majority of volatile hydrocarbon vapours displaced from vessels during crude oil loading. These units will greatly reduce volatile organic compounds (VOC) and odour impacts compared to current operations because they do not combust (or burn) volatile hydrocarbon vapours but collect them for reinjection back into the vessels being loaded.
  - One new Vapour Combustion Unit (VCU) to replace the current VCU – the new unit will be for occasional use when three tankers are being loaded simultaneously (less than three per cent of the time) and it will also provide back up to the VRUs during maintenance activities.
  - A gas monitoring network, including hydrocarbon detectors on the VCU and VRUs, and reduced sulphur compound (RSC) detectors around the site, will be installed for early detection of any leaks or equipment malfunction. The detection equipment will be integrated with the Westridge Marine Terminal control system to allow for continuous measurement of the performance of the VCU and VRUs to ensure they are operating efficiently and effectively.Trans Mountain will conduct annual combustion efficiency testing of the Westridge Marine Terminal proposed VCU.
- **Space will be provided for possible future installation of shore power facilities (only a small fraction of the worldwide tanker fleet can currently use shore power and these are not expected to call at Westridge).**
- **All marine-related soil and liquid waste will be managed in accordance with the Canadian Shipping Act and BC Ministry of Environment requirements:**
  - To reduce risk from invasive species, ballast water management will follow international requirements in accordance with the Canadian Ballast Water Control and Management Regulations (SOR/2011-237).
  - Rainwater run-off will be collected from the dock loading platforms, sending and receiving trap areas, piping manifolds, metering area and VRU/VCU areas. The collected water will be directed through oil/water separators before release.

KINDER MORGAN CANADA

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January 5, 2015

APPENDIX O

Trans Mountain Expansion Project

Ensuring Safe Shipping Through Quality Assurance

Nautical Institute of British Columbia

Victoria, BC. May 7, 2015

TRANSMOUNTAIN

CELEBRATING 60 YEARS OF SERVICE 1953 to 2013

KINDER MORGAN CANADA

Agenda

- Quality Assurance in Shipping
- Trans Mountain Expansion Project Overview
- Marine Risk Assessment
- TERMPOL
- Q & A

"Information provided in this presentation is not meant to prejudice or modify material contained in the facilities application submitted by Trans Mountain Pipeline ULC. to the National Energy Board. For details on any of the items discussed here please refer to the application, including TERMPOL submission material."

Concept of Quality in Shipping

Quality: how good or bad something is, often subjective and perceptual

Quality Assurance: part of **quality** management focused on providing confidence that **quality** requirements will be fulfilled (ISO 9000)

- Identify hazards & assess risks
- Establish safeguards
- Implement
- Review and improve
- Remain “Fit for Purpose”

Trans Mountain Pipeline

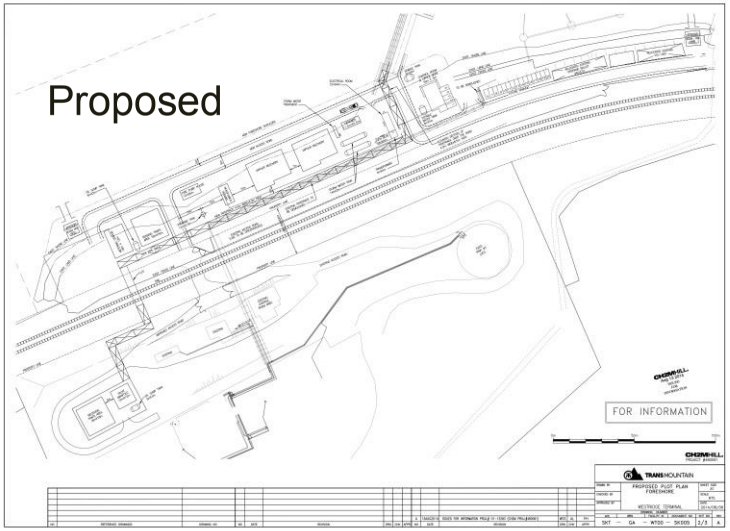
Proposed Expansion

- Expand capacity to 890,000 bpd
- Customer contracts for ~ 700,000 bpd on 15 and 20 year terms
- Increased demand from US west coast and Asia
- Twin remaining 987 Km of pipeline
- Increase pumping capability
- Increase storage capacity
- Increase in tanker traffic - not tanker size

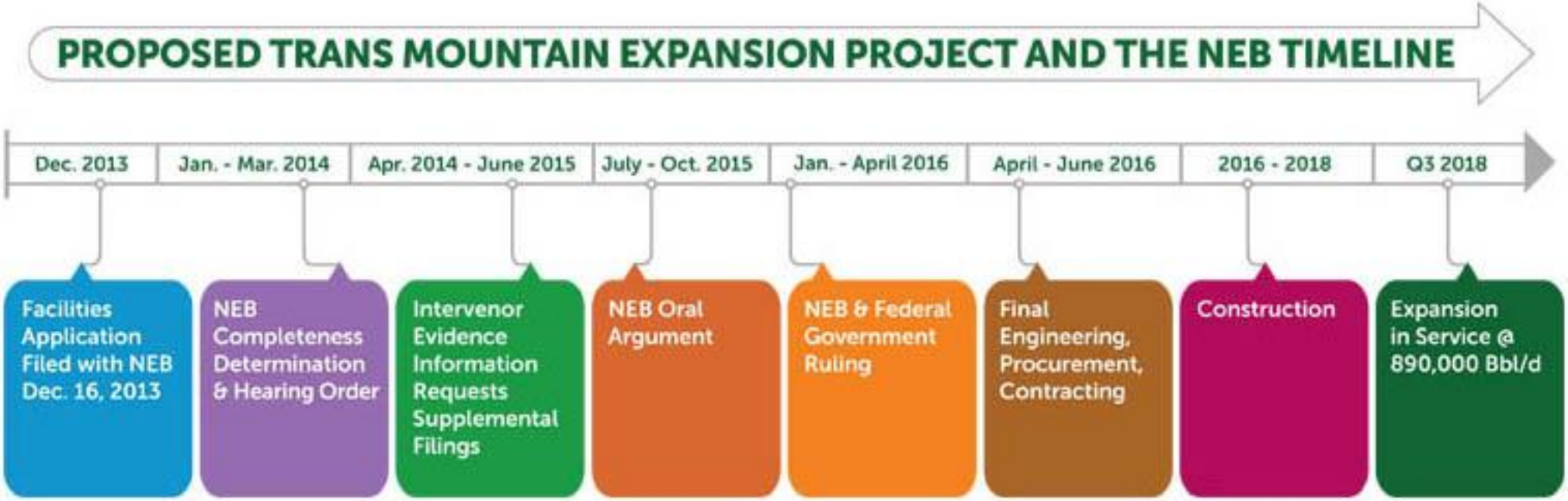
Current Operations

- Operating since 1953
- Capacity: 300,000 bpd
- 1150 Km between Edmonton and Burnaby
- Ferndale and Anacortes
- Transports refined products, heavy and light crude oils including dilbit
- Last expanded in 2008

Westridge Marine Terminal



Project Timeline



Regulatory Review

TMEP is undergoing a review by the National Energy Board, the scope of which includes the marine effects of the Project:

- *The potential environmental and socio-economic effects of marine shipping activities that would result from the proposed Project, including the potential effects of accidents or malfunctions that may occur.*
- *Potential impacts of the project on Aboriginal interests.*
- *Contingency planning for spills, accidents or malfunctions, during construction and operation of the project.*

TMEP requested a TERMPOL review and submitted these studies as part of its NEB application:

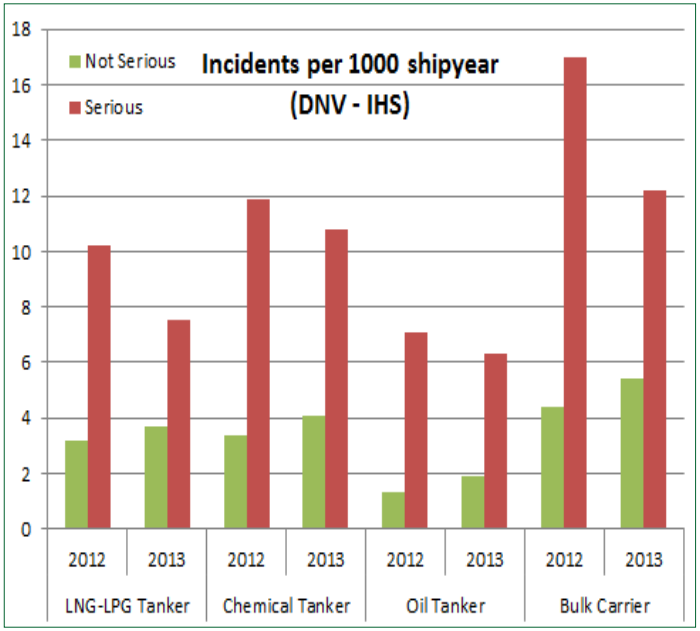
- **TERMPOL** – *Technical Review Process of Marine Terminal Systems and Transhipment Sites*
- A voluntary review that focuses on the marine transportation components
- Suite of studies submitted includes a Quantitative Risk Assessment by Det Norske Veritas
- Transport Canada chairs a committee of federal agencies to review and report on the submission
- TERMPOL submitted to Transport Canada in December 2013
- Termpol Review Committee report was submitted to NEB in December 2014
- Termpol Studies and the Review Committee form part of the record for the NEB hearing

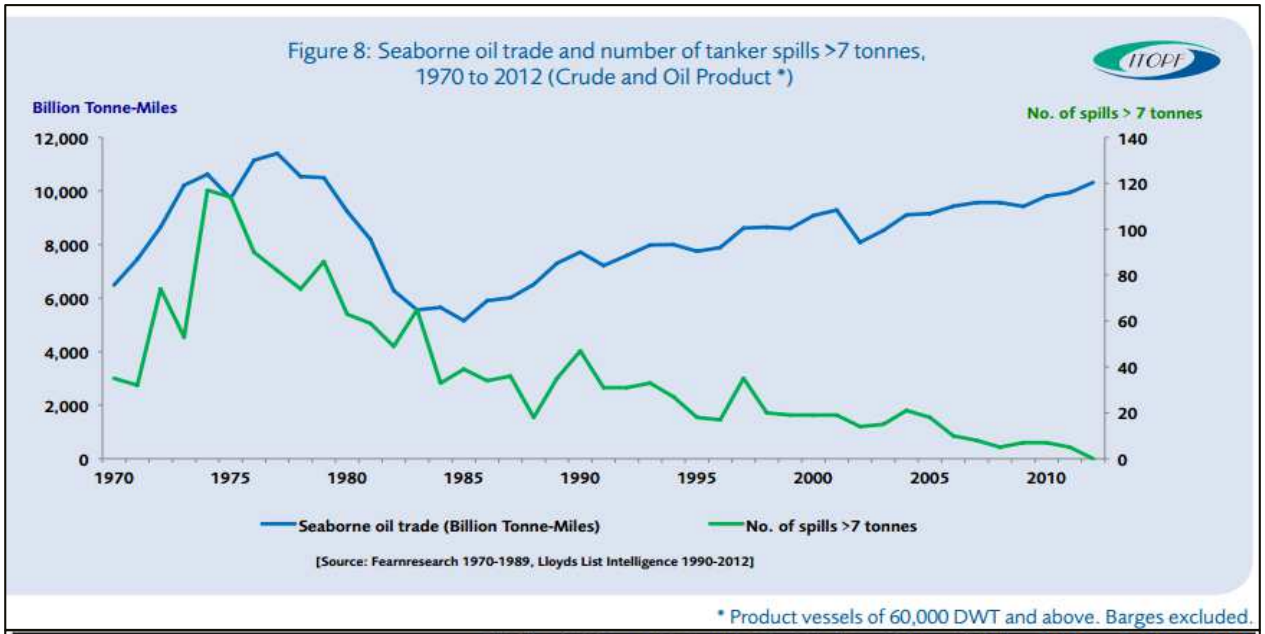
Marine Risk Assessment

Risk is typically seen as a combination of *probability* and *consequence*;
Key components of the risk assessment process:

- Review global and regional casualty data
- Review existing marine network
- Identify Hazards within network (two HazID sessions)
- Quantify network traffic
- Consider current safety measures
- Forecast marine traffic (2018, 2028)
- Quantify current and future marine incident frequency
- Quantify current and future cargo oil spill frequency
- Determine hypothetical spill volumes – identify credible worst case
- Research into fate and behaviour of oil cargo (Diluted Bitumen)
- Undertake Spill modeling
- Consider consequences of Credible Worst Case oil spill
- Propose additional precautionary measures to mitigate risk

Global Tanker Safety Record





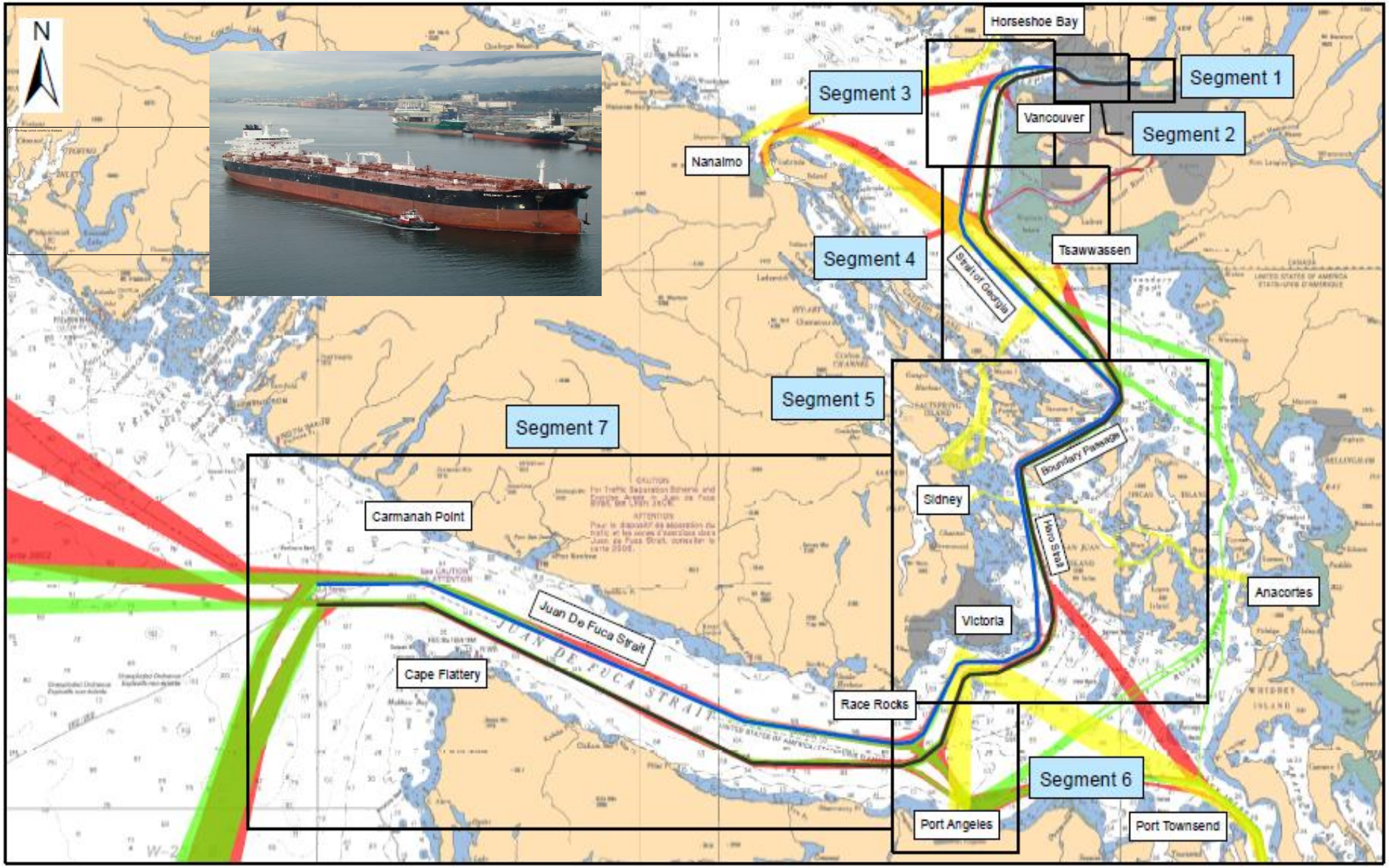
* Product vessels of 60,000 DWT and above. Barges excluded.

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Western region										
Shipping accidents	125	125	124	102	109	114	89	90	77	90
Accidents aboard ship	15	14	15	20	15	21	13	10	16	20
Vessels involved in shipping accidents	135	145	142	116	131	127	97	104	88	107
Cargo	3	2	9	3	3	9	5	4	10	6
Bulk carrier/Ore-bulk-oil (OBO) carrier	7	3	3	2	4	5	0	2	4	1
Tanker	0	0	0	0	0	1	0	0	0	0
Ferry/Passenger	19	26	24	12	15	15	9	13	9	10
Tug/Barge	31	34	38	42	48	24	23	28	20	29
Fishing	65	71	52	43	54	49	48	39	34	36
Other	10	9	16	14	7	24	12	18	11	24
Vessels lost	6	8	15	11	10	8	5	3	6	4
Fatalities	8	7	6	8	9	6	6	6	4	2
Incidents	98	87	84	68	146	111	117	119	127	164

Transportation Safety Board (Canada)

- Strong Safety Record
- Continuous improvement

Marine Network



<u>TM Current Operations</u>
About 5 tankers /month

<u>TM Future Operations</u>
Up to 34 partially laden Aframax /month

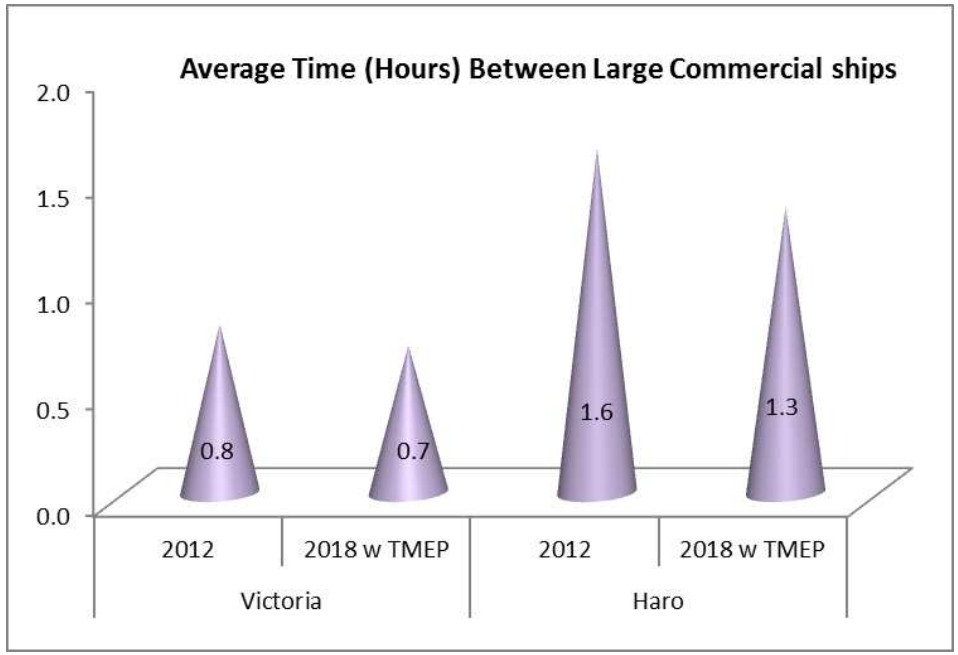
<u>Same</u>
Route, Products, Vessel Size

Regional Marine Network

- Aframax tankers and larger vessels safely operate in the established network
- 15 – 20% increase in ships between 2012 and 2018 (post TMEP)
- Currently ~ 600 tankers per year
- Post 2018 ~1000 tankers per year
- Large commercial vessels currently transit Boundary Pass / Haro Strait on average about once every 96 minutes
- With TMEP, in 2018, average transit frequency will be about once every 78 minutes

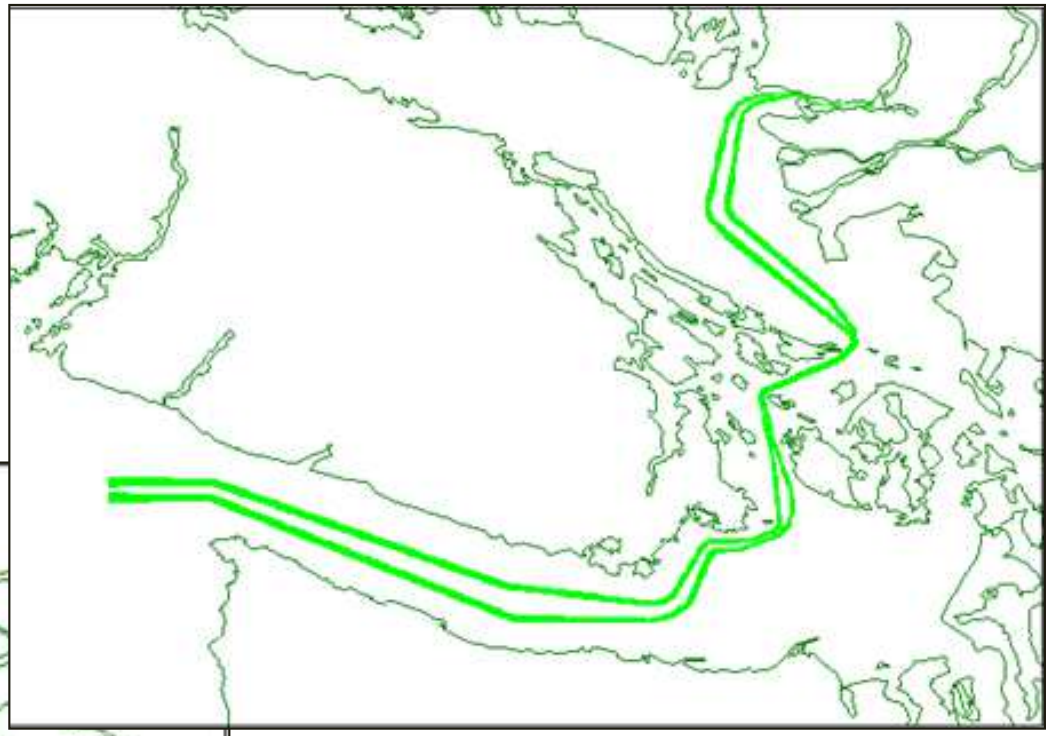
Ship Forecast 2012 to 2018

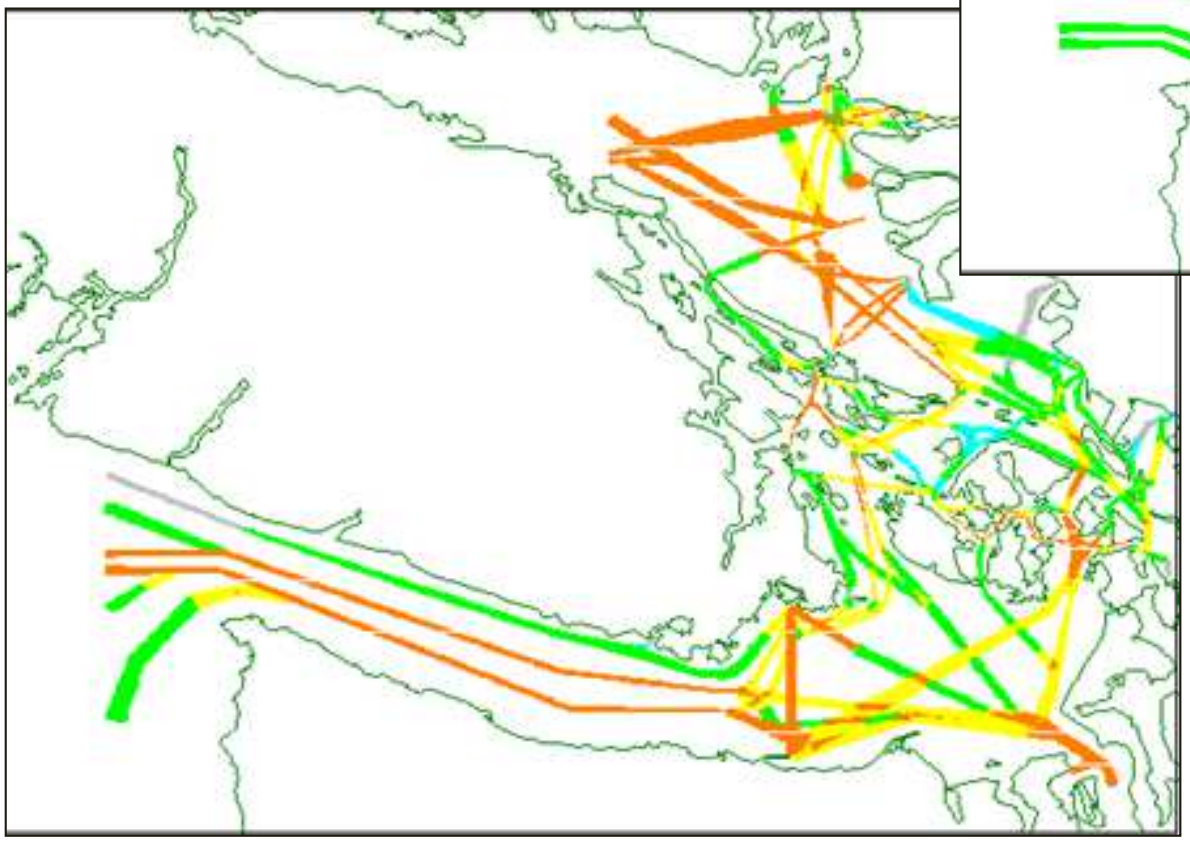
Juan de Fuca	Current	With TMEP
All Large Vessels	~5500	~6200
All Tankers	~600	~1000
TM Tankers	60	408
%age of TM Tankers	1.1%	6.6%



Shipping Route Review

- Highly effective CVTS
- TSS separates opposing traffic
- All vessels are required to comply with CollRegs
- Many small vessels (e.g. fishers)
- Several traffic crossing locations



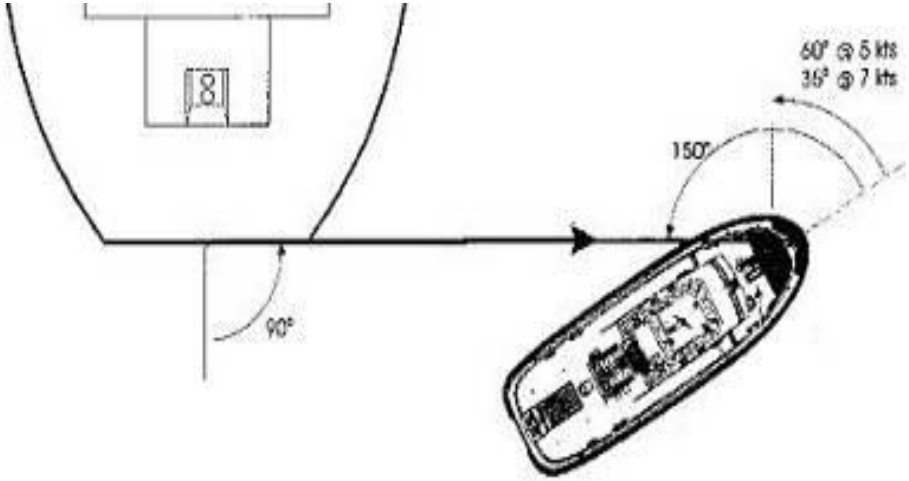


- All vessels must remain situationally aware

Robust Marine Safety Measures Exist

Vessels must;

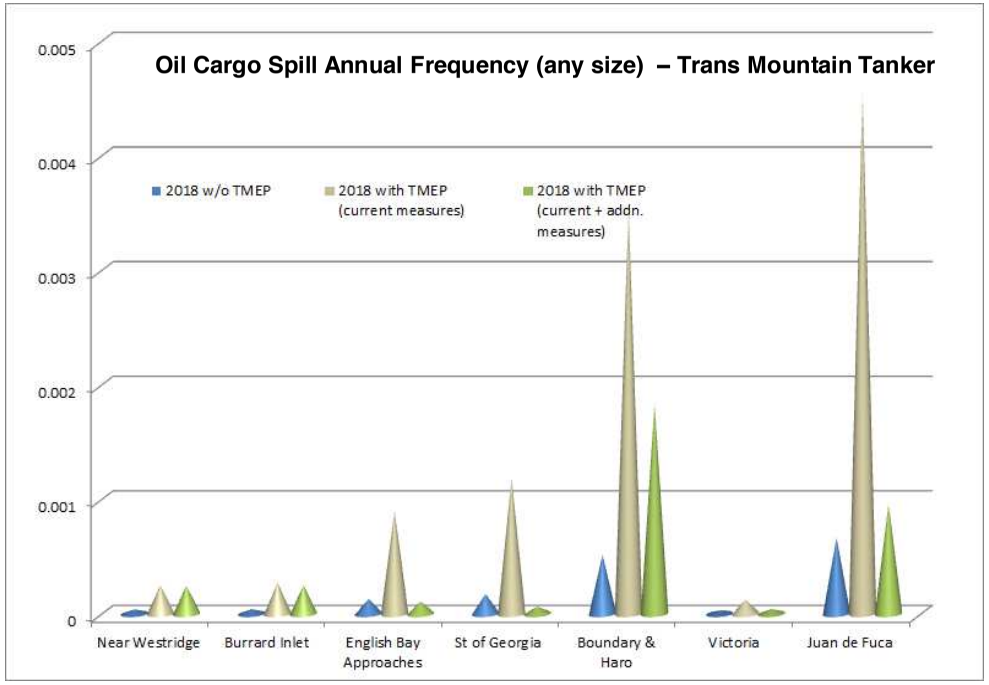
- meet TM tanker acceptance
- be double hulled
- enroll to SiRe Program
- comply with ALL international and local laws/regulations (IMO, Transport Canada, PPA, PMV)
- have WCMRC agreement
- advise CG prior/upon arrival
- follow CVTS, use TSS
- take licensed Pilot
  - > 7 years experience, PPU
  - 2 pilots for laden tankers
- take tug escort (PPA/PMV)
- have ECDIS/Radar
- follow best practices (ISGOTT)
- be boomed prior to transferring cargo
- liaise closely with Loading Master

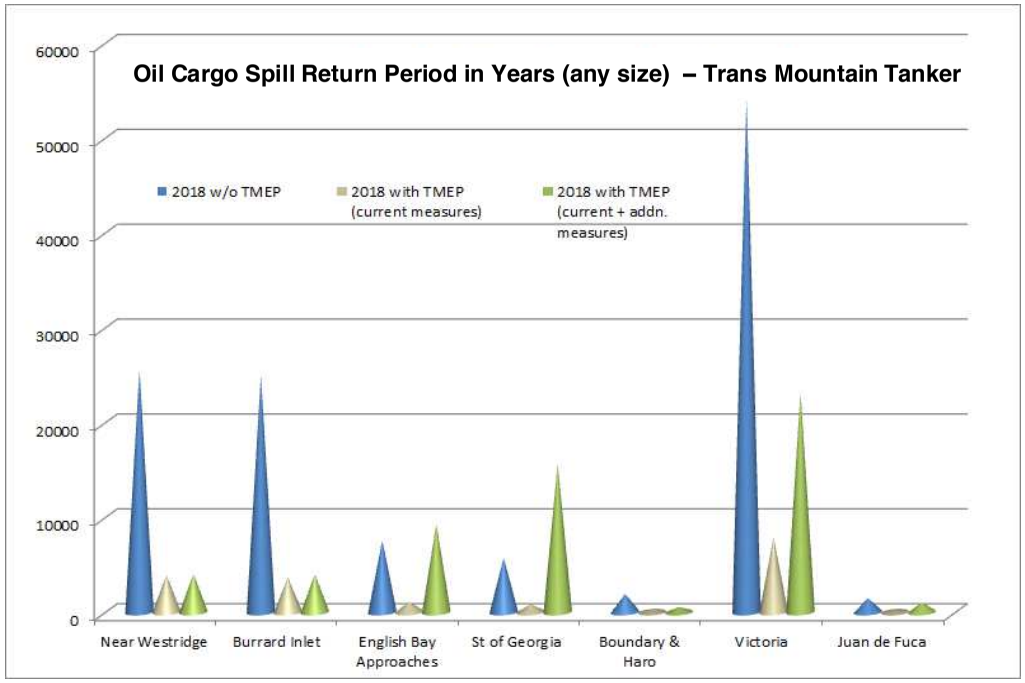


Probability Assessment

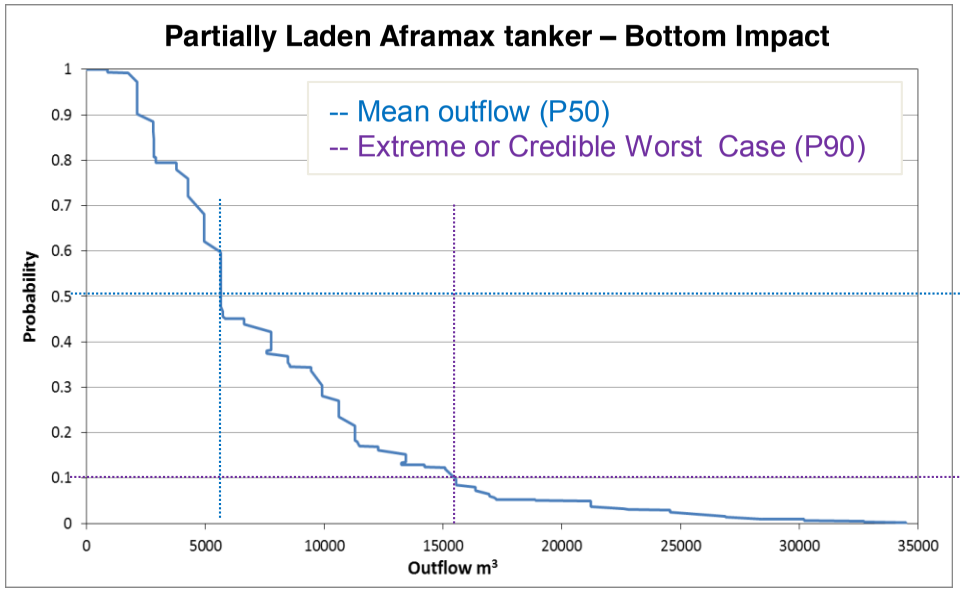
- **Quantitative Risk Assessment**
  - Refined model in response to Round 1 Information Responses
  - Termpol endorsement of ESA (Enhanced Situational Awareness) instead of MEZ (Moving Exclusion Zone)
  - Results filed with NEB on January 2, 2015

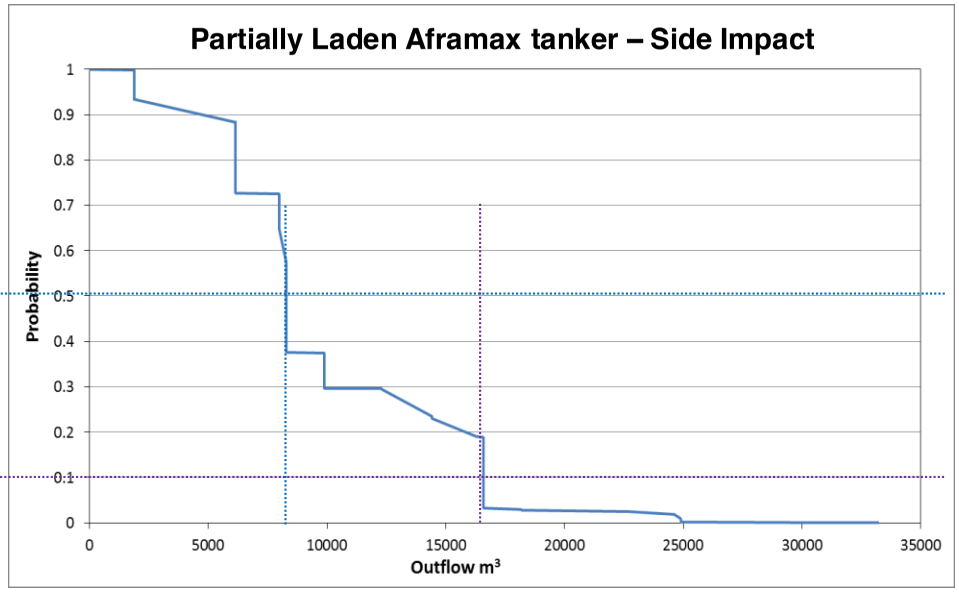
- Project Tanker Oil Cargo Spill frequency (any size) estimated as 1 in 284 years;
- All Oil Cargo Spill frequency (any size) estimated as 1 in 92 years;



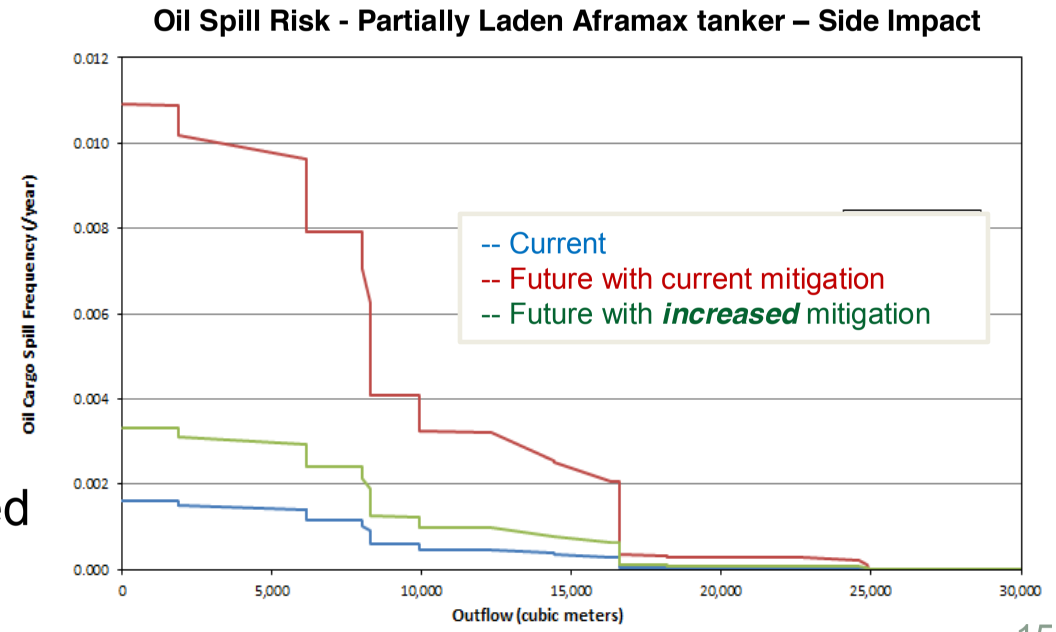


Consequence Assessment





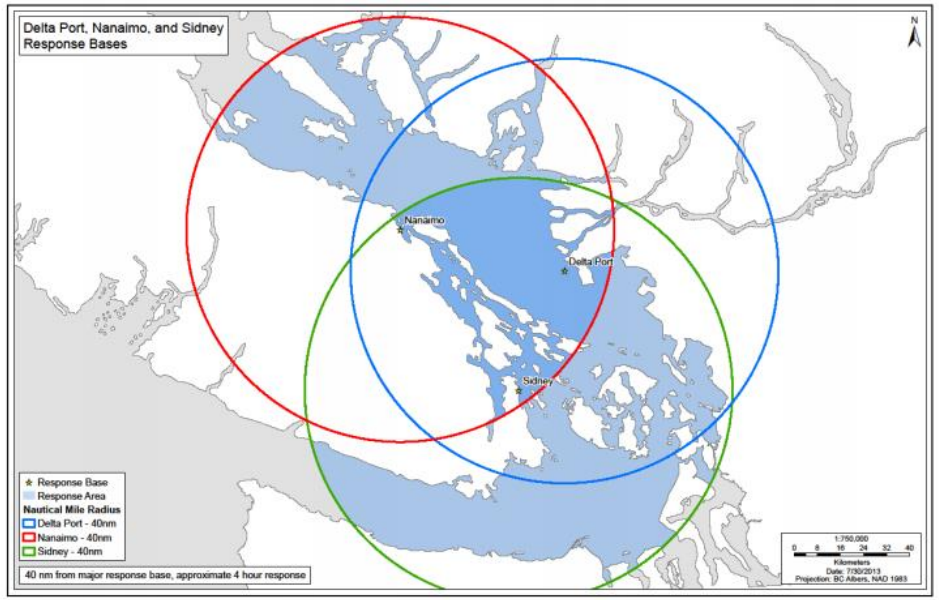
- **Monte Carlo Simulation** (10,000 x 5)
  - Side impact effect is more severe
  - 90th percentile oil spill from side impact deemed as Credible Worst Case scenario
  - CWC volume for partially laden Aframax tanker is 16,500 m3
- CWC Oil Cargo Spill frequency estimated as 1 in 2841 years

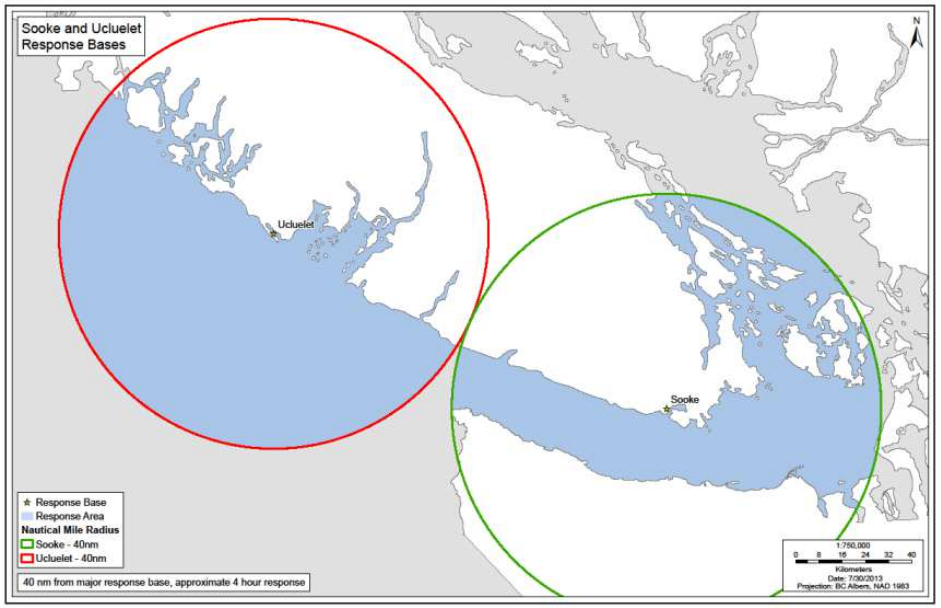


Consequence Assessment

Future Oil Spill Response

- Based on results of risk assessment, product testing, oil spill modelling, engagement
- Create an “Increased Response Area” for Salish Sea & Juan de Fuca Strait shipping route
- Doubles the current mandated spill response capacity – (20,000 mt proposed)
- 24/7/365 response capability – new response bases along the route
- Reduced minimum response times – Vancouver Harbour (2 hrs);
  Salish Sea (6 hrs)
- 20,000 mt response capacity delivered on-site within 36 hours
- WCMRC is currently leading discussions on site location





TERMPOL Review

TERMPOL Review Committee for TMEP;

- Transport Canada
- Fisheries and Oceans Canada
- Canadian Coast Guard
- Environment Canada
- Canadian Hydrographic Service
- Pacific Pilotage Authority Canada
- British Columbia Coast Pilots
- Port Metro Vancouver

- Recommendations – 17
- Findings – 31
- All have been accepted by Trans Mountain
- All information is publicly available on NEB's website.

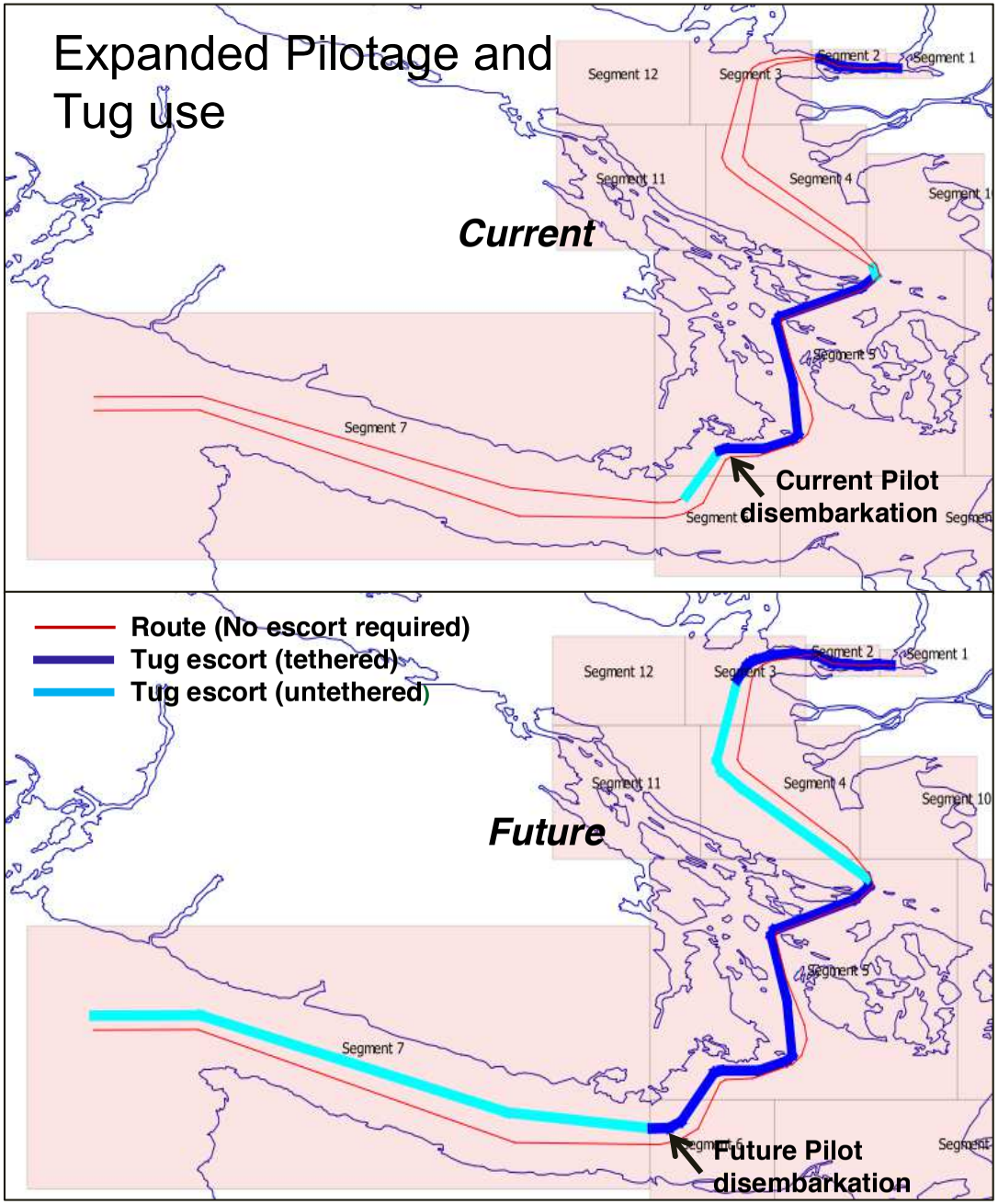
TERMPOL Report

- Key items:

- Endorses expanded use of tethered and untethered tug escort

- Endorses extension of pilot disembarkation zone

- Recommends enhanced situational awareness (ESA);
  - Safety calls by laden tankers
  - Notices to Industry
  - Engagement and awareness strategy led by PPA
  - More use of AIS and radar reflector by smaller vessels



Conclusions

- Navigation and oil spill risk was assessed taking a systems approach shows
  - Existing navigation route is well established with robust traffic management system
  - Current risk reduction measures for TMEP tankers already of global standards - enhancements will further improve the marine safety regime
  - Cargo oil spill risk will remain low in future – Trans Mountain and WCMRC have proposed enhanced oil spill response regime for South BC coast
- TMEP Termpol Report issued by Transport Canada:

  The TRC does not consider the overall increase in marine traffic levels to be an issue; however, it does support additional measures to promote shared safe use of the Project's preferred shipping route.

  The existing Canadian marine laws and regulations, including international frameworks, complemented by the enhanced safety measures Trans Mountain has in place or is committed to implementing and the recommendations contained within this report will provide for safer shipping in support of the proposed Project.
- *Experience highlights the need for ongoing dialogue on quality attributes of the shipping industry.*

We want to hear from you

CONTACT US:

Trans Mountain Expansion Project

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Phone: 1.866.514.6700

Website: www.transmountain.com

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2844 Bainbridge Avenue

PO Box 84028 Bainbridge

Burnaby, BC V5A 4T9

Nautical Institute of British Columbia
Port Infrastructure

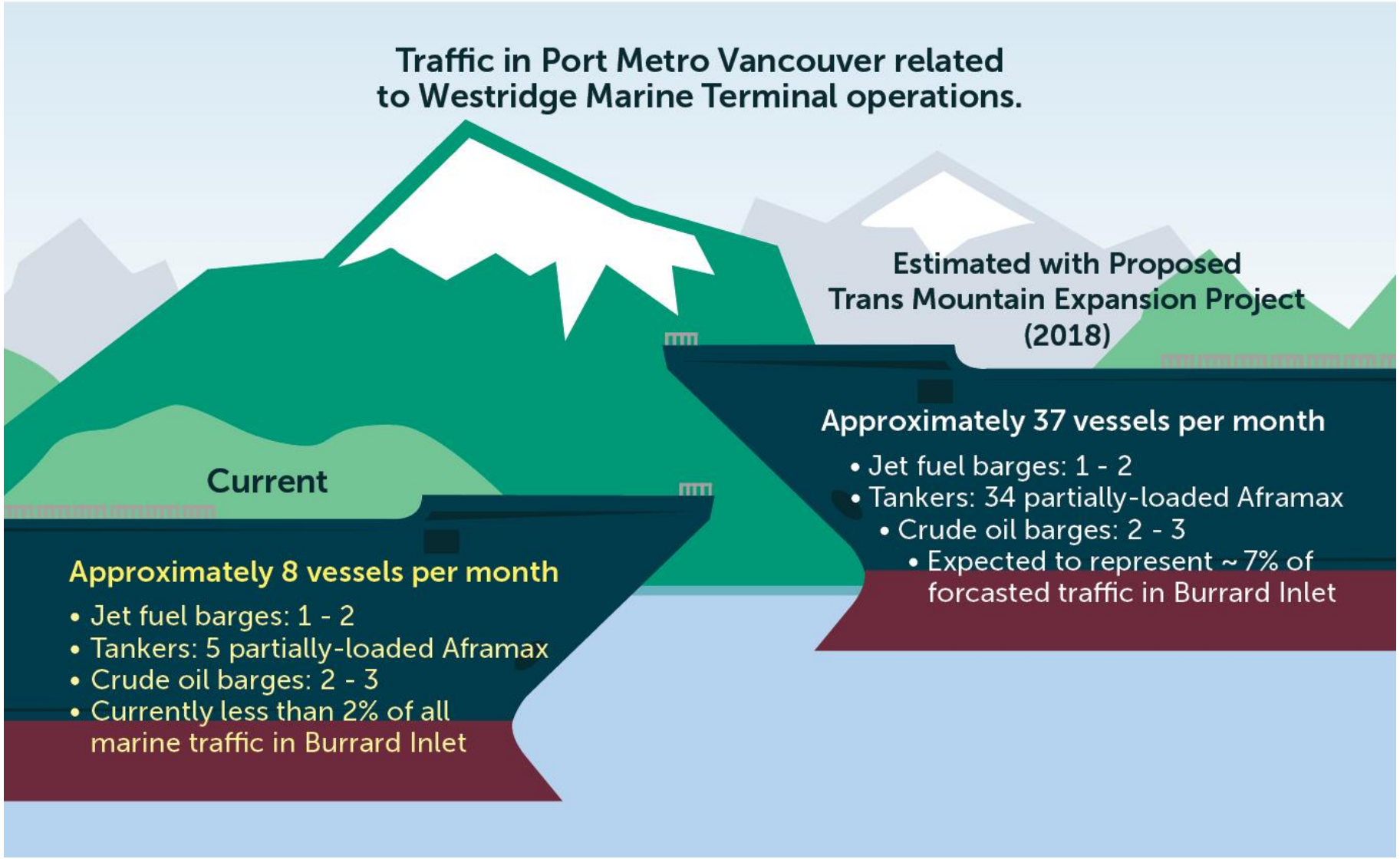
Captain Chris Badger

Victoria, BC

07 May 2015

TRANSMOUNTAIN

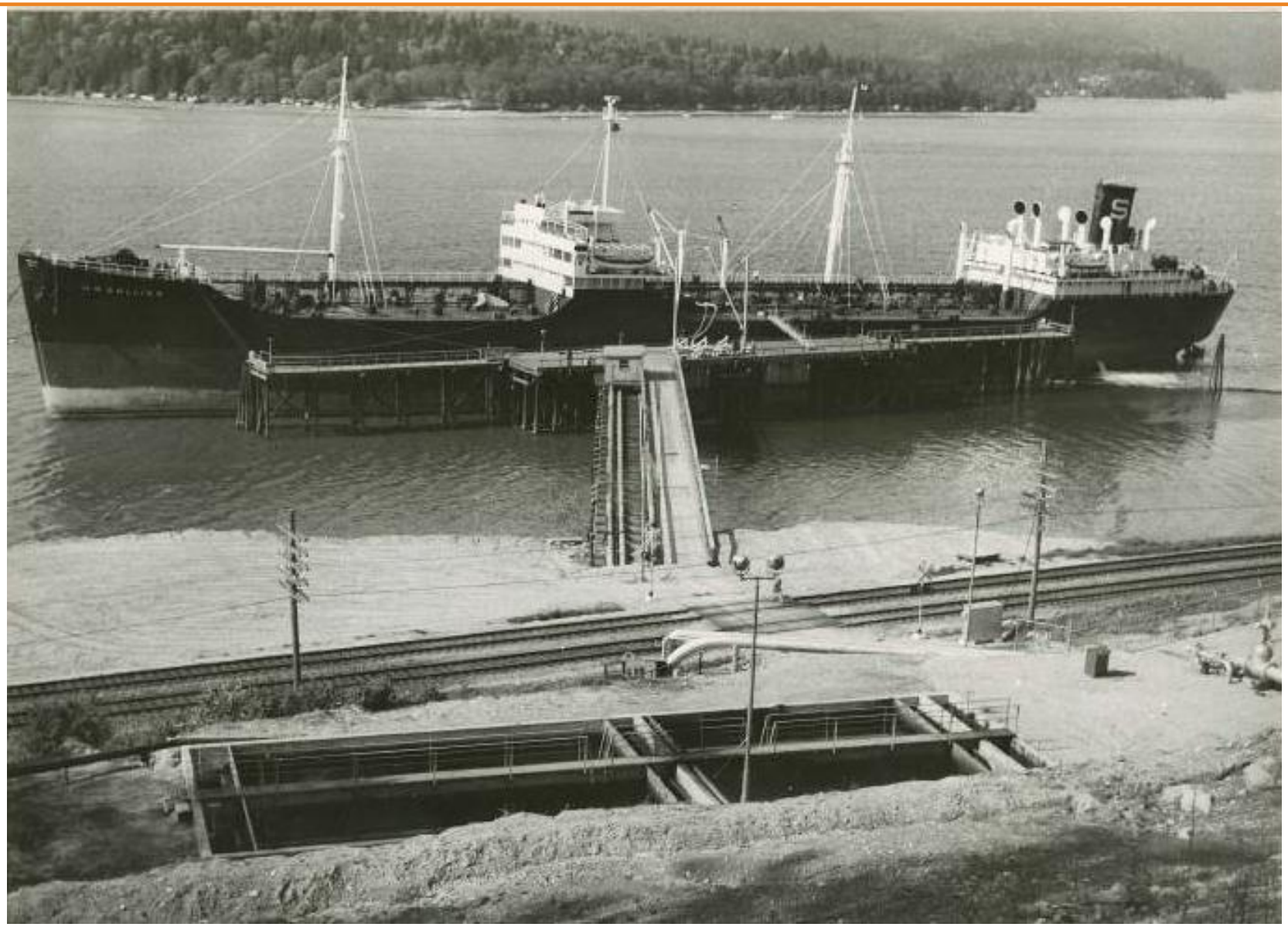
Marine Traffic



Westridge Dock – Key Activities

- Berthing & Unberthing of vessels
  - Regulated by PMV and Pilots
  - Tugs in attendance
  - Other traffic in this area coordinates with the pilot and CCG/MTSC
- Transfer of Cargo
  - KMC Loading Master in attendance
  - Mandatory boom deployment
  - Safety Checks in accordance with ISGOTT (initial and repeated)
  - Connection / disconnection process
  - Reduced transfer rates during startup and completion
- Emergency Management
  - Secondary boom
  - Contract with WCMRC
  - Exercised

Westridge Marine Terminal – early 1950s



Westridge Marine Terminal - Today

Westridge Marine Terminal - Proposed

Navigational Interface

- MCTS/ HMO interface
- Second Narrows MRA
- Clear Narrows
- Escort Tugs
- PPA – Notices to Industry/Pilots (ESA)
- Environmental Response

Positioning

Second Narrows

Burrard Inlet

We want to hear from you

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2844 Bainbridge Avenue

PO Box 84028 Bainbridge

Burnaby, BC V5A 4T9

Marine Consultation Summary No. 1
January 5, 2015

APPENDIX P

Tri-Cities Emergency Management Scenario Discussion

Dean Monterey

May 13, 2015

New Westminster, BC

TRANSMOUNTAIN

CELEBRATING 60 YEARS OF SERVICE 1953 to 2013

KINDER MORGAN CANADA

For Discussion

- Trans Mountain Pipeline
  - History
  - Current Operations
  - Proposed Expansion
- Emergency Response Management
  - Current Emergency Management Plan
    - Pipeline safety features
    - KMC and first responder emergency response procedures
    - KMC emergency response exercises
  - Emergency Planning for proposed expansion
  - Group activity: scenario discussion

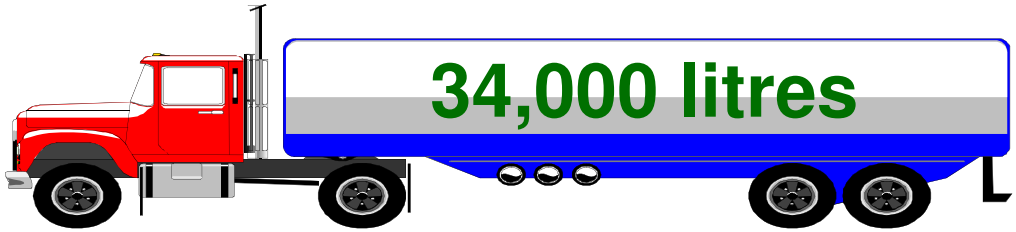
Origin

- Conceived in 1950 as a strategic asset for a reliable energy supply to the defensive strength of Canada and the United States
- The Parliament of Canada passed the Act that created the Trans Mountain Oil Pipeline Company on March 13, 1951

TRANS MOUNTAIN PIPELINE TODAY

Supply

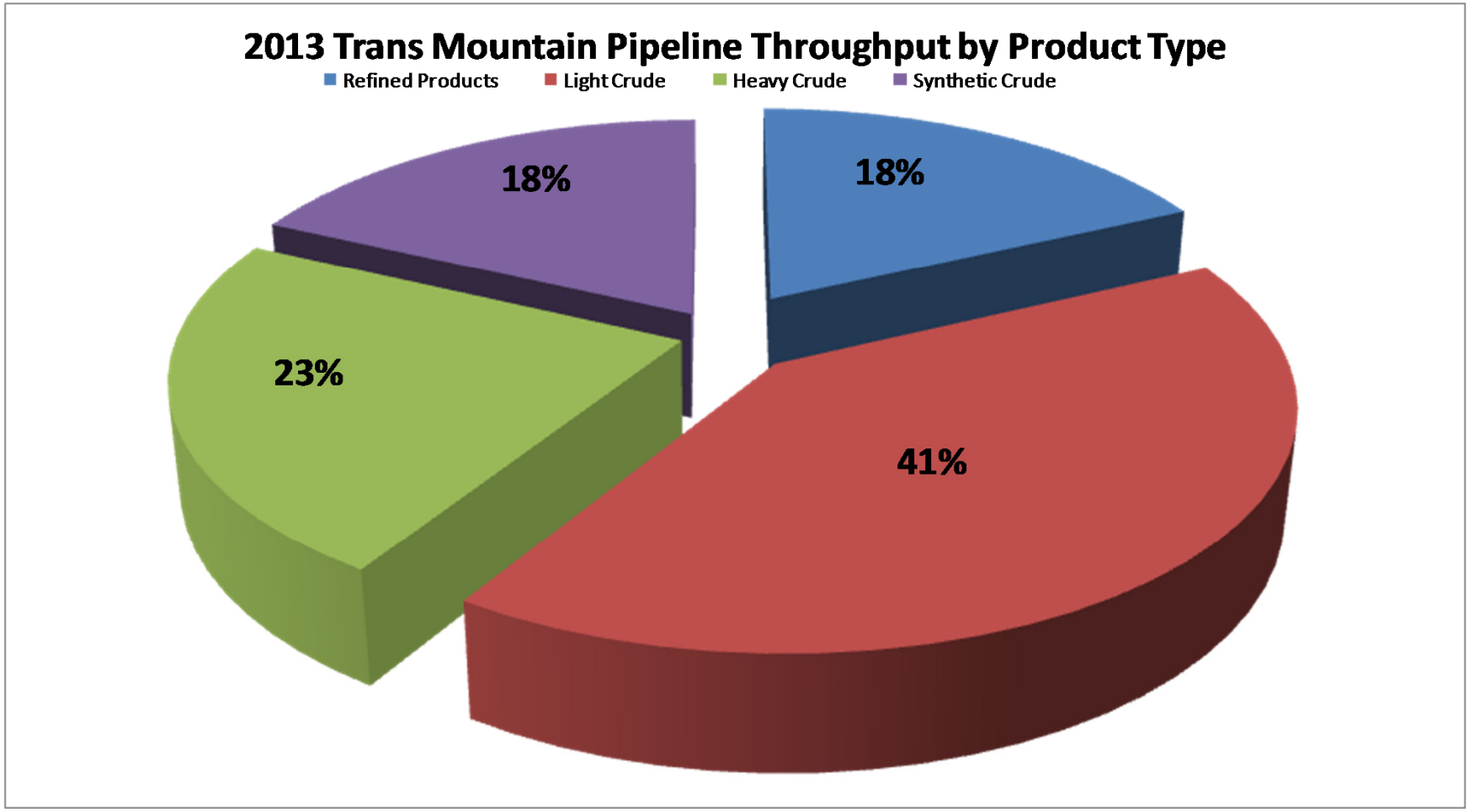
- Current capacity 47.7 million litres or 300,000 barrels capacity per day



X 1,400

- Equivalent to a tanker truck leaving Edmonton for Vancouver every minute
- Ability to transport multiple products in batches up to 350 km long travelling at 5 km/hr:

TMPL Throughput 2013

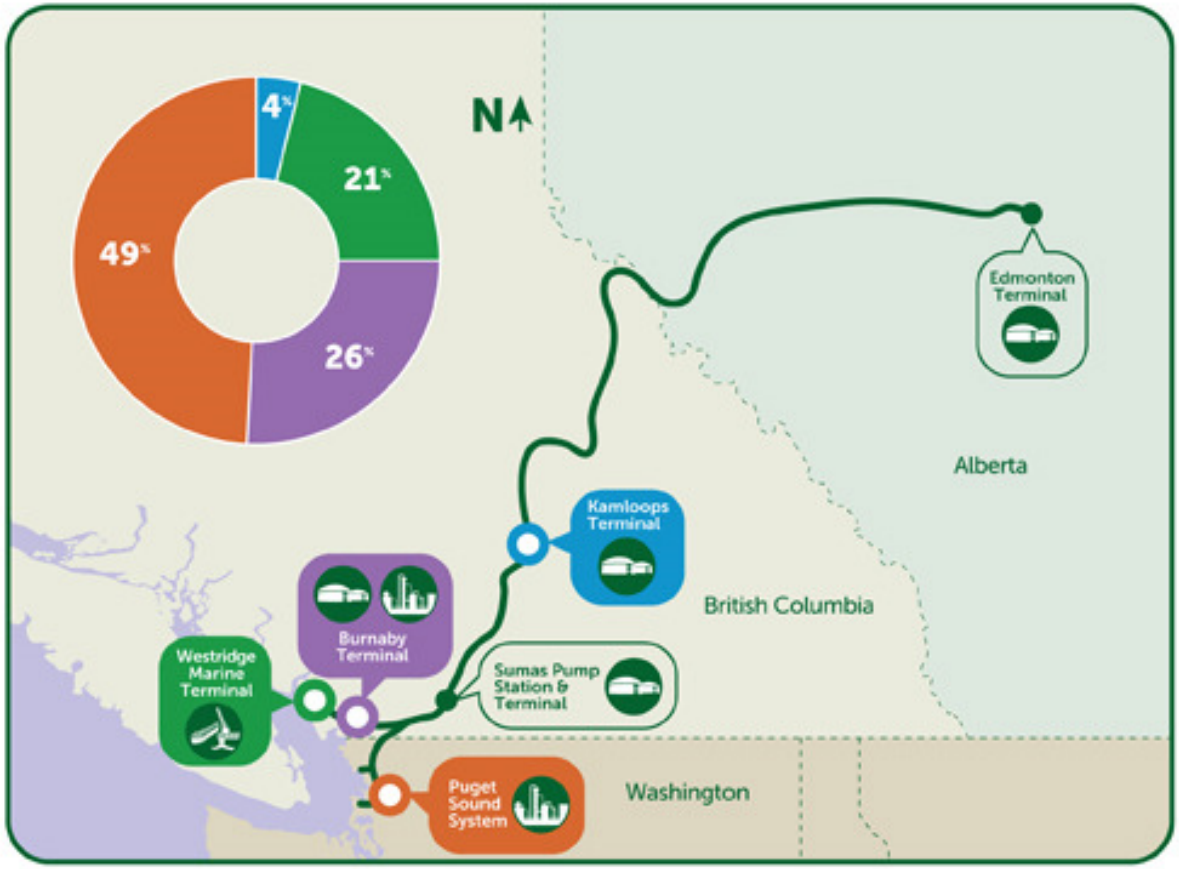


Product Quality

- We transport a wide range of products and the terms and conditions for this service are defined in our Tariff 92
- These conditions include product quality *maximum* limits
  - (a) Reid vapour pressure:103 kPa
  - (b) Sand, dust, gums, sediment, water or other impurities (total in aggregate): 0.5%
  - (c) Receipt Point a temperature: 38ºC
  - (d) Density: 940 kg/m^3
  - (e) Kinematic Viscosity: 350cSt
  - (f) Having any organic chlorides or other compounds with physical or chemical characteristics that may render such Petroleum not readily transportable by the Carrier…
- Trans Mountain has been transporting diluted bitumen since late 1980s without incident or operational problems due to dilbit properties

TRANSMOUNTAIN

2013 PRODUCT DISTRIBUTION - Current Operations



Edmonton Terminal
- Receives oil and refined products
- 20 incoming feeder lines from throughout Alberta
- 19 storage tanks
- Main control centre for the Trans Mountain Pipeline system

Kamloops Terminal 4%
- Delivery of refined products to Kamloops
- Receive crude oil transported from northeastern BC on the Pembina system
- 2 storage tanks

Sumas Pump Station & Terminal
- Crude oil routed to Puget Sound
- 6 storage tanks

Burnaby Terminal 26%
- Delivery of crude oil and refined products for temporary storage and distribution through separate lines to local terminals, a refinery and the Westridge Marine Terminal

Westridge Marine Terminal 21%
- In addition to shipping crude oil, the facility also receives jet fuel, which is delivered to the Vancouver International Airport through the jet fuel pipeline system

Puget Sound System 49%
- Delivery of crude oil to Washington State refineries at Anacortes, Cherry Point and Ferndale

KINDER MORGAN CANADA INC.

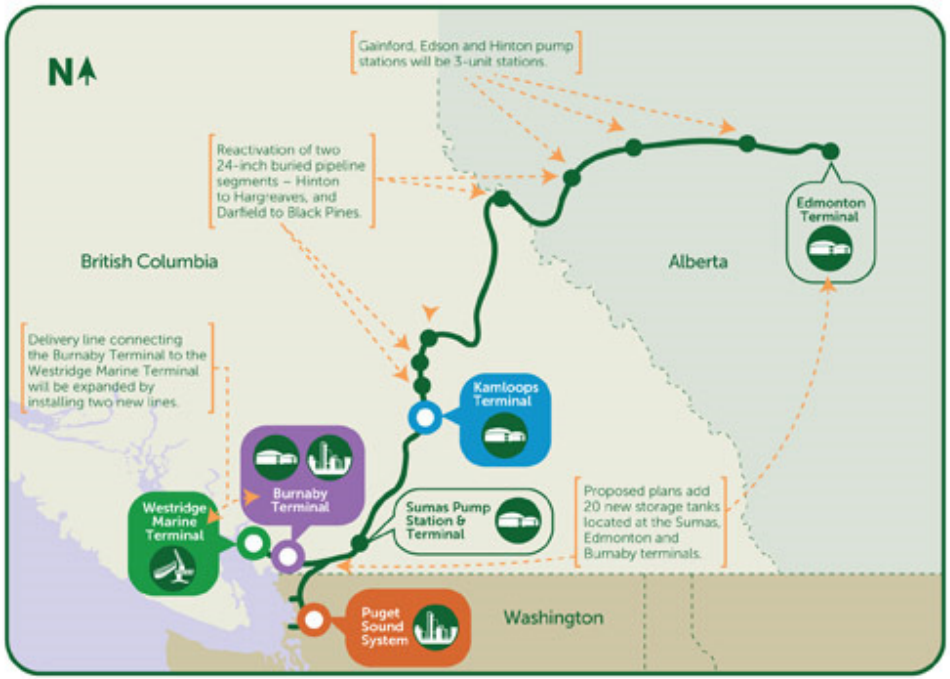
Pipeline Terminus

- Main pipeline from Edmonton ends at Burnaby Terminal
  - Short-term storage of crude oil and refined products
  - Distribution point for refined products to Suncor and Imperial Oil and crude oil to Chevron Refinery and Westridge Marine Terminal

TRANS MOUNTAIN EXPANSION PROJECT OVERVIEW

Project Description

PROPOSED TRANS MOUNTAIN EXPANSION PROJECT DESCRIPTION OVERVIEW



Edmonton Terminal
- 5 new storage tanks
- 5-unit pump station

Kamloops Terminal
- 4-unit pump station

Sumas Pump Station & Terminal
- 1 new storage tank

Burnaby Terminal
- 14 new storage tanks

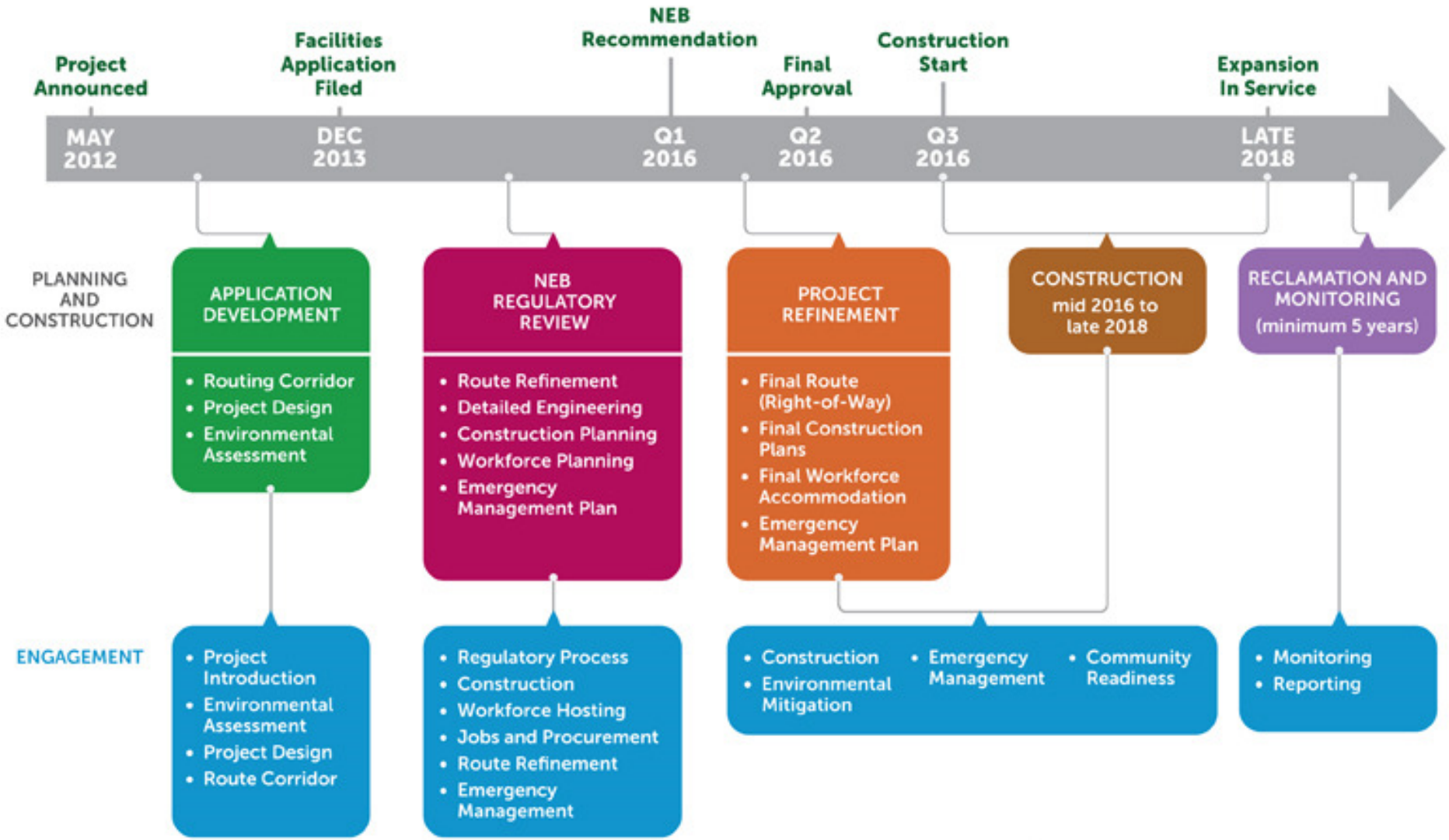
Westridge Marine Terminal
- Construction of three new berth faces and demolition of existing dock facility

Puget Sound System
- Plans to increase capacity on the Puget Sound system to meet refinery demand are in development. The timeline for the proposed upgrades is dependent on the proposed expansion of the Trans Mountain Pipeline.

TO INCREASE THE CAPACITY ON THE PIPELINE SYSTEM, TRANS MOUNTAIN IS PROPOSING:

- About 980 km of new buried pipeline to be located adjacent to the existing pipeline where practical.
- 859 km of 36-inch and 121 km of 42-inch pipe, manufactured from high-grade steel to stringent Canadian Standards Association (CSA) and American Petroleum Institute (API) specifications, will be used.
- 12 new pump stations at 11 locations (10 of which will be located at existing pump station sites).
- 20 new storage tanks. All new storage tanks will be designed and constructed in accordance with with the API Standard 650 - Welded Steel Tanks for Oil Storage.
- New storage tanks will be constructed within the existing terminal fence lines and require no additional land.

TMEP Schedule



Schedule and activities are subject to change


N
BRITISH COLUMBIA
ALBERTA
WASHINGTON
EDMONTON TO HARGREAVES 36"
EDMONTON
EDMONTON TO EDSON 24"
EDSON
WOLF
GAINFORD
HINTON
NITON
CHIP
STONY PLAIN
EDSON TO HINTON 30"
HARGREAVES
REARGUARD
JASPER
ALBREDA
HARGREAVES TO BLUE RIVER 42"
CHAPPEL
BLUE RIVER
BLUE RIVER TO DARFIELD 36"
HINTON TO BLACK PINES 24"
FINN
BLACKPOOL
McMURPHY
DARFIELD TO BLACK PINES 30"
DARFIELD
BLACK PINES
BLACK PINES TO KAMLOOPS 30"
KAMLOOPS
BLACK PINES TO BURNABY 36"
STUMP
KAMLOOPS TO BURNABY 24"
KINGSVALE
BURNABY TO WESTRIDGE 3 X 30"
SUMAS
WESTRIDGE
BURNABY
HOPE
PORT KELLS
WAHLEACH
TRANS MOUNTAIN
PROPOSED
TRANS MOUNTAIN EXPANSION PROJECT
CONFIGURATION MAP
FEB 25 2015
NEW PUMP STATION
EXISTING PUMP STATION (DEACTIVATED)
EXISTING PUMP STATION (EXPANDED)
EXISTING PUMP STATION
ADJACENTLY LOCATED PUMP STATIONS
TERMINAL
EXISTING PIPELINE -ACTIVE
EXISTING PIPELINE -REACTIVATED
NEW PIPELINE
EXISTING PIPELINE -INACTIVE
TMEP SYSTEM MAP CANADA FEB 25 2015.DWG

PIPELINE SAFETY AND EMERGENCY RESPONSE TODAY

Pipeline Safety

Pipelines remain the safest and most efficient method for transporting petroleum products

Pipeline Safety Today

- The most important aspect of preparedness is to prevent an emergency from occurring
- There are a number of programs in place to prevent problems including:
  - community and contractor awareness programs
  - pipeline integrity verification programs
  - regular surveillance of activity near the right-of-way
  - 24-hour monitoring and leak detection programs

CAER Program

Community

Awareness

Emergency

Response

Emergency Actions

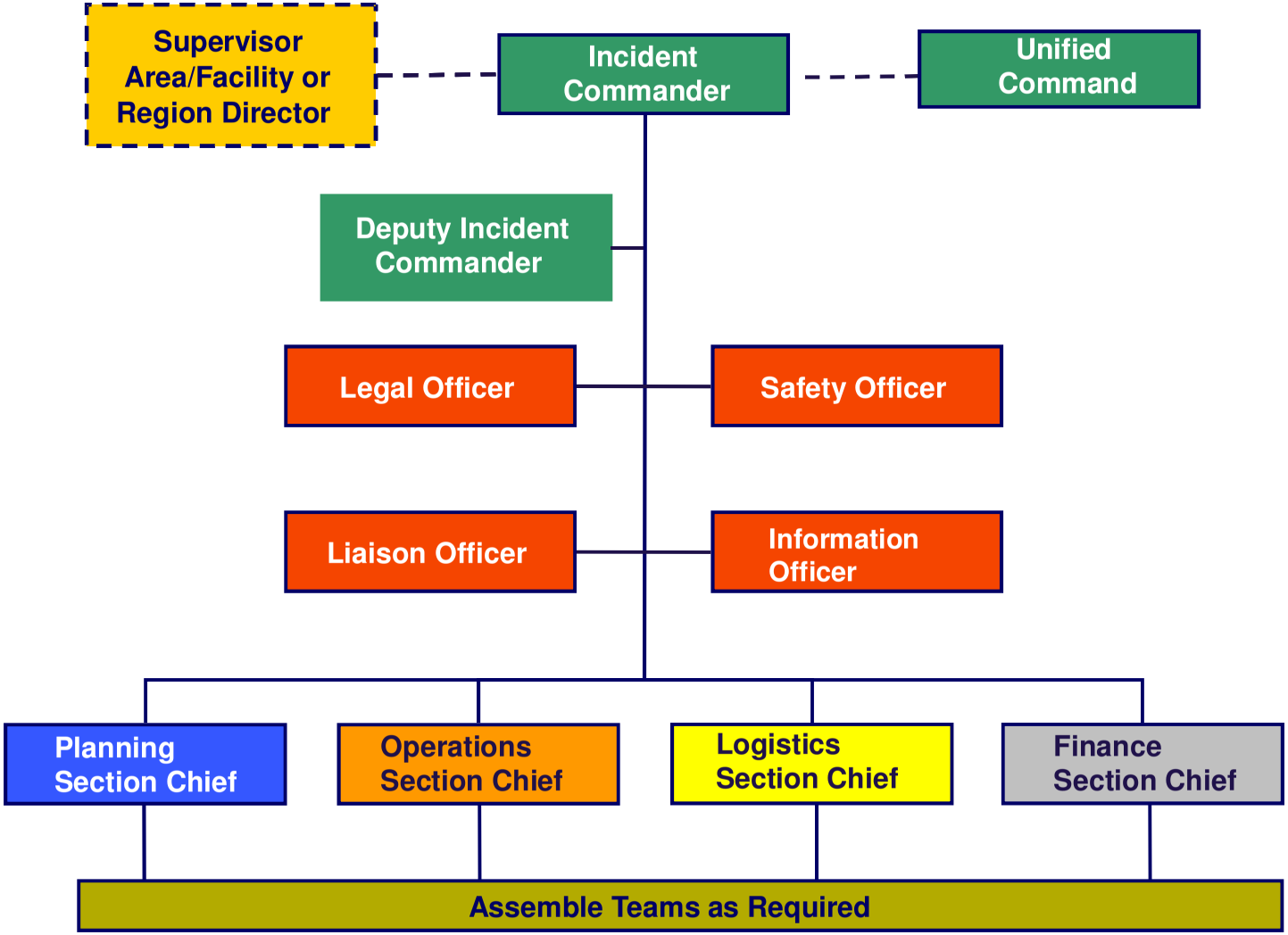
What KMC does:

- Shut down the pipeline
- Isolate the pipeline segment
- Identify products in the pipeline
- Monitor and access hazards (incl. air monitoring)
- Manage spill containment and recovery
- Provide technical information to first responders

Team Approach

- Establish a Unified Command – outlines roles and responsibilities for operations, planning, logistics and finance.
- Safety Officer – establishes the initial health and safety plan for the site and identifies hazards
- Liaison and Information Officers
  - Provide community contact
  - Provide agency liaison
  - Provide media relations

Incident Command



Spill and Site Assessment

Tasks of the initial assessment team are varied and include:

- Vapour monitoring including wind direction
- Assistance to any potentially injured parties
- Confirmation of spill source if possible
- Isolation of spill source if practical and safe
- Estimation of spill volume, rate and direction of travel
- Redirection or blocking of spill contents if practical and safe
- Assessment of whether spill is reaching water channels or drainage systems
- Shoreline assessment

Assessments will only occur under safe conditions

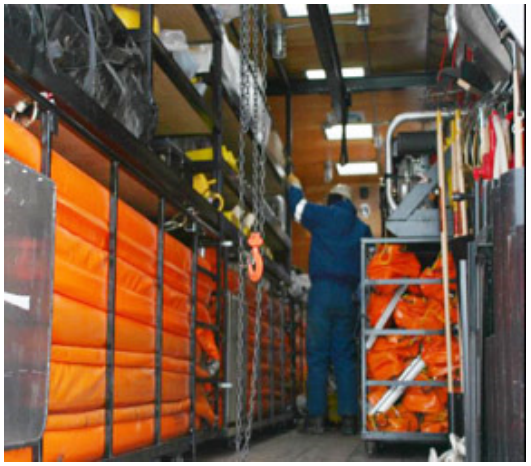
Spill Recovery and Containment

Trans Mountain is responsible for cleanup and remediation of incidents related to its operations along the pipeline corridor

- Equipment strategically stored at field sites
- Recovery speed is a critical factor in success
- Can be on-site within minutes to three hours of equipment call

OSCAR Trailer

- Oil Spill Containment and Recovery = OSCAR
- 1,200 ft of 12-inch river boom
- Personal protective equipment
- Generators, skimmers
- Pumps
- Portable storage
- Other ER-related equipment



Spill Recovery and Containment

- One of the primary goals of the spill recovery team is to control migration away from the spill site
- Emergency response plans include designation of control points along rivers and streams
  - Control points are pre-determined locations
  - Identified as favourable for the recovery of oil in a watercourse, depending on the conditions at the time
- Control points usually include:
  - Safe working space for emergency response personnel
  - Good access for spill recovery equipment
  - Slower water speeds to improve recovery effectiveness
  - Favourable anchor points to improve boom installation

Protection of Sensitive Areas & Wildlife

- Sensitive areas identified along the pipeline range from wetlands and vulnerable shorelines to Aboriginal fishing areas
- Areas receive high priority for protection
  - Goal is to minimize the activity in the area and deflect material to a less sensitive area for recovery and cleanup
  - Contaminated materials including soils and emergency response items will be disposed of appropriately in consultation with regulators
- Planning for the protection of wildlife includes fish, birds, reptiles, mammals and invertebrates
  - Early on wildlife is encouraged to move from the area and a system is put in place to deal with wildlife that has already been affected

Other Hazards

- Fire and explosion at facilities
- Natural disasters
  - Tornadoes
  - Earthquakes
  - Floods
  - Avalanches
  - Forest fires
- Security incidents
  - Bomb threat
  - Breach of security

Regulatory Compliance

The primary regulations of the system is the Onshore Pipelines Regulations (National Energy Board) but a number of other regulations also affect the daily operation of the system. These include:

- Canada Fisheries Act
- Canadian Environmental Protection Act
- Transportation of Dangerous Goods Act
- Alberta Environmental Protection and Enhancement Act
- Provincial Emergency Response Programs
- BC Waste Management Act

Trans Mountain is committed to complying with these regulations and co-operating with the regulators in the event of a pipeline emergency.

EMERGENCY PLANNING FOR PROPOSED EXPANSION

Emergency Response

- KMC's top priority is pipeline safety and emergency response
- From engagement to date, pipeline safety and emergency response consistently topic of most interest
- KMC supportive of BC Government's Five Conditions, two related to emergency response
- As part of the proposed TMEP, next steps include
  - Continuous improvement of KMC's emergency response equipment and strategies
  - Review and enhancement of Emergency Response plans with input from BC Provincial Government, municipal Emergency Managers and First Responders
  - Addition of resources where required (equipment or training) to KMC's complement

Two Biggest Risks

- Third Party Strikes
- Geotechnical

Proposed Expansion – Overall Approach

- Continue with ICS compatible with ICS Canada
- Modify ERP's to reflect new facilities/ops
- Refresh Control Points – move to tactical worksheets/ Geographic Response Plans
- Meet BC Conditions that affect emergency management
- Fire systems

Engagement

- Expand engagement program

Bottom Line

- We want to:
  - Prevent it
  - Reduce it
  - Hit it fast
  - Hit it hard
  - Restore it quickly

Group Activity

- Scenario Discussion

We want to hear from you

CONTACT US:

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Appendix B

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Table 1 – Public and Multi-stakeholder Engagement Events Regarding Westridge Marine Terminal and other applicable aspects of the VFPA Development Permit Application

Event/Date	Date & Location	Type	Audience	Topics (Issues)
Panel Discussion, Burnaby	June 27, 2012 St. Timothy's Church, Burnaby	Panel Discussion	Public	Environment – WMT Marine Safety Emergency Management – Marine Environment – Marine Regulatory Process
Public Open House, North Vancouver	November 3, 2012 North Shore Neighbourhood House, North Vancouver	Public Open House	Public	WMT Overview (incl. Design, Location) Tanker Loading and Operations – WMT Environment – WMT Socio Economic – WMT Emergency Management – WMT Marine Safety Emergency Management – Marine Regulatory Process Engagement Process
City Council Presentation, City of North Vancouver	November 5, 2012 North Vancouver City Hall, North Vancouver	Public Meeting	Public	
Public Open House, Belcarra	November 6, 2012 Belcarra Village Hall	Public Open House	Public	
Public Open House, West Vancouver	November 7, 2012 Kay Meek Centre, West Vancouver	Public Open House	Public	
Public Open House, Bowen Island	November 10, 2012 Bowen Isl Community School, Bowen Island	Public Open House	Public	
Public Open House, Vancouver (East)	November 13, 2012 Hastings Room, Hastings Park, Vancouver	Public Open House	Public	
Public Open House, Vancouver (downtown)	November 15, 2012 SFU Harbour Centre, Vancouver	Public Open House	Public	
Public Open House, Vancouver (West – Point Grey)	November 17, 2012 Aberthau Mansion, Vancouver, BC	Public Open House	Public	
Public Open House, Burnaby	November 24, 2012 Executive Inn, Coquitlam	Public Open House	Public	
Public Open House, Burnaby (Burnaby Mountain)	November 26, 2012 Eagle Creek Restaurant, Burnaby Mtn Golf Course, Burnaby	Public Open House	Public	
Westridge Marine Terminal HazID workshop	January 22, 2013 Pan Pacific Hotel, Vancouver	Workshop	Stakeholder	Marine Safety Navigation Emergency Management – Marine
Environmental Socio-Economic Assessment (ESA) Workshop for Lower Mainland/Fraser Valley	March 7, 2013 Executive Plaza, Coquitlam	Workshop	Stakeholder	Environment – WMT Socio Economic – WMT Emergency Management – WMT
Monthly Maritime Community Meetings	March 22, 2013 Chamber of Shipping BC	Small Group Meeting	Stakeholder	WMT Overview (Incl. Design & Location) Marine Safety Emergency Management – Marine Environment – Marine Regulatory Process
Monthly Maritime Community Meetings	April 26, 2013 Chamber of Shipping BC	Small Group Meeting	Stakeholder	WMT Overview (Incl. Design & Location) Marine Safety Emergency Management – Marine Environment – Marine Regulatory Process
Westridge Marine Terminal HazID workshop	April 29, 2013 Pan Pacific Hotel	Workshop	Stakeholder	Marine Safety Emergency Management – Marine
Marine ESA Workshop	May 22, 2013 BCIT Marine Campus, North Vancouver	Workshop	Stakeholder	WMT Overview (Incl. Design & Location) Environment – WMT Socio Economic – WMT Environment – Marine Socio-Economic – Marine Emergency Management – Marine

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Table 1 – Public and Multi-stakeholder Engagement Events Regarding Westridge Marine Terminal and other applicable aspects of the VFPA Development Permit Application

Event/Date	Date & Location	Type	Audience	Topics (Issues)
Canexus – Newalta – ERCO – Univar Community Advisory Panel	June 18, 2013 Holiday Inn, North Vancouver, BC	Small Group Meeting	Stakeholder	WMT Overview (Incl. Design & Location) Emergency Management – Terminal Emergency Management – Marine
Maritime Community Meeting	June 21, 2013 Chamber of Shipping BC	Small Group Meeting	Stakeholder	WMT Overview (Incl. Design & Location) Environment – WMT Socio Economic – WMT Marine Safety Emergency Management – Marine Environment – Marine Regulatory Process
Public Open House, Burnaby	June 27, 2013 Executive Inn, Coquitlam	Public Open House	Public?	WMT Overview (Incl. Design & Location) Emergency Management – WMT Marine Safety Emergency Management – Marine
Meeting with Northcliffe / Westridge neighbours	July 11, 2013 Corcoran's home, Northcliffe Crescent, Burnaby, BC	Small group meeting	Stakkeholder	Aesthetics Noise Dock layout/location
Panel Discussion – Hosted by District of North Vancouver	September 12, 2013 Municipal Hall, District of North Vancouver	Public Meeting	Stakeholder	WMT Overview (incl. Design, Location) Socio Economic – WMT Emergency Management – WMT Marine Safety Emergency Management – Marine Regulatory Process Engagement Process
Meeting with Northcliffe / Westridge neighbours	Sept 24, 2013 Executive Plaza Hotel, Coquitlam, BC	Small group meeting	Stakeholder	Aesthetics Noise Dock layout/location
Public Open House, Burnaby & Westridge Marine Terminals	September 25, 2013 Executive Inn, Coquitlam	Public Open House	Stakeholder	WMT Overview (Incl. Design & Location) Emergency Management – WMT Emergency Management – Marine Marine Safety
Vancouver Board of Trade	November 5, 2013 Hotel Vancouver	Presentation	Stakeholder / Public	Economic Benefits
REPC, Emergency Response workshop	December 6, 2013 Ecomm, Vancouver	Workshop	Stakeholder	WMT Overview (Incl. Design & Location) Emergency Management – WMT
Maritime Community Meeting	December 6, 2013 Chamber of Shipping, BC	Small Group Meeting	Stakeholder	Environment – WMT Socio Economic – WMT Marine Safety Emergency Management – Marine Environment – Marine Regulatory Process
Maritime Community Meeting	March 28, 2014 Chamber of Shipping, BC	Small Group Meeting	Stakeholder	Environment – Marine Environment – WMT Marine Safety Engagement Regulatory Process
Meeting with Northcliffe/ Westridge neighbours	March 31, 2014 Executive Plaza Hotel, Coquitlam, BC	Small group meeting	Stakeholder	Air Noise Dock layout / location Property values
Meeting to review visual simulation update	April 1, 2014 Corcoran's home, Northcliffe Crescent, Burnaby, BC	Meeting 1:1	Stakeholder	Aesthetics
Public Open House, Burnaby Routing Open House	April 3, 2014 Executive Inn, Burnaby	Public Open House	Stakeholder	WMT Overview (Incl. Design & Location) Emergency Management – WMT Marine Safety Emergency Management – Marine

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Table 1 – Public and Multi-stakeholder Engagement Events Regarding Westridge Marine Terminal and other applicable aspects of the VFPA Development Permit Application

Event/Date	Date & Location	Type	Audience	Topics (Issues)
Meeting to address concenrs raised in April 2014 meeting	May 2, 2014 Symes living room, Northcliffe Crescent, Burnaby BC	Small group meeting	Stakeholder	Aesthetics Navigation safety Lights Noise Alternate locations Dock location Property values
Phone Call with Lead, Land Team	May 8, 2014 Conference call	Phone Call	Stakeholder	Property values
Meeting to review dock layout / location	May 10, 2014 Trans Mountain office, Burnaby, BC	Small group meeting	Stakeholder	Dock layout / location Aesthetics
Marine Fisheries Offset Workshop	July 14, 2014 Stantec, Vancouver, BC	Workshop	Stakeholder	WMT Overview (Incl. Design & Location) Construction (incl. Fisheries Offset Plan) Environment – WMT
Maritime Community Meeting	September 5, 2014 Chamber of Shipping BC	Small Group Meeting	Stakeholder	WMT Overview (Incl. Design & Location) Marine Safety Emergency Management – Marine Environment – Marine Regulatory Process
Burnaby Telephone Town Hall	September 16, 2014 By phone	Town Hall/Q&A	Public	WMT Overview (Incl. Design & Location)Loading Operations Marine Safety Emergency Management – Marine
Vancouver Telephone Town Hall	September 18, 2014 By phone	Town Hall/Q&A	Public	Emergency Management – Marine Marine Safety
LFVAQCC Meeting	September 25, 2014 Metro Vancouver	Small Group Meeting	Stakeholder	Environment – WMT Tanker Loading Operations Environment – Marine Socio Economic – WMT Socio Economic – Marine Marine Safety Emergency Management
Twitter Town hall – Topic: marine safety	October 14, 2014 online	Town Hall/Q&A	Public	Marine Safety Emergency Management – Marine Environment – Marine Dredging
LFVAQCC Meeting	November 13, 2014 Metro Vancouver	Small Group meeting	Stakeholder	Environment – WMT Tanker Loading Operations – WMT Environment – Marine Marine Safety Anchorages Regulatory Process
Emergency Preparedness and Business Continuity Conference	November 18-20, 2014 Sheraton Wall Centre, Vancouver	Conference booth	Stakeholder	Emergency management – WMT Emergency management – marine
Burnaby Board of Trade Breakfast Presentation by Ian Anderson	November 27, 2013 Delta Burnaby Hotel and Conference Centre, Burnaby	Presentation	Stakeholder / public	Economic Benefits
Burnaby Telephone Town Hall	December 3, 2014 By phone	Town Hall / Q&A	Public	WMT Overview (Incl. Design & Location) Loading Operations Marine Safety Emergency Management – WMT Emergency Management – Marine

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Table 1 – Public and Multi-stakeholder Engagement Events Regarding Westridge Marine Terminal and other applicable aspects of the VFPA Development Permit Application

Event/Date	Date & Location	Type	Audience	Topics (Issues)
Monthly Maritime Community Meetings	January 16, 2015 Chamber of Shipping BC	Small Group Meeting	Stakeholder	WMT Overview (Incl. Design & Location) Marine Safety Emergency Management – Marine Environment – Marine Regulatory Process
Monthly Maritime Community Meetings	April 24, 2015 Chamber of Shipping BC	Small Group Meeting	Stakeholder	WMT Overview (Incl. Design & Location) Marine Safety Emergency Management – Marine Environment – Marine Regulatory Process
Nautical Institute of BC (NIBC) Conference	May 7, 2015 Victoria Marriott Hotel	Conference Presentation	Stakeholder	Marine Safety Emergency Management – Marine
EMSW II workshop – Tri Cities on with participation from WCMRC and VFPA	May 13, 2015 Fraser River Discovery Centre, New Westminster	Workshop	Stakeholder	Emergency Management – Pipeline Emergency Management - Marine
Media Tour – Westridge Marine Terminal	May 15, 2015 WMT	Media Tour	Media	WMT Overview Marine Safety
Fraser River Crossing EPP Workshop	May 19, 2015 Executive Plaza, Coquitlam	Workshop	Stakeholder	Project Overview Environmental Protection Plan – Fraser Crossing • River (stream crossings) and Fish Habitat • Parks and Sensitive Areas • Wildlife and Wildlife Habitat (includes birds) • Reclamation and Environmental Mitigation Plans Fraser Crossing Construction
Burnaby Neighbourhood Information Session	June 3 2015 Executive Inn, Coquitlam	Public Open House	Public	WMT Overview (incl. Design & Location) Marine Safety Emergency Management – WMT Emergency Management – Marine
Burnaby Boart of Trade Roundtable Discussion	August 11, 2015 Burnaby	Small Group meeting	stakeholder	Economic Benefits
Westridge Full Scale Emergency Exercise and Observer Program	October 29, 2015 Executive Inn, Coquitlam	Multi-stakeholder Emergency Exercise – Workshop and Observer program	Stakeholder Media	Emergency Management – WMT
Emergency Preparedness and Business Continuity Conference	November 17-19, 2015 Sheraton Wall Centre, Vancouver	Conference booth	Stakeholder	Emergency Management – WMT Emergency Management – Marine
Tour of Westridge Marine Terminal and Tanker RE:Fire Systems	December 2, 2015 Westridge Marine Terminal	Small Group Meeting	Stakeholder	Emergency Management – WMT Emergency Management - Marine
Media Tour of Westridge Marine Terminal (Kiro TV, Seattle, WA)	December 15, 2015 WMT, Burnaby	Media Tour	Media	WMT Overview Marine Safety
Webinar	June 12 – July 7, 2016 online	Online Workshop Q&A	Public Stakeholder	WMT Overview (incl. Design & Location) Environment – WMT Emergency Management – WMT Benefits & Impacts – WMT Construction Marine Safety Emergency Management – Marine

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Table 1 – Public and Multi-stakeholder Engagement Events Regarding Westridge Marine Terminal and other applicable aspects of the VFPA Development Permit Application

Event/Date	Date & Location	Type	Audience	Topics (Issues)
North Burnaby Community Fair	July 23, 2016 Kensington Park, Hastings and Kensington, Burnaby, BC	Booth	Public	Emergency Response
Greater Vancouver Board of Trade	November 3, 2016 Hotel Vancouver	Presentation	Stakeholder / Public	Economic Benefits
Media Tour – Westridge Marine Terminal (Bloomberg/CBC)	November 17, 2016 WMT, Burnaby	Media Tour	Media	WMT Overview Marine Safety
Westridge Marine Terminal Stakeholder Workshop	November 24, 2016 Executive Inn, Burnaby	Workshop	Stakeholder	WMT Overview Updated detailed design and construction plans, construction schedule WMT Updated detailed design and construction plans, construction schedule Burnaby Mountain Tunnel Complaints management process Environmental Protection Plans (EPP) Westridge Marine Terminal EPP Tunnel EPP Marine Environment Plans Marine Sediment Management Fisheries offset plan update & next steps Navigation & navigation safety Traffic control and site access Westridge Marine Terminal Environment Plans • Weed and vegetation management • Construction: Noise management and tunnel noise management • Westridge Marine Terminal light emissions • Westridge Marine Terminal air emissions management (Construction) • Westridge Marine Terminal fugitive emissions management (Construction) • Westridge Marine Terminal air emissions management (Operations)
Routing and Construction Update in Surrey	December 1, 2016 Holiday Inn Express, Surrey	Information Session	Stakeholder / Public	• Changes as a result of stakeholder feedback • Routing • Construction Plans and Activities • Safety and Security • Construction Schedule • Construction Impacts and mitigations o Traffic and Access Management o Light, Dust Noise Management o Environmental plans
Burnaby Public Information Session	January 4, 2017 Executive Inn, North Road, Coquitlam	Information Session	Public	• Safety: pipeline, tanker traffic, marine safety, fire safety at the Burnaby terminal and WMT • Emergency Management: evacuation plans, pipeline and tunnel seismicity, and fire safety • Construction: timeline, traffic disruption, and noise concerns • Environment: impacts on environment and mitigation measures; impacts on marine life • Communications and notifications to neighbours • Marine Safety • Emergency Management – Marine

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Table 1 – Public and Multi-stakeholder Engagement Events Regarding Westridge Marine Terminal and other applicable aspects of the VFPA Development Permit Application

Event/Date	Date & Location	Type	Audience	Topics (Issues)
Socio Economic Management Plan (SEEMP) webinar	January 16, 2017	Webinar	Stakeholder	• review of SEEMP content including: o Indicators, o How feedback was incorporated into the SEEMP o Rationale for no including additional proposed indicators
Presentation to Port of Vancouver North Shore Waterfront Liaison Committee	January 19, 2017	Presentation	Stakeholder	• Overview of the project, • WMT Overview • Updated detailed design and construction plans, construction schedule WMT • Marine Safety • Emergency Management – Marine •

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Appendix C

TRANSMOUNTAIN

Appendix C - NEB Conditions of Approval

No.	Overarching conditions	CPCN	OC2	OC49	Temp	Pump 1	Pump2	Tanks	Deact
1	**Condition compliance** Trans Mountain must comply with all of the [certificate/order] conditions, unless the NEB otherwise directs.	X	X	X	X	X	X	X	X
2	**Compliance with commitments** Without limiting Conditions 3, 4 and 6, Trans Mountain must implement all of the commitments it made in its Project application or to which it otherwise committed on the record of the OH-001-2014 proceeding.	X	X	X	X	X	X	X	X
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.	X	X	X	X	X	X	X	X
4	**Engineering and safety** Trans Mountain must cause the Project to be designed, located, constructed, installed, and operated in accordance with, at a minimum, the specifications, standards, policies, mitigation measures, procedures, and other information included or referred to in its Project application or to which it otherwise committed on the record of the OH-001-2014 proceeding.	X	X	X	X	X	X	X	X
5	**Certificate expiration (sunset clause)** Unless the NEB otherwise directs **prior to 30 September 2021**, this [certificate/order] will expire on **30 September 2021**, unless construction of the Project has commenced by that date.	X	X	X	X	X	X	X	X
No.	**Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)**	**CPCN**	**OC2**	**OC49**	**Temp**	**Pump 1**	**Pump2**	**Tanks**	**Deact**
6	**Commitments tracking table** Without limiting Conditions 2, 3 and 4, Trans Mountain must implement the commitments contained within its commitments tracking table and must: a) file with the NEB, at the following times, an updated commitments tracking table including the status of each commitment: **i) within 3 months after the [certificate/order] date;** **ii) at least 30 days prior to commencing construction;** **iii) monthly, from the commencement of construction until the first month after commencing operations; and** **iv) quarterly thereafter until:** 1. all commitments on the table are satisfied (superseded, complete or otherwise closed), at which time Trans Mountain must file confirmation, signed by an officer of the company, that the commitments on the table have been satisfied; or 2. 6 years after commencing operations, at which time Trans Mountain must file with the NEB a summary of any outstanding commitments and a plan and implementation timeline for addressing these commitments; whichever comes earlier; and b) post on its company website the same information required by a), using the same indicated timeframes; and	X	X	X	X	X	X	X	X

Reference: Project and issued a recommendation to the Governor in Council to approve the Project on May 19, 2016 subject to 157 conditions of approval (Filing ID A77045).

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
6 (cont)	c) maintain at each of its construction offices: i) the relevant environmental portion of the commitments tracking table listing all of Trans Mountain's regulatory commitments, including those from the Project application and subsequent filings, and environmental conditions or site-specific mitigation or monitoring measures from permits, authorizations, and approvals for the Project issued by federal, provincial, or other permitting authorities; ii) copies of any permits, authorizations, and approvals referenced in i); and iii) copies of any subsequent variances to permits, authorizations, and approvals referenced in i).								
7	**Environmental and socio-economic assessment - route re-alignments** As applicable, Trans Mountain must file with the NEB for approval, **concurrent with its filing of the Plan, Profile and Book of Reference pursuant to section 33 of the *National Energy Board Act***, an environmental and socio-economic assessment for each proposed detailed route re-alignment that extends beyond the applied-for corridor width of Trans Mountain's preferred route in proximity to: • Ohamil Indian Reserve 1; • Tzeachten Indian Reserve 13; and • Surrey Bend Regional Park. Any assessment must include: a) environmental alignment sheets at an appropriate scale, clearly depicting the proposed route re-alignments; b) results of any pre-construction surveys within the areas that were not previously subject to such surveys, and an indication of potential residual effects; c) all associated mitigation measures that are beyond those identified during the OH-001-2014 proceeding; d) analysis supporting the use of the measures in c), including any supplementary reports; e) confirmation that Trans Mountain will update the relevant Environmental Protection Plan(s) to include any relevant information based on any supplemental surveys completed; and f) a summary of consultations with Appropriate Government Authorities, potentially affected Aboriginal groups and affected landowners/tenants, as well as copies of all written comments that may be provided to Trans Mountain by those consulted. 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 assessment.	X			X				
8	**Design temperatures – terminals and pump stations** Trans Mountain must file with the NEB, **at least 3 months prior to ordering pipe for terminals and pump stations**, confirmation, with rationale, that: a) the selected maximum and minimum design temperatures are in accordance with CSA Z662-15, Clause 5.2.1; b) the selected design temperatures are based on historical, location-specific extreme daily maximum and minimum temperatures, as opposed to average temperatures; and c) the extent of the historical weather data used is commensurate with the expected operational life of the Project.	X				X	X	X	

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
9	**Quality Management Plan** Trans Mountain must file with the NEB, **at least 4 months prior to manufacturing any pipe and major components for the Project**, a Project-specific Quality Management Plan that includes: a) material/vendor qualification requirements; b) quality control and assurance of pipe, fittings, and components that ensure all materials meet Trans Mountain's specifications (i.e., processes, procedures, specifications, random testing, inspection, and test reports); c) mandatory documentation of process conditions during manufacture and verification of the conformance of manufacturer material test reports with Trans Mountain's requirements; d) mandatory inspection requirements, inspector competency training, and qualifications; e) non-conformance reporting and correction procedures; f) change management process; g) commissioning requirements; and h) material handling requirements during transportation.	X				X	X	X	
10	**Phased filings** Due to the Project's large spatial extent, Trans Mountain may wish to commence Project construction activities at specific locations at different times (i.e., using a phased approach). This may entail doing so on the basis of pipeline spreads of defined lengths, or by regions, or work areas of Trans Mountain's choosing (such as terminals or pump stations). If Trans Mountain intends to use a phased approach for Project construction, it must undertake the following: a) Trans Mountain must file with the NEB, **at least 7 months prior to commencing construction**, a complete list of construction spreads, regions, or work areas that, for the duration of Project construction, will serve as the basis by which Trans Mountain may submit condition filings in a phased approach. Each spread, region, or work area must be clearly delineated (e.g., by kilometre posts). b) **As part of its filing for a)**, to aid the NEB in anticipating future submissions, Trans Mountain must indicate the specific conditions and related spread(s), region(s) or work area(s) for which it expects to apply this phased approach. Trans Mountain must file updates to this list **as they are available**. c) When submitting a filing for any condition using this phased approach, Trans Mountain must clearly indicate which spread(s), region(s), or work area(s) that filing applies to. d) Construction of a particular spread, region, or work area must not proceed until all pre-construction conditions using this phased approach have been satisfied for that spread, region, or work area. Prior to commencing construction of the initial spread, region, or work area, all applicable conditions with more general pre-construction timing elements must also be satisfied.	X	X	X	X	X	X	X	X

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
11	**Aboriginal, local, and regional skills and business capacity inventory** a) Trans Mountain must file with the NEB, **at least 6 months prior to commencing construction**, an Aboriginal, local, and regional skills and business capacity inventory for the Project. The skills and capacity inventory must include: i) a *description* of the information and data sources; ii) a summary of Aboriginal, local, and regional skills and business capacity; iii) an analysis of the Aboriginal, local and regional capacity for employment and business opportunities for the Project; iv) plans for communicating employment and business opportunities to Aboriginal, local, and regional communities; v) a description of identified or potential skills and business capacity gaps, and any proposed measures to address them or to support or increase skills or capacity; and vi) plans for communicating identified gaps regarding skills and business capacity with Aboriginal, local, and regional communities and businesses, and any proposed measures to support or increase skills or capacity. b) Trans Mountain must file with the NEB, **at least 3 months prior to commencing construction**, any updates to the elements of the inventory described in a)i) through vi).	X							
12	**Training and Education Monitoring Plan** a) Trans Mountain must file with the NEB for approval, **at least 6 months prior to commencing construction**, a plan for monitoring the implementation and outcomes of Aboriginal, local, and regional training and education measures and opportunities for the Project. The plan must include: i) a description of, and rationale for selecting, the indicators that will be monitored to track the implementation of training and education measures and opportunities; ii) the monitoring methods and schedule, including information and data sources for the indicators being monitored; and iii) plans for consulting and reporting on the implementation and outcomes of training and education measures and opportunities with Appropriate Government Authorities, potentially affected Aboriginal groups, business, industry, and education and training organizations; and iv) a summary of consultations with Appropriate Government Authorities, potentially affected Aboriginal groups, business, industry, and education and training organizations on the development of the plan. b) Trans Mountain must file with the NEB, **at least 3 months prior to commencing construction**, any updates to the elements of the Training and Education Monitoring Plan described in a)i) through iii) above.	X							

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
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. The plan must include the following: a) the factors or indicators to be monitored; b) the methods and rationale for selecting the factors or indicators; c) a description of the baseline, pre-construction socio-economic conditions; d) the monitoring methods and schedule, including third party data source identification; e) data recording, assessment, and reporting details; f) a discussion of how measures will be implemented to address any identified adverse effects, including: i) the criteria or thresholds that will require measures to be implemented; ii) how monitoring methods and measures implementation to address adverse effects, as necessary, are incorporated into Construction Execution Plans; and iii) a description of the roles and responsibilities of construction prime contractors, sub-contractors, and community relations staff in monitoring socio-economic effects and implementing measures to address adverse effects; g) 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; and h) plans for regular consultation and reporting on effects during construction with potentially affected communities, Aboriginal groups, local and regional authorities, and service providers.	X	X		X	X	X	X	
14	**Technical working group (TWG) – 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. The Terms of Reference must, at a minimum: a) identify how TWG membership will be determined; b) identify the TWG structure; c) identify an officer of the company who will be accountable for implementing the Terms of Reference; and d) describe the scope and mandate to be addressed or implemented by the TWG, including: i) the TWG's goals; ii) the issues and activities that will be within the TWG's mandate; iii) the protocols and mechanisms for implementing TWG recommendations or decisions; and iv) the protocols for reporting and communicating with TWG members, and other potentially-affected or interested parties; and e) provide a summary of any outstanding concerns raised by participating municipalities, and facility owners and operators regarding the Terms of Reference.	X							

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
15	**Pipeline risk assessment** Trans Mountain must file with the NEB, **at least 6 months prior to commencing construction**, the following information for Line 2 and the new delivery pipelines: a) the results of the updated risk assessment in a tabular format similar to that provided in its Line 2 Consequence Report (Filing A3Z8G5). The risk assessment tables must also include: i) any updates to High Consequence Areas; ii) the risk mitigation method(s); iii) the mitigated Environmental Risk Scores; iv) pre-mitigation maximum outflow volumes; and v) the outflow volumes after mitigation; b) Environmental Risk Score acceptance criteria, with supporting rationale; and c) a detailed description of the adequacy of the following from its Line 2 Consequence Report (Filing A3Z8G5): i) the coefficients used in the scoring system equations; and ii) the values from the scoring tables.	X							
16	**Quantitative Geohazard Frequency Assessment** Trans Mountain must file with the NEB, **at least 6 months prior to commencing construction**, an updated Quantitative Geohazard Frequency Assessment for the new Line 2 and delivery pipeline segments that contains a re-assessment of the Frequency of Loss of Containment (FLoC) values based on the results of site-specific field assessments and any required mitigation as determined in the detailed engineering and design process. Trans Mountain must provide in the assessment a plan to manage and mitigate geohazards at any location where the FLoC value is greater than 10^{-5} events per year to reduce the level of risk to as low as reasonably practicable (ALARP), including a detailed explanation of how the ALARP level has been attained at each location.	X							

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
17	**Valve locations on Line 2** Trans Mountain must file with the NEB for approval, **at least 6 months prior to commencing construction**, its final valve location assessment for Line 2. This assessment must include: a) a table showing each valve's location, function, and description (the description must include valve type, valve closure time, and whether the valve can be remotely controlled by the control centre); b) confirmation that the valve closure times provided in a) will not cause unsafe transient pressures according to the final transient analysis, along with a summary of the analysis; c) calculated volume release and elevation plots in a format similar to that provided by Trans Mountain in its Oil Spill Outflow Model Results for Line 2 for May 2014 Route (Filing A3Z8G6); d) clarification of how the Outflow Volume Score for Non-Watercourse Intersects (Sv,Nonwatercourse) is considered in identifying and prioritizing pipeline segments for valve optimization; e) for each 5-kilometre-long section of Line 2, information demonstrating that the release volumes are minimized to manage risks within the section to a level that is As Low As Reasonably Practicable (ALARP), based on the valve locations provided in a); f) an outflow volume versus chainage graph illustrating the effectiveness of the valve locations provided in a) showing the outflow limit in a format similar to that provided in Figure 4 of Attachment 2 to Trans Mountain's response to NEB Information Request No. 3.050b) (Filing A4H2D7); g) mitigation measures for the locations shown to exceed the outflow limit in the graph provided in f); and h) full-bore release and spill extent mapping that identifies and plots all geohazards with a Frequency of Loss of Containment (FLoC) greater than 10^{-5} events per year after mitigation identified by Trans Mountain at the time of its submission, in a format and scale similar to the maps provided by Trans Mountain in Filing A3Z8G7	X							
18	**Valve locations and upgrades – Line 1** Trans Mountain must file with the NEB for approval, **at least 6 months prior to commencing construction**, its final valve location assessment for Line 1. This assessment must include: a) a plan for upgrading existing manual block valves to automated or remotely operable valves, and a plan for adding new valves, including initiation and completion dates for the required activities; b) a table showing each valve's location, function, and description (the description must include valve type, valve closure time, and whether the valve can be remotely controlled by the control centre); c) confirmation that the valve closure times provided in b) will not cause unsafe transient pressures according to the final transient analysis, along with a summary of the analysis; d) calculated volume release and elevation plots in a format similar to that provided by Trans Mountain in its Oil Spill Outflow Model Results for Line 2 for May 2014 Route (Filing A3Z8G6); e) an outflow volume versus chainage graph illustrating the effectiveness of the valve locations provided in b), in a format similar to that provided in Figure 4 of Attachment 2 to Trans Mountain's response to NEB Information Request No. 3.050b) (Filing A4H2D7); and f) full-bore release and spill extent mapping that identifies and plots all geohazards identified by Trans Mountain in its Natural Hazards Management Program or otherwise, at the time of its submission, in a format and scale similar to the maps provided by Trans Mountain in Filing A3Z8G7; and g) the associated Line 1 risk assessment used to determine the new valve locations and planned valve upgrades in (a).		X						

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
19	**Pipeline segment reactivation (Hinton to Hargreaves; Darfield to Black Pines) – engineering assessment and certificate** Trans Mountain must file with the NEB for approval, **at least 6 months prior to commencing construction**: a) an engineering assessment for the above two pipeline segments, in accordance with Canadian Standards Association (CSA) Z662-15, Clauses 3.3 and 10.15.2; and b) a certificate with a supporting report issued by an independent certification body,[84] stating unconditionally that the above two pipeline segments: i) are fit for service for the specified operating conditions;[85] ii) meet all applicable requirements of CSA Z662-15; and iii) will meet the hydrostatic test requirements outlined in CSA Z662-15, Clause 8, at any time during the certified period. The certificate must be valid for at least 5 years and be validated on an annual basis during the certified period. The supporting report must include the qualifications of the independent certification body, the justification used to grant the certificate, and the expiry date of the certificate.		X						
20	**Existing NPS 24 delivery pipeline location** Trans Mountain must file with the NEB, **at least 6 months prior to commencing construction**, its decision on whether it intends to "relocate" the existing NPS 24 delivery pipeline to the Burnaby Mountain tunnel (i.e., replace it with a new third pipeline in the Burnaby Mountain tunnel) and, if so, provide: a) details of any required changes to the design, construction, and operation of the proposed Burnaby Mountain tunnel; b) a discussion of the factors Trans Mountain considered in deciding to replace/relocate the existing NPS 24 delivery pipeline; and c) an indication of when Trans Mountain expects to apply for NEB approval to relocate/replace the existing NPS 24 delivery pipeline.	X							
21	**Transient hydraulic analysis on the existing NPS 24 delivery pipeline** Trans Mountain must file with the NEB, **at least 6 months prior to commencing construction**, the conclusions of the transient hydraulic analysis undertaken on the existing NPS 24 delivery pipeline from the Burnaby Terminal to the Westridge Marine Terminal. The filed conclusions must: a) demonstrate that the analysis considered the occurrences of maximum surge pressure in the existing NPS 24 delivery pipeline; and b) support Trans Mountain's decision to either retain or eliminate the proposed relief tank at the Westridge Marine Terminal.	X							

84 For Conditions 19, 122 and 152, an" independent certification body" is an internationally recognized company or organization, such as Lloyd's Register or Det Norske Veritas, which is able to certify compliance to statutory requirements. The independent certification body must have expertise in pipeline integrity. The NEB reserves the right to accept or reject the certificate. In addition, the NEB's decision is not contingent on the results of the certificate.

85 For Conditions 19, 122 and 152, "operating conditions" must include the Project-specific operating conditions, possible transient flow conditions, slack flow conditions, and effects on operating pressure due to temperature changes.

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
22	**Updated terminal risk assessments** Trans Mountain must file with the NEB for approval, **at least 6 months prior to commencing construction, and at the same time as Trans Mountain's filings for Conditions 23, 24 and 25**, updated risk assessments for the Edmonton Terminal West Tank Area, the Sumas Terminal, and the Burnaby Terminal. The updated risk assessments must quantify and/or include the following: a) the effect of any revised spill burn rates ; b) the potential consequences of a boil-over; c) the potential consequences of flash fires and vapour cloud explosions; d) the cumulative risk based on the total number of tanks in the terminal, considering all potential events (pool fire, boil-over, flash fire, vapour cloud explosion); e) the domino (knock-on) effect caused by a release of the contents of one tank on other tanks within the terminal's common impoundment area(s), or other tanks in adjacent impoundment areas; and f) risk mitigation measures, including ignition source control methods. For those risks that cannot be eliminated, Trans Mountain must demonstrate in each risk assessment that mitigation measures will reduce the risks to levels that are As Low As Reasonably Practicable (ALARP) while complying with the Major Industrial Accidents Council of Canada (MIACC) criteria for risk acceptability. The quantitative risk analysis must be based on recognized methodology, models, and software. Product release frequencies and event probabilities must be based on recent, documented data sources. The effect of mitigation measures on the risk results must be justified and documented.							X	
23	**Secondary containment – Edmonton Terminal** Trans Mountain must file with the NEB for approval, **at least 6 months prior to commencing construction**, the final design of the Edmonton Terminal West Tank Area, including a report demonstrating the following: a) the drainage system's capability to rapidly and safely channel a significant release from any tank in the West Tank Area Common Impoundment to the Remote Impoundment Annex and Remote Impoundment at the same time that a design precipitation event is occurring, without overtopping the diked areas. b) the adequacy of the design in mitigating the following consequences of an accidental release and/or ignition of hydrocarbons, both within and beyond the Edmonton Terminal property boundary: i) harm to personnel and the public; ii) environmental damage; and iii) damage to facilities; and c) the ability of the Common Impoundment, Remote Impoundment Annex, and Remote Impoundment to contain a release of hydrocarbons from a rupture of the largest tank within the West Tank Area concurrent with a 1-in-100 year, 24-hour storm event. The scenario must include an allowance for water generated from potential firefighting activities and the maximum potential amount of standing water in all areas of the secondary containment system.							X	

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
24	**Secondary containment – Burnaby Terminal** Trans Mountain must file with the NEB for approval, **at least 6 months prior to commencing construction**, the final design of the Burnaby Terminal, including a report demonstrating the following: a) the drainage system's capability to rapidly and safely channel a significant release from either Tank 96, 97, or 98 to the Partial Remote Impoundment at the same time that a design precipitation event is occurring, without overtopping the diked areas. b) the adequacy of the proposed design in mitigating the following consequences of an accidental release and/or ignition of hydrocarbons, both within and beyond the Burnaby Terminal property boundary: i) harm to personnel and the public; ii) environmental damage; and iii) damage to facilities; and c) the ability of the individual secondary containment areas, Common Impoundment areas, Intermediate Stormwater Retention, Partial Remote Impoundment, and Tertiary Containment to contain a release of hydrocarbons from a multiple-tank rupture scenario concurrent with a 1-in-100 year, 24-hour storm event. The scenario must include an allowance for water generated from potential firefighting activities and the maximum potential amount of standing water in all areas of the secondary containment system. The assessment may include a calculation of the probability of exceedance of on-site containment considering all possible tank rupture combinations, excluding those tanks with sufficient individual secondary containment. The calculation may be based on a tank utilization histogram most representative of the expanded terminal operations, similar to that provided in Attachment 1 of Trans Mountain's response to NEB Information Request No. 4.24a) (Filing A4K4X3).							X	
25	**Secondary containment – Sumas Terminal** Trans Mountain must file with the NEB for approval, **at least 6 months prior to commencing construction**, the final design of the Sumas Terminal, including a report demonstrating the following: a) the adequacy of the proposed design in preventing the following consequences of an accidental release and/or ignition of hydrocarbons, both within and beyond the Sumas Terminal property boundary: i) harm to personnel and the public; ii) environmental damage; and iii) damage to facilities; and b) the ability of the secondary containment system to contain a release of hydrocarbons from a multiple-tank rupture scenario concurrent with a 1-in-100 year, 24-hour storm event. The scenario must include an allowance for water generated from potential firefighting activities and the maximum potential amount of standing water in all areas of the secondary containment system. The assessment may include a calculation of the probability of exceedance of on-site containment considering all possible tank rupture combinations, excluding those tanks with sufficient individual secondary containment. The calculation may be based on a tank utilization histogram most representative of the expanded terminal operations, similar to that provided in Attachment 1 of Trans Mountain's response to NEB Information Request No. 4.24b) (Filing A4K4X4).							X	

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26	**Burnaby Mountain tunnel option – design, construction, and operation** For the tunnel between the Burnaby Terminal and the Westridge Marine Terminal and related delivery pipelines, **at least 6 months prior to commencing Burnaby Mountain tunnel construction activities**, Trans Mountain must: a) file with the NEB for approval: i) a description of the selected tunnel lining method with the rationale for its selection; and ii) tunnel confined space entry procedures during construction and visual inspection, and, if applicable, following construction; and b) file with the NEB: i) the results of any geotechnical or geophysical feasibility surveys completed since the evidence filed in the OH-001-2014 hearing; ii) a description of the tunnel portals and permanent road access, if applicable; iii) a description of the selected tunnel excavation method with rationale for its selection; iv) a description of the tunnel backfilling method with rationale for its selection; v) a description of the methods to be used for pipe handling and welding; vi) a discussion on the adequacy of the pipe support methods for the new delivery pipelines during construction, commissioning, hydrostatic testing and operation, if applicable; vii) a discussion on the adequacy of the selected leak detection methods; viii) information demonstrating how the precautionary design of the new delivery pipelines would mitigate issues related to limited accessibility for future maintenance and repairs; and ix) the final tunnel cross-sectional design drawings.	X							
27	**Burnaby Mountain tunnel option – backfilling** Trans Mountain must file with the NEB, **at least 6 months prior to commencing Burnaby Mountain tunnel construction activities**, the following information on backfilling the tunnel between the Burnaby Terminal and the Westridge Marine Terminal: a) a discussion of the adequacy of the measures to be taken during tunnel backfilling to eliminate or mitigate potential damage to the delivery pipelines; b) the method(s) that will be used to confirm the consistency and continuity of the tunnel backfill (i.e., backfilling is completed without any spatial gaps); c) the method(s) that will be used for holiday detection and coating repair prior to backfilling; d) the methods that will be used to confirm the integrity of the delivery pipelines in the tunnel, both prior to and after backfilling, but prior to commissioning; and e) the methods that will be used for monitoring, maintaining, and repairing backfill during operations, considering conditions such as fill deterioration and a potential increase in permeability.	X							
28	**Burnaby Mountain tunnel option – cathodic protection** Trans Mountain must file with the NEB, **at least 6 months prior to commencing Burnaby Mountain tunnel construction activities**, the following information on the cathodic protection system for the delivery pipelines in the tunnel between the Burnaby Terminal and the Westridge Marine Terminal: a) a description of the cathodic protection system design; b) risk mitigation measures for all potential cathodic protection performance issues, such as shielding from the backfill material; and c) a method for verifying the effectiveness of the cathodic protection system during operations.	X							

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29	Burnaby Mountain tunnel option – rock mass and waste rock management Trans Mountain must file with the NEB for approval, **at least 6 months prior to commencing Burnaby Mountain tunnel construction activities**, the following details on rock mass expected to be encountered during construction of the tunnel between the Burnaby Terminal and the Westridge Marine Terminal: a) the characterization of the rock mass quality; b) waste rock management methods during construction and operations, if applicable; c) proposed acid rock mitigation measures, such as the treatment or disposal of acid rock, if encountered; d) the locations, sizes, and designs of all confirmed waste rock disposal areas; and e) plans for disposing any waste rock that is not expected to be stored in the confirmed waste rock disposal areas.	X							
30	**Power system protection for pump stations and terminals** Trans Mountain must file with the NEB the following details of its electrical power system design for each pump station and each of the following: Westridge Marine Terminal, Burnaby Terminal, Edmonton Terminal, and Sumas Terminal: a) Descriptions of the overcurrent and ground fault protection schemes including: i) a summary of coordination studies between the upstream and downstream protective devices, **at least 3 months prior to commencing dry commissioning**; ii) relay settings and time-current curves, **at least 3 months prior to commencing dry commissioning**; iii) the specification of neutral grounding resistors, **at least 6 months prior to commencing construction**; iv) specifications of contactors, fuses, and circuit breakers, **at least 6 months prior to commencing construction**; and v) a description of other electrical protections, relay settings, and trip characteristics, **at least 3 months prior to commencing dry commissioning**. b) Consistent with the NEB's Safety Advisory SA-2015-03, dated 4 May 2015, **at least 6 months prior to commencing construction**, information confirming that Trans Mountain has performed the ground fault and arcing fault protection designs for each pump station and terminal, including: i) a means to clear ground faults without intentional time delay if the fault currents exceed the design limit set by the neutral grounding resistance; and ii) a means to block the stored energy from other running motors from feeding an electrical fault in another motor running from the same bus. This filing must include a description of the ground fault and arcing fault protection designs including the above measures. c) **At least 6 months prior to commencing construction**, either: i) a written confirmation that Trans Mountain determined during detailed design that electrical faults will not exceed their design limits and migrate to an arcing fault; or ii) for a station or a terminal for which Trans Mountain determined during detailed design that an electrical fault could exceed its design limit and migrate to an arcing fault, the electrical configuration of that station or terminal and the additional equipment and devices that will be used to mitigate the adverse effects of such arcing faults. d) Single-line diagrams of the electrical power systems, **at least 6 months prior to commencing construction**.	X				X	X	X	

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31	**Reactivation of the Niton Pump Station** Trans Mountain must file with the NEB for approval, **at least 6 months prior to commencing any pump station construction**, an engineering assessment for the Niton Pump Station, in accordance with CSA Z662. The engineering assessment must demonstrate that the pump station is fit for its intended service, and meets all applicable requirements of CSA Z662.		X						
32	**Sumas Terminal Geotechnical Report** Trans Mountain must file with the NEB, **at least 6 months prior to commencing construction at the Sumas Terminal**, a geotechnical report that provides feasibility-level geotechnical design recommendations for the proposed expansion at the Sumas Terminal.							X	
33	**Westridge Marine Terminal Onshore Geotechnical Report** Trans Mountain must file with the NEB, **at least 6 months prior to commencing construction at the Westridge Marine Terminal**, a geotechnical report that provides feasibility-level geotechnical design recommendations for the proposed new onshore facilities at the Westridge Marine Terminal, including consideration of the potential for seismic damage.	X							
34	**Westridge Marine Terminal Offshore Geotechnical Report** Trans Mountain must file with the NEB, **at least 6 months prior to commencing construction at the Westridge Marine Terminal**, the final Preliminary Geotechnical Report on the offshore portion of the Westridge Marine Terminal, based on the selected pile design option, including consideration of the potential for seismic damage.	X							

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35	**Marine Sediment Management Plan** Trans Mountain must file with the NEB, **at least 6 months prior to commencing construction at the Westridge Marine Terminal**, confirmation whether or not dredging is required at the Westridge Marine Terminal. In the event that dredging is determined to be unavoidable during the expansion of the Westridge Marine Terminal, Trans Mountain must file with the NEB for approval, **at least 4 months prior to commencing construction**, and also include as part of its Westridge Marine Terminal Environmental Protection Plan, a Marine Sediment Management Plan. This plan must include: a) a summary of any supplemental marine sediment survey results; b) quantification of the area and the volume of marine sediment to be dredged along with an explanation of the measures that have been taken to eliminate or reduce the dredge footprint and volume proposed for disposal at sea; c) results of sediment plume modelling for any areas to be dredged; d) options for dredged sediment management, including the volumes of sediment that will be re-used or disposed of at sea or on land, as well the criteria and methods for determining how the dredged sediment will be disposed of at sea or on land; e) criteria and methods for determining how the dredged sediment will be managed recognizing that any proposed disposal at sea will only be considered for approval under the *Canadian Environment Protection Act, 1999*, if it is demonstrated to be the most technically and environmentally preferable option; f) confirmation that Trans Mountain will update the Westridge Marine Terminal Environmental Protection Plan to include any relevant information from the Marine Sediment Management Plan; g) details of monitoring that will be undertaken during construction; h) details of monitoring (both abiotic and biotic parameters) that will be undertaken during operations, including a discussion on evaluating the level of contaminants in the marine environment and any changes from pre-construction levels, as well as a proposed reporting schedule; and i) a summary of its consultations with Appropriate Government Authorities and potentially affected Aboriginal groups. 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.	X							

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36	**Pre-construction caribou habitat assessment** Trans Mountain must file with the NEB, **at least 6 months prior to commencing construction of any Project component potentially affecting each caribou range**, a detailed caribou habitat assessment of the Project right-of-way through each caribou range traversed by the Project, including a 500 metre buffer on either side. The framework of the habitat assessment must use the updated critical habitat polygons delineated by the Southern Mountain Caribou Recovery Team and components of critical habitat outlined in the *Recovery Strategy for the Woodland Caribou, Southern Mountain Population in Canada (2014).* The habitat assessment must include: a) map(s) indicating the location of the habitat; b) a description of the amount of habitat and the existing habitat alteration, in hectares; c) a description of how Trans Mountain has taken available and applicable Aboriginal traditional ecological knowledge into consideration into the assessment including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information; d) a description of how Trans Mountain has incorporated input from Appropriate Government Authorities and species experts into the assessment methodology; and e) a description of the type of habitat characterized by the biophysical attributes of critical habitat, as defined in the applicable Recovery Strategy.	X	X		X	X	X		
37	**Caribou Habitat Restoration Plan (CHRP)** Trans Mountain must file with the NEB for approval, in accordance with the timelines below, preliminary and final versions of a CHRP for each caribou range potentially affected by the Project. a) Preliminary CHRP – to be filed **at least 6 months prior to commencing construction of any Project component potentially affecting each caribou range**. This version of the CHRP must include the following: i) the CHRP's goals and measureable targets for each caribou range, including the goal of avoidance of critical habitat destruction; ii) a detailed description of measures that will be used to avoid or lessen Project activities that impact critical habitat, and the rationale for selecting the measures; iii) a list of criteria used to identify potential caribou habitat restoration sites; iv) conceptual decision-making tree(s) or decision framework(s) that will be used to identify and prioritize potential caribou habitat restoration sites, and mitigative actions to be used at different types of sites, including consideration of typical site factors that may constrain implementation; v) a literature review upon which the decision-making tree(s) or decision framework(s) are based, including: 1) an identification of applicable temporal and spatial caribou habitat restoration methodologies; 2) an assessment of the relative effectiveness of the identified methodologies; and 3) a detailed methodology of how the literature review was conducted. vi) the quantifiable targets and performance measures that will be used to evaluate the extent of predicted residual effects, CHRP effectiveness, the extent to which the goals and measurable targets have been met, and the need for further measures to offset unavoidable and residual effects on caribou habitat; vii) a schedule indicating when mitigation measures will be initiated and their estimated completion dates;	X	X		X	X	X		

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37 (cont)	viii) a description of how Trans Mountain has taken available and applicable Aboriginal traditional ecological knowledge studies into consideration in identifying potential caribou habitat restoration sites including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional land use information and traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information; and ix) a summary of its consultations with Appropriate Government Authorities and any potentially affected Aboriginal groups. 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 preliminary CHRP. b) Final CHRP – to be filed **on or before 1 November after the first complete growing season after completing final clean-up**. This version of the CHRP must include the following: i) the preliminary CHRP, with any updates identified in a revision log that includes the rationale for any changes to decision-making criteria; ii) a complete tabular list of caribou habitat restoration sites, including locations, spatial areas, habitat quality descriptions, site-specific restoration activities, and challenges; iii) a description of how selected restoration measures are consistent with the *Recovery Strategy for the Woodland Caribou, Southern Mountain Population in Canada (2014);* iv) maps or updated Environmental Alignment Sheets showing the site locations; v) specification drawings for the implementation of each restoration method; vi) a qualitative and quantitative and assessment of the total area of direct and indirect disturbance to caribou habitat that will be restored, the duration of spatial disturbance, and the area-based extent of the resulting unavoidable and residual effects to be offset, including indirect disturbance; and vii) a summary of its consultations with Appropriate Government Authorities and any potentially affected Aboriginal groups. 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 final CHRP.	X	X		X	X	X		

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38	**Sowaqua Spotted Owl Mitigation Plan** Trans Mountain must file with the NEB for approval, **at least 6 months prior to commencing construction of any Project component within the Sowaqua spotted owl wildlife habitat area**, a Sowaqua Spotted Owl Mitigation Plan that includes: a) a summary of results from supplemental surveys conducted in the Sowaqua spotted owl wildlife habitat area; b) the area of habitat potentially directly and indirectly affected by the Project; c) a description of how an avoidance, mitigation, and offset hierarchy was considered in the plan; d) mitigation measures to be implemented, including all relevant measures committed to throughout the OH-001-2014 proceeding, any new mitigation measures resulting from supplementary surveys, detailed criteria using clear and unambiguous language that describes the circumstances under which each measure will be applied, and measurable goals for evaluating mitigation success; e) an evaluation of offset options within or outside of the Sowaqua spotted owl wildlife habitat area, an indication of the selected option, and the rationale for the selected option; f) details on post-construction monitoring of mitigation measures and offset measures, including survey methods, corrective measures, detailed criteria using clear and unambiguous language that describes the circumstances under which each measure will be applied, any adjustments to the offset measures, and a proposed reporting schedule; g) a commitment to include results of the monitoring in the post-construction environmental monitoring reports filed under Condition 151; h) details on how the mitigation and monitoring measures are consistent with applicable recovery strategies and action plans; i) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration in developing the mitigation plan including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional land use information and traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information; j) a summary of its consultations with Appropriate Government Authorities, any species experts and potentially affected Aboriginal groups. 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 Mitigation Plan; and k) confirmation that Trans Mountain will update the relevant Environmental Protection Plan(s) to include any relevant information from the mitigation plan.	X	X		X	X	X		

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
39	**Hydrogeological study at Coldwater Indian Reserve (IR) No. 1** Trans Mountain must file with the NEB, **at least 6 months prior to commencing construction between Veale Road and Kingsvale Pump Station**, a hydrogeological report relating to the aquifer at Coldwater IR No. 1 in British Columbia. The report must: a) describe the methodology and information sources used, including any field investigations; b) delineate the extent of the aquifer in the area of Coldwater IR No. 1; c) characterize the aquifer recharge sources and aquifer confinement; d) characterize the direction and speed of groundwater movement to wells on Coldwater IR 1; e) quantify the risks posed to groundwater supplies on Coldwater IR No. 1 in the event of leaks, accidents or malfunctions from the Project; f) based on the assessment of risks, describe proposed measures to address identified risks, including but not limited to considerations related to routing, project design, operational measures, or monitoring; g) provide justification for the measures proposed to address identified potential risks to groundwater supplies on Coldwater IR No. 1; and h) include a summary of consultations undertaken with the Coldwater First Nation and Appropriate Government Authorities, as well as copies of all written comments that may be provided to Trans Mountain by the Coldwater First Nation or Appropriate Government Authorities. 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 the Coldwater First Nation or Appropriate Government Authorities, into the assessment.	X			X		X		
40	**Rare Ecological Community and Rare Plant Population Management Plan** Trans Mountain must file with the NEB for approval, **at least 5 months prior to commencing construction**, an updated Rare Ecological Community and Rare Plant Population Management Plan for ecological communities of concern, rare plants and lichens, and early draft, candidate, proposed, or final critical habitat for plant and lichen species under the *Species at Risk Act*, that are potentially affected directly or indirectly by the Project during construction or operations, that includes: a) a summary of supplementary survey results, and a demonstration of the overall adequacy of the rare ecological community and rare plant surveys, including the adequacy for the identification of biophysical attributes for any early draft, candidate, proposed, or final critical habitat under the *Species at Risk Act*; b) avoidance and mitigation measures to be implemented during construction and operations, including all relevant measures committed to throughout the OH-001-2014 proceeding and any new measures resulting from supplementary surveys, with rationales and unambiguous criteria explaining under what circumstances each measure will be applied, and measurable goals against which the success of each measure will be evaluated; c) a description of how the avoidance, mitigation, and offset hierarchy was considered in developing the plan, with rationales for progressing from avoidance to mitigation to offsets; d) details on post-construction monitoring, including survey methods, the appropriate number of years of monitoring to determine the success of each type of avoidance and mitigation measure, corrective actions that might be necessary, and the circumstances under which each such action would be taken; e) a Preliminary Rare Ecological Community and Rare Plant Population Offset Plan for any ecological communities and rare plant and lichen species that have an at-risk status of S1, S1S2 or S2, or that are listed under federal or provincial legislation for protection, and for any early draft, candidate, proposed, or final critical habitat under the *Species at Risk Act*, and that, after five years of operations, have ongoing effects. This preliminary plan must include:	X	X		X	X	X	X	

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
40 (cont)	i) a rationale for why the community, species, or critical habitat cannot be avoided by a sufficient distance to avoid both direct and indirect residual effects; ii) the expected residual effects on that community, species, or critical habitat, including a discussion of the potential for time lags between when Project effects occur and when mitigation measures would become fully functional, and taking into account the success on past projects of the proposed mitigation and corrective measures in b) and d) above; iii) an analysis of the appropriateness of offsets for the community, species or critical habitat, taking their specific features into account, and of any potential limitations on offset effectiveness; iv) a description of how the avoidance, mitigation, monitoring, corrective and offset measures are consistent with any applicable recovery, action or management strategies or plans for the community, species or critical habitat; v) an explanation with rationales of how the need for offset measures will be determined and how quantitative offset objectives will be developed, including the use and selection of offset ratios, with the aim of achieving no-net-loss; vi) the potential types of offset measures, the process for selecting which will be implemented, an estimation of the probability of their success, and how compensation sites will be selected; and vii) a discussion of how the effectiveness of offset measures will be monitored, assessed, and reported on, and problems corrected; f) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration in developing the plan, including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional land use information and traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information; g) a summary of its consultations with Appropriate Government Authorities, any species experts and any potentially affected Aboriginal groups. 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; and h) confirmation that Trans Mountain will update the relevant Environmental Protection Plan(s) to include any relevant information from the Rare Ecological Community and Rare Plant Population Management Plan, including confirmation that the avoidance, mitigation, monitoring, corrective, and offset measures in the Rare Ecological Community and Rare Plant Population Management Plan will be implemented to the extent feasible in the case of discovery via their inclusion in the Rare Ecological Communities or Rare Plant Species Discovery Contingency Plan.	X	X		X	X	X	X	
41	**Wetland Survey and Mitigation Plan** Trans Mountain must file with the NEB for approval, **at least 5 months prior to commencing construction**, a pre-construction Wetland Survey and Mitigation Plan for wetlands potentially affected directly or indirectly by the Project during construction or operations, that includes: a) a summary of supplementary survey results and a demonstration of the overall adequacy of the wetland surveys; b) a description of any wetlands for which ground-based surveys were not possible, an explanation as to why not, attempts made to obtain access, and what further information on each wetland will be collected immediately prior to or during construction;	X	X		X	X	X	X	

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
41 (cont)	c) a description of the functional condition of each wetland for comparison during post-construction monitoring, including individual functional conditions (e.g., habitat, hydrology and biogeochemistry, including the presence and abundance of migratory birds and species at risk), and a description of the methods used to determine the type and amount of each individual wetland function and the overall functional condition; d) a description of the crossing methods, mitigation measures and reclamation measures to be implemented during construction and operations, with rationales and unambiguous criteria explaining under what circumstances each such method and measure will be applied; e) measurable goals against which the success of wetland mitigation and reclamation will be evaluated, including a description of how such goals incorporate the aim of returning wetlands to their original functionality while allowing for reasonable natural variation, and including measurable goals for each of the first-, third- and fifth-year post-construction monitoring reporting stages for any wetland to which no-net-loss under the Federal Policy on Wetland Conservation applies; f) a description of how the i) avoidance, mitigation, and offset hierarchy, and ii) the goal of no-net-loss of wetland function, were considered in developing the plan, with rationales for progressing from avoidance to mitigation to offsets; g) details of the post-construction monitoring plan for wetlands for the first five years of operations, including corrective actions that might be necessary and the circumstances under which each such action would be taken; h) a Preliminary Wetland Offset Plan for any wetland that has not achieved reclamation success in terms of overall wetland function after five years of operations, and for any wetland to which no-net-loss under the Federal Policy on Wetland Conservation applies and that has had a temporary or ongoing loss in any individual functional condition – this plan must include: i) the expected residual effects on the wetland, including a discussion of the potential for time lags between when Project effects occur and when mitigation measures would become fully functional, taking into account the success on past projects of the proposed mitigation, reclamation and corrective measures in d) and g) above; ii) an analysis of the appropriateness of offsets for the wetland, taking its specific features into account, and of any potential limitations on offset effectiveness; iii) an explanation with rationales of how the need for offset measures will be determined and how quantitative offset objectives will be developed, including the use and selection of offset ratios and indicator species, with the aim of achieving no-net-loss; iv) the potential types of offset measures, the process for selecting which will be implemented, an estimation of the probability of their success, and how compensation sites will be selected; v) a discussion of how the effectiveness of offset measures will be monitored, assessed, and reported on, and problems corrected; and	X	X		X	X	X	X	
	vi) for any wetland to which no-net-loss under the Federal Policy on Wetland Conservation applies, details with rationales on the offset measures that will be implemented before or during the first five years of operations to compensate for expected temporary or ongoing losses to individual functional conditions, including the amount and type of offsets required, the selection of compensation sites, identification of the parties involved in planning and implementation and their respective roles and responsibilities, a timeline for implementation, and the methods and schedule for monitoring and reporting to demonstrate offset success;								

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
41 (cont)	i) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration in developing the plan, including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional land use information and traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information; 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; and k) confirmation that Trans Mountain will update the relevant Environmental Protection Plan(s) to include any relevant information from the Wetland Survey and Mitigation Plan.	X	X		X	X	X	X	
42	**Grasslands Survey and Mitigation Plan** Trans Mountain must file with the NEB for approval, **at least 5 months prior to commencing construction**, a pre-construction Grasslands Survey and Mitigation Plan for native grasslands in the British Columbia interior that are potentially affected directly or indirectly by the Project during construction or operations, that includes: a) a summary of survey results for such grasslands, including but not limited to native plant species diversity, species at risk, the density and distribution of existing invasive plant species, and the presence of cryptogamic crust, together with a demonstration of the adequacy of such surveys and a summary of existing and ongoing land management impacts; b) a description (including quantification) of overlap of the Project with grasslands and of expected residual effects; c) a description of the mitigation and reclamation measures to be implemented for grasslands during construction and operations, including the extent to which native seed will be used, with rationales and unambiguous criteria explaining under what circumstances each such measure will be applied; d) measurable goals against which the success of grassland mitigation and reclamation will be evaluated, including goals related to cryptogamic crust recovery, invasive species control, and access control, and how existing and ongoing land management impacts and land-use changes by landowners outside the control of Trans Mountain will be taken into account; e) a description of how the i) avoidance, mitigation, and offset hierarchy, and ii) the goal of no-net-loss for grasslands, were considered in developing the plan, with rationales for progressing from avoidance to mitigation to offsets; f) details of the post-construction monitoring plan for grasslands for the first ten years of operations, including corrective actions that might be necessary and the circumstances under which each such action would be taken; g) a Preliminary Grasslands Offset Plan for those grasslands that, after ten years of operations, have not achieved reclamation success. This plan must include: i) expected residual effects on the grasslands, including a discussion of the potential for time lags between when Project effects occur and when mitigation measures would become fully functional, taking into account the success on past projects of the proposed mitigation, reclamation and corrective measures in c) and f) above; ii) an analysis of the appropriateness of offsets for the grasslands, taking their specific features into account, and of any potential limitations on offset effectiveness;	X	X		X	X	X		

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
42 (cont)	iii) an explanation with rationales of how the need for offset measures will be determined and how quantitative offset objectives will be developed, including the use and selection of offset ratios, with the aim of achieving no-net-loss; iv) the potential types of offset measures, the process for selecting which will be implemented, an estimation of the probability of their success, and how compensation sites will be selected; and v) a discussion of how the effectiveness of offsets measures will be monitored, assessed, and reported on, and problems corrected; h) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration in developing the plan, including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional land use information and traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information; i) a summary of its consultations with Appropriate Government Authorities, any species experts, 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; and j) confirmation that Trans Mountain will update the relevant Environmental Protection Plan(s) to include any relevant information from the Grasslands Survey and Mitigation Plan.	X	X		X	X	X		

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
43	**Watercourse crossing inventory** Trans Mountain must file with the NEB, **at least 5 months prior to commencing any watercourse crossing construction activities**, the following: a) an updated inventory of all watercourses to be crossed, including, for each crossing: i) the name of the watercourse being crossed and an identifier for the crossing; ii) the location of the crossing; iii) the primary and contingency crossing methods; iv) planned construction timing; v) information on the presence of fish and fish habitat; vi) information on the composition of riparian habitat; vii) the provincial instream work window ; viii) the proposed least risk biological window and the rationale to support the proposed least risk biological window if it differs from the provincial instream work window; and ix) an indication of whether any of Fisheries and Oceans Canada's applicable "Measures to Avoid Causing Harm to Fish and Fish Habitat" cannot be implemented; b) detailed generic design drawings of trenchless, dry open-cut, frozen open-cut, and isolation crossings of various watercourse types; c) site-specific information for each watercourse crossing where **any** of Fisheries and Oceans Canada's applicable "Measures to Avoid Causing Harm to Fish and Fish Habitat" cannot be implemented for the primary pipeline construction method: i) detailed crossing-specific design drawings; ii) photographs up-stream, down-stream, and at the crossing location; iii) a description of the fish species and habitat that is present at the crossing location, and if fish spawning is likely to occur within the immediate area; iv) a description of the composition of the riparian habitat at the crossing location and an indication if the riparian habitat has a limiting effect on the productive capacity of the watercourse, and if its removal or disturbance represents a potential influence on fish communities; v) the site-specific mitigation and habitat enhancement measures to be used to minimize impacts; vi) any potential residual effects; vii) proposed reclamation measures; and viii) a discussion of the potential impacts to local fisheries resources within the immediate area as a result of the crossing's construction; d) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration in developing the inventory, including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional land use information and traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information; and e) a summary of 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.	X	X						

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
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. Each plan must include: a) a summary of supplementary pre-construction survey results, including surveys for biophysical attributes of critical habitat; b) the location and type of critical habitat, for those wildlife species with early draft and candidate critical habitat, including a description of the biophysical attributes, potentially directly and indirectly affected by the Project; c) the location, types and total spatial area for each type of critical habitat for those wildlife species with proposed or final critical habitat, including a description of the biophysical attributes, potentially directly and indirectly affected by the Project; d) a detailed description of measures that will be used to avoid the destruction of critical habitat; e) a detailed description of mitigation and habitat restoration measures to be implemented to reduce direct and indirect Project effects on critical habitat, including all relevant measures committed to throughout the OH-001-2014 proceeding, any new mitigation measures resulting from supplementary surveys, detailed criteria using clear and unambiguous language that describes the circumstances under which each measure will be applied, and measurable targets for evaluating mitigation and critical habitat restoration success; f) identification and review of alternative mitigation and habitat restoration measures to avoid or lessen direct and indirect Project effects on critical habitat, and the rationale for the selected measure(s); g) detailed description of how selected mitigation and critical habitat restoration measures address the potential for time lags between when the Project impacts occur and when mitigation and critical habitat restoration measures are implemented and are fully functional; h) details on post-construction monitoring of mitigation measures and critical habitat restoration measures, including survey methods, corrective measures, detailed criteria using clear and unambiguous language that describes the circumstances under which each measure will be applied, and a proposed reporting schedule; i) details on how the mitigation, critical habitat restoration measures, and monitoring measures are consistent with applicable recovery strategies and action plans; j) a commitment to include the results of the monitoring in the post-construction environmental monitoring reports filed under Condition 151; k) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration in developing the plans including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional land use information and traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information; l) a summary of its consultations with Appropriate Government Authorities, any species experts, potentially affected Aboriginal groups and affected landowner/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; and m) confirmation that Trans Mountain will update the relevant Environmental Protection Plan(s) to include any relevant information from the Wildlife Species at Risk Mitigation and Habitat Restoration Plans.	X	X		X	X	X		

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
45	**Weed and Vegetation Management Plan** Trans Mountain must file with the NEB for approval, **at least 4 months prior to commencing construction**, an updated Weed and Vegetation Management Plan for the Project that includes: a) a summary of supplementary survey results, including pre-construction weed surveys, and a demonstration of the adequacy of such surveys; b) measurable goals; c) criteria describing when and where problem vegetation will be managed for each project phase, including pre-construction, construction, post-construction, and operations; d) a description of potential adverse effects related to treatment measures; e) management procedures and a decision-making framework for selecting appropriate prevention and treatment measures, including a description of relevant specific habitats, land uses and land management plans and how each will be considered and kept up-to-date in selecting prevention and treatment measures; f) the methods and schedule for short- and long-term vegetation monitoring; g) a summary of its consultations with Appropriate Government Authorities, invasive plant councils or committees, 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; and h) confirmation that Trans Mountain will update the relevant Environmental Protection Plan(s) to include any relevant information from the Weed and Vegetation Management Plan.	X	X	X	X	X	X	X	X
46	**Contamination Identification and Assessment Plan** Trans Mountain must file with the NEB for approval, **at least 4 months prior to commencing construction**, a Contamination Identification and Assessment Plan that includes: a) a description of the procedures that have been implemented to-date, and that will be implemented prior to or during construction, to identify and assess pre-existing solid, liquid or gaseous contamination that could be disturbed by, or affect, the Project, including whether site investigations have been or will be undertaken; b) a demonstration of the adequacy of the procedures in a) with reference to relevant standards, guidelines, and best practices, including how historical land use has been taken into account and a discussion of the potential for chemicals of concern to not be detectable by smell or by sight; c) the information that has been or will be reported by Trans Mountain, including to whom and when, concerning pre-existing contamination; and d) 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; and e) confirmation that Trans Mountain will update the relevant Environmental Protection Plan(s) to include any relevant information from the Contamination Identification and Assessment Plan.	X	X	X	X	X	X	X	X

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
47	**Access Management Plan(s)** Trans Mountain must file with the NEB for approval, **at least 4 months prior to commencing construction**, an Access Management Plan(s) to be included within the updated Environmental Protection Plans required by Conditions 72 and 78. Each plan must address issues related to soil, vegetation, fish and fish habitat, and wildlife and wildlife habitat. Each plan must also describe access control measures proposed to control both human and predator access during construction and operations, and include: a) objectives of the plan; b) measurable goals for evaluating the plan's success in achieving its objectives; c) a summary of any related baseline information that has been or will be collected to aid in evaluating the plan's success, and justification of the adequacy of this baseline information, or a rationale if no baseline information has or will be collected; d) a list of sites where access control measures will be implemented for construction and those that will remain in place throughout operations, the control measure(s) proposed at those sites, and the rationale for selecting those sites and measures; e) the methods for monitoring the effectiveness of access control measures implemented during construction and operations, and justification of the adequacy of such monitoring; f) a description of available adaptive management measures and of the criteria Trans Mountain will use to determine if and when adaptive management measures are warranted based on monitoring results; g) a commitment to report, as part of Trans Mountain's post-construction environmental monitoring reports (required by Condition 151), on the control measures implemented, monitoring undertaken, and the success of control measures in meeting Access Management Plan goals and objectives, as well as a schedule, with rationale, for reporting throughout operations; h) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge studies into consideration including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information; and i) 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/Report.	X	X		X	X	X		

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
48	**Navigation and navigation safety plan** Trans Mountain must file with the NEB, for approval, **at least 4 months prior to commencing construction**, a Navigation and Navigation Safety Plan that includes: a) an updated list of navigable waterways to be crossed by or affected by the Project (including power lines, marine terminal, temporary or permanent bridge crossings, or other ancillary works that are physically or operationally connected to the Project); b) an updated listing of effects of the Project on navigation and navigation safety for each of the identified waterways identified in a); c) proposed mitigation measures to address Project effects on navigation and navigation safety for each of the identified waterways, including adherence to codes and standards (such as the Canadian Standards Association); and d) a summary of its consultations with Appropriate Government Authorities, potentially affected Aboriginal groups and waterway users, regarding their navigational use of each of the identified waterways. In its summary, Trans Mountain must: i) describe the Appropriate Government Authorities, potentially affected Aboriginal groups, and commercial and recreational waterway users consulted; ii) describe how Trans Mountain identified those consulted; and iii) 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.	X	X		X	X	X		
49	**Technical working group (TWG) 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 outcomes of these activities. The reports must include, at a minimum: a) a list of all members of each TWG; b) the methods, dates and location of all TWG activities or meetings; c) a summary of all issues or concerns raised or addressed during the TWG activities; d) a description of outcomes or measures that were or will be implemented to address the issues identified or concerns raised; or, if any measures will not be implemented, a rationale for why not; and e) a description of any unresolved issues or concerns, and a description of how these will be addressed, or a rationale for why no further measures will be required.	X							

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
50	**High-voltage alternating current (AC) interference** Trans Mountain must file with the NEB, **at least 4 months prior to commencing construction**: a) a report confirming that Trans Mountain has achieved an engineered solution to mitigate possible damage to pipeline segments caused by the power line fault current from power line footings and other below ground fault current discharge facilities of B.C. Hydro's unshielded transmission power lines that are located less than 30 metres from those segments. The report must include: i) a summary of the above-mentioned engineered solution and an explanation of how the engineered solution adequately mitigates possible damage to the pipeline; ii) a list of pipeline segments where mitigation will be applied; and iii) an explanation of measures taken by Trans Mountain to reach an agreement with B.C. Hydro towards implementing the engineered solution. Trans Mountain must provide a copy of the report to B.C. Hydro at the same time that it is filed with the NEB; b) a report detailing how Trans Mountain's design reduces hazardous induced voltages on its pipeline segments to meet a maximum 15 VAC under all steady state operating conditions; and c) a report demonstrating how Trans Mountain would comply with the requirements of IEEE Standard 80 to limit touch and step potentials to all points of contacts to pipeline segments due to power line faults or switching surges, and include a list of affected pipeline segments.	X							
51	**Field changes manual for geohazard mitigation** Trans Mountain must file with the NEB for approval, **at least 4 months prior to commencing construction**, a field changes manual for geohazard mitigation. This manual must include: a) decision criteria for implementing mitigation for any geohazards identified during construction; b) specific criteria for implementing changes to the designs, grading, special materials, protective structures, burial depth, installation procedures, erosion mitigation measures, and monitoring; and c) details regarding the required qualifications of the field staff that will implement the manual.	X							

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
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 Air Emissions Management Plan for the Westridge Marine Terminal that includes: a) locations of air monitoring sites (on a map or diagram), including the rationale for the locations selected; b) 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; c) 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 NO_2), 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; 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.	X							

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
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 Fugitive Emissions Management Plan for the Westridge Marine Terminal that includes: a) a description of the sources of the fugitive emissions that will be generated from the Westridge Marine Terminal during construction and operations; b) a description of the emission and odour controls that will be employed to reduce fugitive emissions during tanker loading and other sources identified in a); c) procedures for verifying, tracking, and reporting on: i) fugitive emissions during tanker loading; ii) volatile organic compound collection efficiency; iii) the vapour recovery unit's hydrogen sulphide and mercaptan removal efficiency, as well as its BTEX reduction efficiency; and iv) the vapour combustion unit's hydrogen sulphide and mercaptan; removal efficiency, as well as its combustion efficiency; d) procedures for identifying any leaks or equipment malfunctions during operation of the vapour recovery and vapour combustion units; e) methods for quantifying emissions of particulate matter and volatile organic compounds (with vapour recovery and vapour combustion units in operation); f) any additional mitigation measures that will be employed to further reduce fugitive emissions; g) a description of Trans Mountain's program for addressing complaints with respect to fugitive emissions, including a communication and notification plan; and h) a summary of its consultations with Appropriate Government Authorities. 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.	X							
54	**Fugitive Emissions Management Plan for Edmonton, Sumas and Burnaby Terminals** Trans Mountain must file with the NEB for approval, **at least 4 months prior to commencing construction at each Terminal**, a Fugitive Emissions Management Plan for the Edmonton, Sumas, and Burnaby Terminals. This plan must include: a) a description of the fugitive emission sources within the terminals during construction and operations; b) a description of the emission and odour controls that will be employed to reduce fugitive emissions from the tanks, and any other sources identified in a); c) procedures for verifying the capture and destruction efficiency of tank vapour activation units or any other emission or odour control units at the terminals; d) quantification of fugitive emissions during operations, including the methods used; e) any additional mitigation measures that will be employed to further reduce the fugitive emissions; f) a description of Trans Mountain's program for addressing complaints with respect to fugitive emissions, including a public and Aboriginal communication and complaint response process; and g) 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.							X	

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
55	**Fugitive Emissions Management Plan for pump stations** Trans Mountain must file with the NEB for approval, **at least 4 months prior to commencing construction at any pump stations**, a Fugitive Emissions Management Plan for the pump stations associated with the Project that includes: a) a description of the procedures implemented for leak detection and the criteria used in selecting target leaking components; b) quantification methods considered and the rationale for the selected method(s); c) monitoring frequency for each target leaking component and the parameters that will be measured; d) a decision framework that will be implemented to repair or replace leaking components; e) a description of record-keeping procedures; and f) a discussion of additional mitigation measures that will be employed to minimize fugitive emissions.		X			X	X		
56	**Grizzly Bear Mitigation Plan** Trans Mountain must file with the NEB for approval, **at least 4 months prior to commencing construction in each vulnerable grizzly bear population unit / grizzly bear management area**, a Grizzly Bear Mitigation Plan for each of these areas. Trans Mountain must provide a rationale for why any vulnerable grizzly bear population units / grizzly bear management units potentially affected by the Project are not addressed in the plan. The Grizzly Bear Mitigation Plan(s) must include: a) a summary of results from any supplemental surveys conducted; b) potential direct and indirect effects of Project activities on vulnerable grizzly bear population units and grizzly bear management units; c) mitigation measures to be implemented, including all relevant measures committed to throughout the OH-001-2014 proceeding, any new mitigation measures resulting from supplementary surveys, detailed criteria using clear and unambiguous language that describes the circumstances under which each measure will be applied, and measurable targets for evaluating mitigation success; d) details on post-construction monitoring of mitigation measures, including survey methods, corrective measures, detailed criteria using clear and unambiguous language that describes the circumstances under which each measure will be applied, and a proposed reporting schedule; e) a commitment to include results of the monitoring in the post-construction environmental monitoring reports filed under Condition 151; f) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration in developing the plan including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional land use information and traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information; g) a summary of its consultations with Appropriate Government Authorities, any species experts and potentially affected Aboriginal groups. 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; and h) confirmation that Trans Mountain will update the relevant Environmental Protection Plan(s) to include any relevant information from the Grizzly Bear Mitigation Plan, including confirmation that the mitigation, monitoring, and corrective measures in this plan will be implemented in the case of discovery via their inclusion in Trans Mountain's Wildlife Species of Concern Discovery Contingency Plan.	X	X		X	X	X		

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
57	**Commercial Support for the Project** Trans Mountain must file with the Board, **at least 3 months prior to commencing construction**, confirmation, signed by an officer of the company, that: a) the Project has secured agreements or contracts that remain in force with shippers for a minimum term of 15-years for no less than 60 per cent of its total capacity (890,000 barrels per day); and b) any rights to terminate held by shippers that may have existed in any agreements or contracts between Trans Mountain and shippers (which may have reduced the Project's contracted total capacity to less than 60 per cent for a minimum term of 15 years) have lapsed and or expired because their conditions precedent have been satisfied or waived.	X							
58	**Training and education monitoring reports** a) Trans Mountain must file with the NEB, **at least 3 months prior to commencing construction, and every 6 months thereafter until after commencing operations**, monitoring reports for the implementation and outcomes of Aboriginal, local, and regional training and education measures and opportunities for the Project. The reports must include the following: i) A description of each training and education measure and opportunity indicator that was monitored, including duration, participant groups, education and training organization, and intended outcomes. ii) A summary and analysis of the progress made toward achieving intended outcomes of each training and education measure and opportunity, including an explanation for why any intended outcomes were not achieve. iii) A description of identified or potential training or education gaps, and any proposed measures to address them or to support or increase training and education measures and opportunities. b) Trans Mountain must file with the NEB, **within 6 months after commencing operations**, a final report.	X							

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
59	**Worker accommodation strategy** Trans Mountain must file with the NEB for approval, **at least 3 months prior to commencing construction**, a worker accommodation strategy, developed in consultation with appropriate municipal or provincial authorities. The strategy must include: a) a final summary of all proposed accommodations, including the location of any temporary camp(s); b) the number of workers that will be housed; and c) a description of how the strategy addresses any concerns or requests raised in consultation with municipal or provincial authorities. In the event that temporary camp(s) are to be used, the strategy must also include: i) a description of how the potential environmental and socio-economic impacts have been assessed, and a description of all associated mitigation measures; ii) copies of, or reference to, any mitigation or operational plans that will be required or implemented for the camp(s), including a description of how Trans Mountain has incorporated any additional mitigation measures into relevant Environmental Protection Plan(s); iii) copies of any necessary municipal or provincial permits for any camp(s) that have been received 3 months prior to construction. If camp permits are not yet in place 3 months prior to commencing construction, provide: 1) a list of the outstanding camp permits and a schedule for when these camp permits will be in place; and 2) copies of any outstanding camp permits prior to commencing construction; iv) copies or excerpts of all policies relating to the rules of conduct for workers housed at the camp(s); v) confirmation that all policies relating to the camp(s) will be provided to workers; vi) confirmation that all policies relating to the camp(s) were made available to all local communities and other relevant service providers in proximity to any camp(s) that will be used for the Project; and vii) a summary of its consultations with affected landowners/tenants where any camp(s) will be located. Trans Mountain must provide: 1) a description of the information provided to landowners/tenants; and 2) description and justification for how Trans Mountain has incorporated the results of its consultation, including any recommendations from those consulted, into the Strategy.	X	X		X	X	X	X	

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
60	**Environmental and socio-economic assessment - s.58 temporary construction lands and infrastructure** Trans Mountain must file with the NEB for approval, **at least 3 months prior to commencing construction**, an environmental and socio-economic assessment for all temporary construction lands and infrastructure approved pursuant to this Order. The assessments must include: a) a list of the locations and dimensions of all temporary construction lands and infrastructure; b) environmental alignment sheets or as-built drawings at an appropriate scale, clearly depicting temporary construction lands and infrastructure; c) results of any pre-construction surveys within the areas that were not previously subject to such surveys, and an indication of potential residual effects; d) all associated mitigation measures that are beyond those identified during the OH-001-2014 proceeding; e) analysis supporting the use of the measures in d), including any supplementary reports; f) confirmation that Trans Mountain will update the relevant Environmental Protection Plan(s) to include any relevant information based on any supplemental surveys completed; and g) a summary of consultations with Appropriate Government Authorities, potentially affected Aboriginal groups and affected landowners/tenants, as well as copies of all written comments that may be provided to Trans Mountain by those consulted. 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 assessment.				X				
61	**List of temporary infrastructure sites** Trans Mountain must file with the NEB, **at least 3 months prior to commencing construction**, a complete list of all temporary infrastructure sites to be constructed for the Project, and must file any **updates as they become available**. This list must include information on each site's location, structures to be installed, the anticipated date for commencing construction, and activities involved in its construction. The initial list and any updates must also include the condition numbers (those under the "prior to commencing construction" phase heading) that are applicable to each site and an indication of whether each of those conditions has been or remains to be satisfied.				X				
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.	X	X	X	X	X	X	X	X
63	**Security Management Programs** Trans Mountain must file confirmation, signed by an officer of the company: a) **at least 3 months prior to commencing construction**, that it has developed a Security Management Program for the construction phase of the Project; and b) **at least 3 months prior to commencing operations**, that it has amended its operations phase Security Management Program to include operation of the Project; pursuant to the *National Energy Board Onshore Pipeline Regulations* and CSA Z246.1 (as amended from time to time).	X	X	X	X	X	X	X	X

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
64	**Construction safety manuals** Trans Mountain must file with the NEB: a) **at least 3 months prior to commencing construction**, the Health and Safety Management Plan for the Project; and b) **at least 2 months prior to commencing construction**, Construction Safety Manuals (Project-Specific Safety Plans) for the applicable Project components. These must include separate Construction Safety Manuals for pipeline construction, terminal and pump station construction, Burnaby Mountain tunnel construction, and Westridge Marine Terminal construction. These manuals must address routine construction activities, as well as blasting, tunneling, avalanche safety, safe work in proximity to operational pipelines and facilities, and special access procedures that may be required in areas subject to activities other than Project construction.	X	X	X	X	X	X	X	X
65	**Hydrology – notable watercourse crossings** Trans Mountain must file with the NEB, **at least 3 months prior to commencing construction**, revised flood frequency estimates for all notable watercourse crossings, as defined by Trans Mountain in its application. These estimates must incorporate the results of field investigations and bathymetric surveys completed since the Project application was filed, and be presented in a format similar to that presented in Application Volume 4A, Appendix I – Route Physiography and Hydrology Report, Appendix B – Notable Water Crossing Catchment Details (Filing A56000).	X							
66	**Risk Management Plan for geohazards** Trans Mountain must develop and file with the NEB, **at least 3 months prior to commencing construction**, an updated Risk Management Plan for addressing the threats of existing and potential geohazards during construction of the Project. This plan must be updated as additional site-specific geotechnical information is obtained through detailed investigations, and modified as geohazards are encountered during construction. Trans Mountain must make any updates or modifications available to the NEB upon request.	X			X				
67	**Outstanding horizontal directional drilling geotechnical and feasibility reports** Trans Mountain must file with the NEB, **at least 3 months prior to commencing construction**, Geotechnical Reports and Horizontal Directional Drilling Feasibility and Design Reports, along with final design drawings, for each of the following crossings: a) Coldwater River 4 crossing; b) North Thompson River 6 crossing; c) North Thompson River 7 crossing; d) Pembina River crossing. e) Raft River crossing; f) Sumas River crossing (suitability for Direct Pipe® installation); g) any additional river crossing along the new Line 2 pipeline segments where horizontal directional drilling or other trenchless crossing method is being considered; and h) the Coquitlam Landfill, if Horizontal Directional Drilling or other trenchless crossing method is being considered.	X							

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
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.	X							
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.	X							
70	**Strain-based design** Trans Mountain must file with the NEB, **at least 3 months prior to commencing construction**, the following information related to strain-based design, where it is applied: a) the location and rationale for selecting strain-based design in each location; b) a report summarizing the adequacy of the strain-based design for various loading scenarios during pipeline construction and operation for each location provided in a); and c) a list of standards and Project-specific specifications, including testing procedures, used in the strain-based design.	X							

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
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, and must include the following. a) a description of the methods used to determine pre-construction functionality (e.g., for fish, wildlife, and rare plants) of the riparian habitat, including a justification how such functionality is assessed; b) a description of the mitigation measures and the watercourse reclamation strategies (reclamation method, reclamation measures, and application criteria) for the range of defined watercourses crossed by the Project; c) a description of the generalized vegetation planting plans for the range of defined watercourses crossed by the Project; that includes the diversity and density of species to be planted, planting locations, and application criteria; d) clearly defined measureable reclamation goals and targets for years 1, 3, and 5, post-construction, to determine whether riparian habitat has returned, or is on a sufficient trajectory to return, to pre-construction functionality; e) a discussion of how the mitigation measures, reclamation strategies, and vegetation planting plans are anticipated to return riparian habitat to pre-construction functionality, using the goals and targets provided in d); f) a summary of the information in a)-d) for each defined watercourse crossing, that includes: i) watercourse crossing ID; ii) a defined riparian habitat buffer; iii) a catalogue of the pre-construction species diversity and density of the riparian habitat; iv) classification of riparian habitat functionality; v) area of the riparian habitat to be impacted; vi) the mitigation measures, reclamation strategy, and vegetation planting plan to be implemented; and vii) the measureable goals and targets. g) details of the post-construction monitoring plan for the first five years of operations, including evaluations of reclamation activities, and potential corrective actions and enhancement measures that might be necessary and the circumstances under which each such action would be taken; h) a Preliminary Riparian Habitat Offset Plan, that would apply to all defined watercourse crossings located in watersheds identified as being above the riparian habitat disturbance threshold (>18 per cent of riparian habitat disturbed in the watershed) or classified as High Sensitive fish-bearing by Trans Mountain during the OH-001-2014 proceeding, and, where, after the fifth complete growing season, riparian habitat has not returned, or is not trending towards sufficient pre-construction functionality. The plan must include: i) how the need for offset measures will be determined, including offset ratios; ii) potential offset measures, the process for selecting which will be implemented, and an evaluation of the probability of their success; and iii) how the effectiveness of offset measures will be assessed, monitored, and reported on;	X	X						

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
71 (cont)	i) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration in developing the plan, including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional land use information and traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information; and j) a summary of consultations with Appropriate Government Authorities, potentially affected Aboriginal groups and affected landowners/tenants. In its plan, 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 of updates.	X	X						
72	**Pipeline Environmental Protection Plan** Trans Mountain must file with the NEB for approval, **at least 3 months prior to commencing construction**, an updated Project-specific Pipeline Environmental Protection Plan for the construction of the pipeline. The updated Environmental Protection Plan must be a comprehensive compilation of all environmental protection procedures, mitigation measures, and monitoring commitments, as set out in Trans Mountain's Project application, its subsequent filings, or as otherwise committed to during the OH-001-2014 proceeding. The updated plan must describe the criteria for implementing all procedures and measures using clear and unambiguous language that confirms Trans Mountain's intention to implement all of its commitments. The updated Environmental Protection Plan must include the following: a) environmental procedures (including site-specific plans), criteria for implementing these procedures, mitigation measures, and monitoring applicable to all Project phases and activities; b) policies and procedures for environmental training and the reporting structure for environmental management during construction, including the qualifications, roles, responsibilities, and decision-making authority for each job title identified in the updated Environmental Protection Plan; c) any additional measures arising from supplemental pre-construction studies and surveys; d) updated contingency plans and management plans; e) updated alignment sheets; f) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration in developing the plan, including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional land use information and traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information; and g) 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.	X	X						

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
73	**Traffic Control Plans for public roadways** Trans Mountain must file with the NEB, **at least 3 months prior to commencing construction of the pipeline and at least 2 months prior to commencing construction at each terminal and pump station**, traffic control plans for the use of public roadways for the Project. The plans must include: a) information regarding the timing and location of key construction activities (including equipment mobilization and staging, pipe stockpiling, pipeline and pump station construction, and equipment demobilization); b) current traffic volumes and anticipated traffic volumes during the construction period for both day and night times; c) a description of the predicted traffic flows, including vehicle types and volumes, at key construction points, marshalling areas, access roads, and public roadways; d) an assessment of the potential impacts associated with the increased volume of construction-related traffic (e.g., safety hazards, noise, light, dust, etc.) and associated mitigation measures; and e) 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 Plans.	X	X	X	X	X	X	X	X
74	**Horizontal directional drilling (HDD) Noise Management Plan** Trans Mountain must file with the NEB for approval, **at least 3 months prior to commencing construction of each HDD crossing**, a site-specific HDD Noise Management Plan that includes: a) proposed hours of daytime and nighttime work; b) baseline daytime and nighttime ambient sound levels at noise sensitive areas within 500 metres of the HDD entry and exit sites; c) predicted noise levels caused by HDD at the most affected receptors without mitigation measures implemented; d) proposed HDD noise mitigation measures, including all technologically and economically feasible mitigation measures; e) predicted noise levels at the most affected receptors with mitigation measures implemented, including noise contour map(s) showing potentially affected receptors; f) an HDD noise monitoring program, including locations, methodology, and schedule; g) a description of the public and Aboriginal communication and complaint response process; h) a contingency plan that contains proposed mitigation measures for addressing noise complaints, which may include the temporary relocation of specific residents; and i) confirmation that Trans Mountain will provide notice to nearby residents in the event that a planned blowdown is required, and that the planned blowdown will be completed during daytime hours whenever possible.	X							

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
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 Fisheries and Oceans Canada 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. c) For each watercourse crossing in b) where a trenchless crossing method is not feasible, **at least 3 months prior to commencing construction of that crossing**, Trans Mountain must file the following with the NEB for approval: i) a summary of the trenchless crossing feasibility studies completed and a discussion of the risks and constraints associated with the trenchless watercourse crossing, and the rationale for not employing a trenchless method; ii) the updated watercourse crossing method, location of crossing, planned construction timing, and the provincial instream work window; iii) any site-specific mitigation and reclamation measures, and species-specific habitat enhancement measures; iv) confirmation that Trans Mountain will update the relevant Environmental Protection Plan(s) to include measures listed in iii); v) a discussion of how the site-specific mitigation and reclamation measures, and species-specific enhancement measures, relate to Fisheries and Oceans Canada Recovery Strategies and Action Plans; vi) details on any monitoring to be undertaken and a commitment to include any results in the post-construction environmental monitoring reports filed under Condition 151; vii) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration in developing the plan, including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional land use information and traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information; and viii) a summary of consultations with Appropriate Government Authorities and any species experts. 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. d) For any watercourse crossing identified in b) where Trans Mountain will employ a trenched contingency crossing method, Trans Mountain must file with the NEB, for approval, the information listed in c), **at least 30 days prior to commencing construction of the contingency watercourse crossing**.	X							

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
76	**Old Growth Management Areas Mitigation and Replacement Plan** Trans Mountain must file with the NEB for approval, **at least 3 months prior to commencing construction within old growth management areas**, an Old Growth Management Areas Mitigation and Replacement Plan for these areas that are potentially affected directly or indirectly by the Project during construction or operations, that includes: a) avoidance and mitigation measures to be implemented during construction and operations, with rationales and unambiguous criteria explaining under what circumstances each measure will be applied, and measurable goals against which the success of each measure will be evaluated; b) a description of how the avoidance, mitigation, and offset hierarchy was considered in developing the plan, with rationales for progressing from avoidance to mitigation to offsets; c) details on post-construction monitoring, including corrective actions that might be necessary and the circumstances under which each such action would be taken; d) the expected residual effects (including quantification) on old growth management areas, including a discussion of the potential for time lags between when Project effects occur and when mitigation measures would become fully functional; e) replacement or other offset measures that will be implemented to compensate for residual effects with the aim of no-net-loss to old growth forests within old growth management areas overall, including: i) discussion of the appropriateness of compensation for the old growth management area, taking its specific features into account, and of any potential limitations of the effectiveness of such replacement or offset measures; ii) an explanation with rationales on the amount and type of replacements or other offsets required; iii) a timeline for their implementation; iv) the selection of compensation sites; v) identification of the parties involved in planning and implementation and their respective roles and responsibilities, and vi) a description of the methods and schedule for monitoring and reporting to demonstrate compensation success; f) a summary of its consultations with Appropriate Government Authorities and any potentially affected Aboriginal groups. 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; and g) confirmation that Trans Mountain will update the relevant Environmental Protection Plan(s) to include any relevant information from the Old Growth Management Areas Mitigation and Replacement Plan.	X			X	X	X		

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
77	**Archaeological and cultural heritage assessment – Lightening Rock** Trans Mountain must file with the NEB, **at least 3 months prior to commencing construction of the pipeline between the Sumas Terminal and the Sumas Pump Station**, a report on archaeological and cultural heritage field investigations undertaken to assess the potential impacts of Project construction and operations on the Lightening Rock site at Sumas, British Columbia. The report must include: a) a detailed description of the assessment plan that was developed, in consultation with the Stó:lō Collective, for the involvement of the Stó:lō Collective in designing and undertaking surveys; b) a description of the pre-construction archaeological and cultural heritage surveys conducted at the site, including: i) survey methodologies used; and ii) data and information sources, including information and Aboriginal traditional knowledge provided by the Stó:lō Collective; c) a site description, including maps at appropriate scales and levels of detail, confirming the site boundaries; d) an assessment of the potential environmental and socio-economic impacts of project construction and operations on the archaeological resources and cultural heritage of the site; e) all associated mitigation measures that are beyond those identified during the OH-001-2014 proceeding to address any identified impacts; f) analysis supporting the use of the measures in e), including any additional relevant reports; g) confirmation that Trans Mountain will update the relevant Environmental Protection Plan(s) and Environmental Alignment Sheets to include any relevant information based on the surveys completed; and h) a summary of consultations undertaken with the Stó:lō Collective, and Appropriate Government Authorities, as well as copies of all written comments that may be provided to Trans Mountain by the Stó:lō Collective or government authorities. 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 the Stó:lō Collective or government authorities, into the assessment.	X			X				

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
78	**Facilities Environmental Protection Plan** Trans Mountain must file with the NEB for approval, **at least 3 months prior to commencing construction at the facilities (terminals, pump stations, temporary facilities, and associated infrastructure),** an updated Project-specific Facilities Environmental Protection Plan for the construction at the facilities. The updated Environmental Protection Plan must be a comprehensive compilation of all environmental protection procedures, mitigation measures, and monitoring commitments, as set out in Trans Mountain's Project application, its subsequent filings, or as otherwise committed to during the OH-001-2014 proceeding. The updated plan must describe the criteria for implementing all procedures and measures using clear and unambiguous language that confirms Trans Mountain's intention to implement all of its commitments. The updated Environmental Protection Plan must include the following: a) environmental procedures (including site-specific plans), criteria for implementing these procedures, mitigation measures, and monitoring applicable to all Project phases and activities; b) policies and procedures for environmental training and the reporting structure for environmental management during construction, including the qualifications, roles, responsibilities, and decision-making authority for each job title identified in the updated Environmental Protection Plan; c) any additional measures arising from supplemental pre-construction studies and surveys; d) updated contingency plans and management plans; e) updated facility drawings including relevant site-specific resources and mitigations; f) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration in developing the plan, including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional land use information and traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information; and g) 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.		X	X	X	X	X	X	X

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
79	**Air Emissions Management Plan for the Edmonton, Sumas and Burnaby Terminals** Trans Mountain must file with the NEB for approval, **at least 3 months prior to commencing construction at each of the Edmonton, Sumas, and Burnaby Terminals,** an Air Emissions Management Plan for each of those terminals that includes: a) a description of the baseline, pre-construction conditions informed by relevant modelling results and recent existing monitoring data; b) descriptions of the locations of air monitoring sites (on a map or diagram), including the rationale for the locations selected; c) the timing for installing air monitoring stations; d) the methods and schedule for monitoring ambient ground-level concentrations of potential concern (e.g., volatile organic compounds, ozone, hydrogen sulphide, mercaptans, criteria air contaminants, secondary ozone and particulate matter, and reduced visibility) and emissions source tracking; e) procedures for monitoring station data recording, assessment, 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 description of the public and Aboriginal communication and complaint response process; g) the criteria or thresholds that, if triggered or exceeded, will require implementing additional emissions reduction measures; h) possible measures that will be implemented as a result of the monitoring data or ongoing concerns; and i) 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.							X	
80	**Noise Management Plan for construction at terminals and pump stations** Trans Mountain must file with the NEB for approval, **at least 3 months prior to commencing construction at each terminal and pump station**, a Noise Management Plan for construction, where residences are within 300 metres of the proposed construction activities. The plan must include: a) proposed hours of daytime and nighttime work; b) noise mitigation measures, including all technologically and economically feasible mitigation measures; c) a noise monitoring program, including locations, methodology, and schedule; d) a description of the public and Aboriginal communication and noise complaint response process; and e) a contingency plan that contains proposed mitigation measures for addressing noise complaints, which may include the temporary relocation of specific residents.	X				X	X	X	

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
81	**Westridge Marine Terminal Environmental Protection Plan** Trans Mountain must file with the NEB for approval, **at least 3 months prior to commencing construction at the Westridge Marine Terminal**, an updated Project-specific Westridge Marine Terminal Environmental Protection Plan for the construction at the Terminal. The updated Environmental Protection Plan must be a comprehensive compilation of all environmental protection procedures, mitigation measures, and monitoring commitments, as set out in Trans Mountain's Project application, its subsequent filings, or as otherwise committed to during the OH-001-2014 proceeding. The updated plan must describe the criteria for implementing all procedures and measures using clear and unambiguous language that confirms Trans Mountain's intention to implement all of its commitments. The updated Environmental Protection Plan must include the following: a) environmental procedures (including site-specific plans), criteria for implementing these procedures, mitigation measures, and monitoring applicable to all Project phases and activities; b) policies and procedures for environmental training and the reporting structure for environmental management during construction, including the qualifications, roles, responsibilities, and decision-making authority for each job title identified in the updated Environmental Protection Plan; c) any additional measures arising from supplemental pre-construction studies and surveys; d) updated contingency plans and management plans; e) updated facility drawings including relevant site-specific resources and mitigations; f) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration in developing the plan, including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional land use information and traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information; and g) a summary of its consultations with Appropriate Government authorities and any potentially affected Aboriginal groups. 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.	X							
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 that includes: a) a summary of the results of an area lighting study, including how potential impacts on surrounding communities and safety and operational requirements were considered; b) a description of the mitigation and best practice measures considered for the terminal lighting design and how the proposed design and operation will minimize the impacts from light on land-based residents and marine users; c) a summary of its consultations with Port Metro Vancouver, as well as copies of all written comments that may be provided to Trans Mountain by Port Metro Vancouver. 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 Port Metro Vancouver, into the Plan; and d) a plan for how Trans Mountain will communicate its proposed terminal lighting design and associated mitigation measures to limit any nuisance lighting disturbances to land-based residents and marine users.	X							

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
83	**Westridge Marine Terminal (offshore) – pile design** Trans Mountain must file with the NEB, **at least 3 months prior to commencing construction at the Westridge Marine Terminal**, the final design basis for the offshore pile foundation layout of the Westridge Marine Terminal.	X							
84	**Emergency release system at the Westridge Marine Terminal** Trans Mountain must file with the NEB, **at least 3 months prior to commencing construction at the Westridge Marine Terminal**, its conclusions on the necessity of an emergency release system for the loading arms at the Westridge Marine Terminal. The conclusions must be supported by a comprehensive study describing the advantages and disadvantages of incorporating an emergency release system. This study must: a) consider the application of i) emergency release couplers; and ii) an emergency release system, during both normal operating conditions and under abnormal conditions such as seismic events; and b) include a description of the final emergency release system design, if applicable.	X							
85	**Air Emissions Management Plan – Burnaby Mountain tunnel construction** Trans Mountain must file with the NEB for approval, **at least 3 months prior to commencing Burnaby Mountain tunnel construction activities**, an Air Emissions Management Plan for tunnel construction. The plan must include: a) proposed hours for daytime and nighttime work; b) sources that would generate air emissions; c) an Air Emissions and Dust Emissions Management Plan that includes mitigation measures, their predicted effectiveness, and implementation timeframes; and d) a description of Trans Mountain's program for addressing complaints received during tunnel construction with respect to air and dust emissions, including a communication and notification plan.	X							

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
86	**Burnaby Mountain Tunnel Construction Noise Management Plan** Trans Mountain must file with the NEB for approval, **at least 3 months prior to commencing Burnaby Mountain tunnel construction activities**, a Burnaby Mountain Tunnel Construction Noise Management Plan that includes: a) proposed hours of daytime and nighttime work; b) baseline daytime and nighttime ambient sound levels at noise sensitive areas within 500 metres of the entry and exit sites for the tunnel; c) predicted noise levels at the most affected receptors caused by tunnel construction without mitigation measures implemented; d) proposed noise mitigation measures, including all technologically and economically feasible mitigation measures; e) predicted noise levels at the most affected receptors with mitigation measures implemented, including noise contour map(s) showing the potentially affected receptors; f) a tunnel construction noise monitoring program, including locations, methodology, and schedule; g) criteria that will be used to determine when tunnel construction would be shut down due to noise; h) a summary of its consultations with Appropriate Government Authorities and any potentially affected receptors (residences and businesses), as well as copies of all written comments that may be provided to Trans Mountain by those consulted. 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; i) a description of the public and Aboriginal communication and noise complaint response processes; and j) a contingency plan that contains proposed mitigation measures for addressing noise complaints, which may include the temporary relocation of specific residents.	X							
87	**Groundwater Seepage Management Plan – Burnaby Mountain tunnel construction** Trans Mountain must file with the NEB for approval, **at least 3 months prior to commencing Burnaby Mountain tunnel construction activities**, a Groundwater Seepage Management Plan for tunnel construction. The plan must include: a) an estimate quantifying the anticipated average and maximum amounts of groundwater seepage into the tunnel, and an assessment of any potential impacts on the water table; b) a discussion of Trans Mountain's proposed pumping, treatment, and disposal options; c) a description of the potential effects of dewatering of bedrock aquifers, springs and streams on local groundwater and surface water resources, and of measures that Trans Mountain would implement to mitigate such effects; and d) a description of measures that Trans Mountain would implement during the operations phase in the event that there is groundwater seepage into the tunnel.	X							
88	**Project organizational structure for Project construction** Trans Mountain must file with the NEB, **at least 2 months prior to commencing construction**, a diagram of the Project's organizational structure (i.e., project management, design, and field staff) that clearly identifies roles, accountabilities, responsibilities, and reporting relationships for construction of the applicable Project components.	X							

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
89	**Emergency Response Plans for construction** Trans Mountain must file with the NEB, **at least 2 months prior to commencing construction**, a Project-specific Emergency Response Plan, including the Trans Mountain Expansion Project Emergency Response Plan and site-specific Emergency Response Plans 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.	X	X	X	X	X	X	X	X
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 Emergency Response Plans and equipment (including its availability), as referenced in Volume 7, Section 4.8.2 of its Project application (Filing A3S4V5). This plan must include: a) the consultation plan's scope; b) the consultation plan's objectives; c) a preliminary list of Appropriate Government Authorities, first responders, potentially affected Aboriginal groups and affected landowners/tenants with whom Trans Mountain will consult; d) a preliminary list of consultation locations and timing; and e) the methods that will be used to track commitments made during consultations and to incorporate them into Trans Mountain's Emergency Management Program, including its Emergency Response Plans.	X					X	X	
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. The plan must be prepared in consultation with Transport Canada, the Canadian Coast Guard, the Pacific Pilotage Authority, Port Metro Vancouver, British Columbia Coast Pilots, Western Canada Marine Response Corporation, Fisheries and Oceans Canada and the Province of British Columbia, and must identify any issues or concerns raised and how Trans Mountain has addressed or responded to them. Trans Mountain must provide the plan to the above-mentioned parties at the same time as it is filed with the NEB.	X							

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
92	**Updates under the Species at Risk Act** Trans Mountain must file with the NEB, **at least 2 months prior to commencing construction**, a summary of any relevant updates under the *Species at Risk Act*, including new Schedule 1 listings and new or amended Recovery Strategies, Action Plans, and Management Plans for species that have the potential to be affected by the Project. For each species-specific update, the summary must include: a) a discussion of the Project activities' potential effects on the listed species or its critical habitat, including an explanation as to whether additional surveys are required to locate such critical habitat; b) identification of all reasonable alternatives to the Project activities referred to in a), including avoidance measures, and a discussion on the potential effects of the alternatives, the chosen approach, and the rationale for selecting the chosen approach; c) any additional site-specific mitigation; d) any monitoring to be undertaken and a commitment to include monitoring results as part of the post-construction environmental monitoring reports filed under Condition 151; e) an explanation as to how the responses to b), c) and d) above are consistent with applicable recovery strategies and actions plans; and f) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration in developing the summary of updates, including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional land use information and traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information.	X	X		X	X	X		
93	**Water well inventory** 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 metres of either side of the centre of the pipeline right-of-way. The filing must contain confirmation that Trans Mountain will maintain and update the inventory until the Project is abandoned or decommissioned pursuant to the NEB Act. The inventory must include a description of the methods used to identify and physically verify wells, including: a) each well's location in proximity to the right-of-way, including its GPS coordinates; b) a description of each well's type or use (e.g., drinking water, agricultural use, use by Aboriginal groups, any other uses); c) each well's tenure or ownership (e.g., private, municipal, Aboriginal community); d) each well's operational status, including abandoned or decommissioned wells, and information about each well, including well depth, lithology, and water depth, if available; e) a plan for updating the inventory over the life of the Project, including: i) the methods for identifying and verifying abandoned or decommissioned wells, and new or replacement wells; and ii) the frequency of inventory updates; f) a list of any properties or sections of the right-of-way that were not physically verified, including; i) the reason why properties or right-of-way sections were not physically accessed; ii) an estimate of the potential number of wells that have not been physically verified; and iii) a proposed schedule for accessing properties or right-of-way sections; and g) a description of Trans Mountain's plans for communicating information about the locations of water wells to owners or affected users.	X							

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
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. Each report must include: a) the name of the municipality, regional district, community, or Aboriginal group consulted; b) the methods, dates, and locations of all meetings or consultations; c) a summary of all issues or concerns raised; and d) a summary of any steps or measures that have been or will be undertaken, including groundwater modelling or monitoring, as a result of consultations with municipalities, regional districts, communities, or Aboriginal groups. This summary must include: i) any updates or amendments to maintenance policies, systems, programs, procedures, practices, and activities aimed at preventing pipeline releases; ii) the criteria used to identify and select modelling or monitoring locations and parameters; iii) results of any modelling or monitoring; iv) any measures that have been taken to address modelling or monitoring results; and v) any measures to share or to make accessible to municipalities, regional districts, communities, or Aboriginal groups data or issues that arise regarding drinking water (aquifers, groundwater, and well water supplies); or in the alternative to i)-v) above, an explanation why no further action is required to address or respond to issues or concerns raised.	X	X			X	X	X	
95	**Visual Impact Plan** Trans Mountain must file with the NEB, **at least 2 months prior to commencing construction**, a Visual Impact Plan that includes: a) the results of any supplemental visual modelling surveys conducted of select locations that are highly visible to the public, identified in consultation with Appropriate Government Authorities, and potentially affected Aboriginal groups and affected landowners/tenants, where the proposed pipeline corridor deviates from the existing TMPL system right-of-way; and b) mitigation measures to be implemented, including all relevant measures committed to throughout the OH-001-2014 proceeding, and any new mitigation measures resulting from supplementary surveys.	X							
96	**Reports on engagement with Aboriginal groups – construction** Trans Mountain must file with the NEB, **at least 2 months prior to commencing construction and every 6 months thereafter until after commencing operations**, a report on the engagement activities it has undertaken with potentially affected Aboriginal groups. Each report must include, at a minimum, for each Aboriginal group engaged: a) the name of the group; b) the method(s), date(s), and location(s) of engagement activities; c) a summary of any issues or concerns raised; and d) the measures taken, or that will be taken, to address or respond to issues or concerns, or an explanation why no further action is required to address or respond to issues or concerns. Trans Mountain must provide a copy of each report to each group engaged (and identified in a) above) at the same time that it is filed with the NEB.	X	X	X	X	X	X	X	X

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
97	**Traditional Land Use (TLU) and Traditional Marine Resource Use (TMRU) Investigation Report** Trans Mountain must file with the NEB for approval, **at least 2 months prior to commencing construction**, a report describing pre-construction TLU and TMRU investigations that were not reported during the OH-001-2014 proceeding and that relate specifically to the Project (up to and including the foreshore lands and boundaries of the water lease for the Westridge Marine Terminal). The report must include: a) the name of the potentially affected Aboriginal group to which each investigation pertains; b) a description of any identified potentially affected TLU or TMRU sites, resources, or activities; c) the methods used to identify the potentially affected TLU or TMRU sites, resources or activities; d) a summary of any mitigation measures that Trans Mountain will implement to reduce or eliminate (to the extent possible) Project effects on TLU or TMRU sites, resources or activities; e) confirmation that Trans Mountain will update the relevant Environmental Protection Plan(s) to include mitigation measures (summarized in (d)) to reduce or eliminate (to the extent possible) Project effects on TLU or TMRU sites, resources or activities; f) a summary of consultations undertaken with or concerns raised by potentially affected Aboriginal groups regarding investigations on Project effects on the current use of lands and resources or marine resource use for traditional purposes, as well as copies of all written comments provided to Trans Mountain by potentially affected Aboriginal groups to which each investigation pertains. 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 Aboriginal groups to which each investigation pertains, into the report; g) a description of any outstanding concerns raised regarding potential Project effects on the current use of lands and resources or marine resource use for traditional purposes, including a description of how Trans Mountain will or address or respond to them, or an explanation why it will not address or respond to them; and h) a summary of any outstanding TLU or TMRU investigations or follow-up activities that will not be completed prior to commencing construction, including estimated completion date(s), if applicable, and a description of how Trans Mountain has already identified, or will identify, any potentially affected TLU and TMRU sites, resources or activities for these outstanding investigations. Trans Mountain must provide a copy of the report to each potentially affected group identified in a) at the same time that it is filed with the NEB.	X							

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
98	**Plan for Aboriginal group participation in construction monitoring** Trans Mountain must file with the NEB, **at least 2 months prior to commencing construction**, a plan describing participation by Aboriginal groups in monitoring activities during construction for the protection of traditional land and resource use for the pipelines, terminals and pump stations, and traditional marine resource use at the Westridge Marine Terminal. The plan must include: a) a summary of engagement activities undertaken with Aboriginal groups to determine opportunities for their participation in monitoring activities; b) a list of potentially affected Aboriginal groups, if any, that have reached agreement with Trans Mountain to participate in monitoring activities; c) the scope, methodology, and justification for monitoring activities to be undertaken by Trans Mountain and each participating Aboriginal group identified in b), including those elements of construction and geographic locations that will involve Aboriginal Monitors; d) a description of how Trans Mountain will use the information gathered through the participation of Aboriginal Monitors; and e) a description of how Trans Mountain will provide the information gathered through the participation of Aboriginal Monitors to the participating Aboriginal group. Trans Mountain must provide a copy of the report to each potentially affected group identified in b) above at the same time that it is filed with the NEB.	X	X		X	X	X	X	
99	**Landowner and tenant consultation reports** Trans Mountain must file with the NEB, **at least 2 months prior to commencing construction, and every 6 months thereafter until 5 years after commencing Project operations**: a) a description of landowner and tenant consultations, including the consultation methods, dates, and a summary of any issues or concerns raised by landowners and tenants; b) a summary of actions that Trans Mountain has undertaken to address or respond to each of the issues or concerns raised, or an explanation for why no actions were taken, and any outstanding concerns; and c) confirmation that Trans Mountain will make available to a landowner or tenant, upon request, a copy of the consultation records related to that landowner or tenant.	X							
100	**Heritage resources** Trans Mountain must file with the NEB, **at least 2 months prior to commencing construction of individual Project components** as described in Condition 10(a): a) confirmation, signed by an officer of the company, that it has obtained all of the required archaeological and heritage resource permits and clearances from the Alberta Department of Culture and the British Columbia Ministry of Forests, Lands and Natural Resource Operations; b) confirmation that it has consulted with the British Columbia Ministry of Forests, Lands and Natural Resource Operations, and that the Ministry has reviewed and approved the mitigation measures for disturbance to impacted palaeontological sites within British Columbia; c) a description of how Trans Mountain will meet any conditions and respond to any comments and recommendations contained in the permits and clearances referred to in a) or obtained through the consultation referred to in b); and d) confirmation that Trans Mountain will update the relevant Environmental Protection Plan(s) to include any relevant information from the conditions or recommendations referred to in c).	X	X	X	X	X	X	X	X

No.	Conditions with initial filings due prior to commencing construction, or prior to commencing construction of specified Project component(s)	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
101	**Uninterruptible Power Supply (UPS) and battery systems** Trans Mountain must file with the NEB, **at least 2 months prior to commencing construction at each terminal and pump station**, confirmation that the UPS system design and planned operation related to that facility, is in compliance with the requirements of Canadian Standards Association (CSA) 22.1 – No. 15 or other applicable standard(s) that exceeds the requirements of CSA 22.1 – No. 15. If another standard is used, this filing must include the name of the standard and an explanation of why the standard was used and how it meets or exceeds the requirements of CSA 22.1 No. 15.	X				X	X	X	
102	**Landowner and tenant complaint process/system** Trans Mountain must file with the Board, **at least 30 days prior to commencing construction**, confirmation that it has created and will maintain, up until the Project is abandoned or decommissioned pursuant to the NEB Act, a process/system that chronologically tracks landowner and tenant complaints related to the Project. The filing must contain confirmation that the process/system will track: a) a description of each complaint; b) how each complaint was received (e.g., telephone, letter, email); c) the date each complaint was received; d) subsequent dates of all contact or correspondence with each complainant; e) records of any site visits, monitoring, or inspections; f) contact information for all parties involved in each complaint; g) the date of each complaint's resolution; and h) if a complaint remains unresolved, a description of any further actions to be taken or an explanation for why no further action is required. Trans Mountain must make available to a landowner or tenant, **upon request**, the records related to the complaint(s) that the landowner or tenant made to Trans Mountain, including any investigations, reports or surveys conducted in relation to the complaint.	X							
103	**Utility crossings** Trans Mountain must file with the Board, **at least 30 days prior to commencing construction**, a list of all underground utilities to be crossed by the Project. The list must include the location and owners of the utilities to be crossed, as well as confirmation that all the agreements or crossing permits for those utilities to be crossed have been acquired or will be acquired prior to construction.	X			X				
No.	**Conditions with initial filings due during construction / prior to commencing operations**	**CPCN**	**OC2**	**OC49**	**Temp**	**Pump 1**	**Pump2**	**Tanks**	**Deact**
104	**Updated engineering alignment sheets and drawings** Trans Mountain must file with the NEB, **at least 3 months prior to commencing pipe installation**, updated engineering alignment sheets and drawings and, as they become available and prior to their implementation, any modifications to those sheets and drawings.	X							
105	**Quality assurance verification** Trans Mountain must file monthly summary reports, **from commencing construction until after commencing operations**, outlining non-conformances with its design, materials, and construction specifications and the disposition of these non-conformances.	X				X	X	X	

No.	Conditions with initial filings due during construction / prior to commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
106	**Construction progress reports** Trans Mountain must file with the NEB **monthly construction progress reports from commencing construction until after commencing operations**. The reports must include information on the progress of activities carried out during the reporting period, including: a) safety, environmental and security issues or non-compliances that occurred during the reporting period; b) measures undertaken to resolve safety and environmental issues or non-compliances identified in a); c) confirmation that security issues identified in a) have been addressed; d) a description and the location of any change made to geohazard mitigation measures pursuant to Condition 51; and e) the location of any pressure tests carried out during the reporting period and a description of any unsuccessful pressure tests, including the reasons for the lack of success of each.	X	X	X	X	X	X	X	X
107	**Aboriginal, local, and regional employment and business opportunity monitoring reports** a) Trans Mountain must file with the NEB, **within 3 months after commencing construction, and every 6 months thereafter until after commencing operations**, monitoring reports for Aboriginal, local, and regional employment and business opportunities for the Project. The reports must include: i) a summary of the elements or indicators monitored; ii) a summary and analysis of Aboriginal, local, and regional employment and business opportunities during the reporting period; and iii) a summary of Trans Mountain's consultation, undertaken during the reporting period, with relevant Aboriginal groups and local, regional, community and industry groups or representatives, regarding employment and business opportunities. This summary must include any issues or concerns raised regarding employment and business opportunities and how Trans Mountain has addressed or responded to them. b) Trans Mountain must file with the NEB, **within 6 months after commencing operations**, a final report on employment during the construction phase.	X							

No.	Conditions with initial filings due during construction / prior to commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
108	**Contingency watercourse crossings** a) For any watercourse crossing where Trans Mountain will employ a contingency crossing method instead of its proposed primary method, and where **any** of Fisheries and Oceans Canada's applicable "Measures to Avoid Causing Harm to Fish and Fish Habitat" cannot be implemented, Trans Mountain must file with the NEB **at least 30 days prior to commencing construction of the contingency watercourse crossing:** i) confirmation of the contingency watercourse crossing method that will be employed, the rationale for employing that method, and a summary of the differences between the primary and contingency watercourse crossing methods; and ii) the following site-specific information: 1. detailed crossing-specific design drawings; 2. photographs up-stream, down-stream, and at the crossing location; 3. a description of the fish species and habitat that is present at the crossing location, and if fish spawning is likely to occur within the immediate area; 4. a description of the composition of the riparian habitat at the crossing location and an indication if the riparian habitat has a limiting effect on the productive capacity of the watercourse, and if its removal or disturbance represents a potential influence on fish communities; 5. the site-specific mitigation and habitat enhancement measures to be used to minimize impacts; 6. any potential residual effects; 7. proposed reclamation measures; and 8. a discussion of the potential impacts to local fisheries resources within the immediate area as a result of the crossing's construction; and b) For all other instances where a contingency crossing method will be employed and all of Fisheries and Oceans Canada's applicable "Measures to Avoid Causing Harm to Fish and Fish Habitat" will be implemented, Trans Mountain must file with the NEB a notification, **at least 15 days prior to commencing the contingency crossing**, that the contingency method will be employed. With this notification, Trans Mountain must explain why the contingency method is being employed and provide a summary of the differences between the primary and contingency watercourse crossing methods. c) Trans Mountain must confirm, **within 30 days after commencing operations**, that any contingency watercourse crossing(s) identified to the NEB pursuant to a) and b) were the only contingency watercourse crossing(s) implemented for the construction of the pipeline.	X							
109	**Authorization(s) under paragraph 35(2)(b) of the Fisheries Act – Westridge Marine Terminal** a) In the event that Fisheries and Oceans Canada determines that the Westridge Marine Terminal expansion requires Authorization under paragraph 35(2)(b) of the *Fisheries Act*, Trans Mountain must file with the NEB, **at least 10 days prior to commencing works specified in the respective Authorization(s),** a copy of that Authorization; and b) Trans Mountain must confirm, **within 30 days after commencing operations**, that any *Fisheries Act* Authorization(s) required for the Westridge Marine Terminal expansion were obtained from Fisheries and Oceans Canada and filed with the NEB pursuant to a), or notify the Board if no Authorization(s) was required.	X							

No.	Conditions with initial filings due during construction / prior to commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
110	**Authorizations under paragraph 35(2)(b) of the Fisheries Act and Species at Risk permits – pipeline** For instream activities, except for those related to the Westridge Marine Terminal: a) for any instream activities that will require Authorization under paragraph 35(2)(b) of the *Fisheries Act*, Trans Mountain must file with the NEB, **at least 10 days prior to commencing the respective instream activities**, a copy of the Authorization *under* paragraph 35(2)(b) of the *Fisheries Act*. b) for any instream activities that will require a permit under the *Species at Risk Act*, Trans Mountain must file with the NEB, **at least 10 days prior to commencing the respective instream activities**, a copy of the permit issued under the *Species at Risk Act*. c) Trans Mountain must confirm, **within 30 days after commencing operations**, that: i) any required *Fisheries Act* Authorizations were obtained from Fisheries and Oceans Canada and filed with the NEB pursuant to a), or notify the Board if no Authorizations were required; and ii) any required *Species at Risk Act* permits were obtained from the competent minister under the *Species at Risk Act* and filed with the NEB pursuant to b), or notify the Board if no permits were required.	X	X						
111	**Joining Programs** Trans Mountain must develop Joining Programs and file them with the NEB **at least 45 days prior to commencing welding of, respectively:** a) field circumferential production, tie-in, and repair pipeline welds, including the tie-in welds between existing segments and Line 1 or Line 2; and b) terminals and pump stations. The Joining Programs must include: i) welder qualification requirements; ii) requirements for welding inspector qualifications and duties; iii) welding procedure specifications; iv) non-destructive examination (NDE) specifications; v) procedure qualification records for welding procedure specifications and NDE specifications; vi) a quality assurance program for field welds and welding procedures; and vii) any additional information that supports the Joining Program.	X	X			X	X	X	
112	**Pressure testing** a) Trans Mountain must pressure test the new and reactivated pipeline segments, terminals, and pump stations with a liquid medium. b) Trans Mountain must file with the NEB, **at least 3 months prior to commencing pressure testing**, a Pressure Testing Program that demonstrates compliance with applicable codes, standards, and regulatory requirements.	X	X			X	X	X	

No.	Conditions with initial filings due during construction / prior to commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
113	**Hydrostatic Testing Plan** Trans Mountain must file with the NEB, **at least 3 months prior to commencing pressure testing of any Project component**, a Hydrostatic Testing Plan for the Project that includes: a) the locations of all water withdrawal and discharge sites; b) a discussion of any clearing activities or any other associated works, if required, that will allow for the transportation of the hydrostatic test water; c) water withdrawal rates; d) water withdrawal volumes; e) the flow rate/volume of water at the withdrawal sites; and f) site-specific mitigation measures to be implemented at the water withdrawal and discharge sites or at any other locations required to allow for the transportation of hydrostatic test water, including a description of the water quality monitoring methods to be used on hydrostatic testing water prior to discharge; and g) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration in developing the plan, including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional land use information and traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information.	X	X			X	X	X	
114	**NDE of final tie-in welds** Trans Mountain must delay NDE of final tie-in welds (i.e.: welds which will not be subjected to hydrostatic testing) and any repairs to them **for at least 48 hours following weld completion**. Trans Mountain must include this requirement in the NDE specification of its Joining Program required by Condition 111.	X	X			X	X	X	

No.	Conditions with initial filings due during construction / prior to commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
115	**SCADA and leak detection system design** Trans Mountain must file with the NEB, reports describing the final design of the expanded Trans Mountain Pipeline System's SCADA and leak detection systems. These reports must include: a) for the commercially available external leak detection systems resulting from Trans Mountain's participation in joint industry projects, **at least 45 days prior to commencing backfilling on Line 2 and the new delivery pipelines**, a status update, including a timeline for implementation; and b) **at least 3 months prior applying for leave to open the Project:** i) a status update for the following complementary leak detection technologies that Trans Mountain is considering, including a timeline for implementation: 1. a secondary Computational Pipeline Monitoring (CPM) system operating in parallel with the Project's proposed CPM; and 2. aerial surveillance systems resulting from Trans Mountain's participation in joint industry projects; ii) an explanation of how Trans Mountain's complementary leak detection system(s) supports the leak detection capabilities of the primary CPM system(s); iii) for all leak detection systems applicable to the Project, performance targets for: 1. sensitivity; 2. accuracy; 3. reliability; and 4. robustness; iv) a validation plan for the performance targets in iii), including alarm testing, to be implemented within the first year of Project operation; v) rationale for the selected time windows(s) (i.e. averaging periods) for the CPM system(s); vi) a copy of Trans Mountain's public awareness program on recognizing and reporting leaks; vii) a description of how the leak detection system and its relevant procedures comply with CSA Z662 Annex E; viii) a list of other best practices such as API (American Petroleum Institute) recommended practices related to leak detection and control centre management; ix) a description of how Trans Mountain's revised procedures have introduced a rule directing the Control Centre Operator to perform a controlled shut down of the pipeline when a leak cannot be ruled out in a given time period; and x) a plan, including a timeline for implementation, for upgrading the existing measurement and data acquisition instrumentation to improve the leak detection performance of Line 1.	X	X						

No.	Conditions with initial filings due during construction / prior to commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
116	**Control system, SCADA, instruments, and communication** Trans Mountain must file with the NEB, **at least 2 months prior to completing dry commissioning activities**, the block diagrams of the control system for its proposed pipeline that include the interconnection between various devices and components such as: a) programmable logic controllers (PLCs); b) flow meters, and pressure and temperature measuring devices; c) critical protective elements; d) emergency shut-down systems (ESD); e) variable frequency drives (VFDs); f) control valves; g) block valves; and h) local human machine interface (HMI). The block diagrams must demonstrate the primary and backup communication systems, supervisory and control layers of software, firewalls, and how all elements are integrated with the SCADA system.	X							
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 Emergency Management Program (toward meeting the requirements of Condition 124). This filing must include: a) a summary of work undertaken to-date; b) the approximate timing for completing remaining work; and c) a summary of parties that were consulted (Condition 90) and how their comments and feedback were considered in improving the program.	X					X	X	
118	**Firefighting capacity at terminals** Trans Mountain must file with the NEB, **at least 1 year prior to commencing operations** at the terminals: a) the following information regarding developing appropriate firefighting capacity for a safe, timely, and effective response to a credible worst-case fire at the Westridge Marine Terminal and at the Edmonton, Sumas, and Burnaby Terminals: i) an assessment of necessary resources and equipment, including an explanation of how the assessment was informed by Trans Mountain's terminal risk assessments; ii) a summary of Trans Mountain's consultation with appropriate municipal authorities and first responders, that includes any issues or concerns raised regarding each municipality's respective firefighting capacity and how Trans Mountain has addressed or responded to them; iii) a Firefighting Capacity Framework, informed by the assessment in i) and consultation in ii), and that includes a list of and timeline for completing key activities and milestones leading to the establishment of appropriate firefighting capacity; and b) a plan for responding to a fire exceeding a credible worst case scenario.	X						X	

No.	Conditions with initial filings due during construction / prior to commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
119	**Emergency Preparedness and Response Exercise and Training Program** Trans Mountain must file with the NEB, **at least 1 year prior to commencing operations**, an Emergency Preparedness and Response Exercise and Training Program for the pipeline; the Edmonton, Sumas, and Burnaby Terminals; and the Westridge Marine Terminal. The program's objective is to demonstrate the continual improvement of responder competencies (including control centre personnel) at all levels of the company to prepare for, respond to, recover from, and mitigate the potential effects of emergencies of any type, including tank fires and earthquakes. The program must include the following: a) a defined scope, other objectives in addition to those noted above, and program targets that address responder turn-over and ensure responders' ongoing training and practice; b) a list of mandatory courses for responders; c) a discussion of how Trans Mountain will train its personnel to respond to all hydrocarbon spill scenarios in various seasons, including releases of hydrocarbons in mountain regions during winter conditions, into ice covered watercourses, into watercourses under varying flow conditions and into waterbodies (aquifers or streams) that are used as municipal water supply sources; d) a description of, and schedule for, all emergency response exercises (full-scale, tabletop, drills, functional) that Trans Mountain will conduct prior to operations to test a variety of scenarios; e) a plan, including rationales, for determining the schedule and frequency of all emergency response exercises (full-scale, tabletop, drills, functional) to test a variety of scenarios during the Project's operational life; f) a discussion of how emergency response exercises will meet the objectives of testing Trans Mountain's: i) emergency response procedures; ii) company personnel training; iii) communications systems; iv) response equipment; v) safety procedures; and vi) the effectiveness of its liaison and continuing education programs; g) a learnings implementation plan for exercises that considers how Trans Mountain will update and amend its Emergency Response Plans and related documents following exercises. The learnings implementation plan must consider three main purposes: i) to validate plans; ii) to develop Trans Mountain responder competencies (including control centre personnel) and provide them with the opportunity to carry out and understand their roles in emergency response; iii) to test Project-specific emergency response procedures; h) a plan for addressing the training requirements contained within the *National Energy Board Onshore Pipeline Regulation*s; and i) confirmation that an independent third party has reviewed and assessed the Emergency Preparedness and Response Exercise and Training Program and that Trans Mountain has considered and incorporated the comments generated by that review and assessment into the program.	X					X	X	

No.	Conditions with initial filings due during construction / prior to commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
120	**Notification and reporting on emergency response exercises** For any tabletop, functional, and full-scale emergency response exercises undertaken as part of its Emergency Preparedness and Response Exercise and Training Program required by Condition 119: a) Trans Mountain must notify the NEB and all potential exercise participants and observers, including Appropriate Government Authorities, first responders and potentially affected Aboriginal groups, **at least 45 days prior to the date of each exercise**, of: i) the exercise's date and location(s); ii) the exercise's objectives; iii) the participants in the exercise; and iv) the scenario for the exercise. b) Trans Mountain must file with the NEB, and provide to Appropriate Government Authorities, first responders and potentially affected Aboriginal groups, **within 3 months after completing each** full-scale exercise, a report on the exercise that includes: i) the results of the completed exercise; ii) areas for improvement; and iii) steps to be taken to correct deficiencies.	X					X	X	
121	**Financial Assurances Plan – operations phase** a) Trans Mountain must file with the NEB for approval, **at least 6 months prior to applying for leave to open Line 2**, a Financial Assurances Plan that includes details of the financial resources and secured sources of funds that will be necessary to pay, without limitation, all actual loss or damage, costs and expenses, including cleanup and remediation, and loss of non-use value relating to non-use of a public resource associated with an unintended or uncontrolled release from the Project during the operations phase.[86] These costs may arise from, among other things, potential accidents, malfunctions, and failures during the Project operations phase, including all spills originating from the pipeline and the terminals. The Financial Assurances Plan must be signed by an officer of the company, verifying that it is accurate, complete, and, at a minimum, meets the criteria and coverage levels described below: i) Criteria for financial assurance instruments and plan: 1) Any letter of credit that forms part of the Financial Assurances Plan must be unconditional and irrevocable, segregated from Trans Mountain's day-to-day business activities, and be dedicated to providing funds to cover the costs described in sub a) above, without limitation. 2) Third party liability insurance must be current, and broad, respecting the scope of environmental damages covered by the policy; the policy will be consistent with provisions available in the insurance market (i.e., only exceptional/non-standard perils, taking into account the Project's nature and scope, would be excluded from coverage). Such insurance must be structured on a multi-year basis, recognizing potential loss of income by persons sustaining damage caused by Trans Mountain, over a reasonable number of years after the event. 3) A portion of cash reserves or a portion of future cash flows of the Project may be included as instruments in the Financial Assurances Plan, provided they are secured by a commitment letter from an officer of the company confirming that the funds will be dedicated to the Financial Assurances Plan without restrictions for the period specified by the officer.	X	X			X	X	X	

86 In the context of this condition, "operations phase" refers to the period after the Project receives leave to open approval and prior to it being fully abandoned.

No.	Conditions with initial filings due during construction / prior to commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
121 (cont)	4) Parental and other third party guarantors must be registered within a Canadian jurisdiction and must have financial strength that is demonstrated in balance sheet values and ratios and credit ratings. For example, total assets less total liabilities of the guarantor should be several multiples of the liability assumed in the Trans Mountain guarantee. ii) Financial assurance components and coverage levels: Trans Mountain's Financial Assurances Plan must provide a total coverage, for the Project as a whole, of $1.1 billion[87] for the costs described in sub a) above, without limitation. The plan should include the following components and minimum coverage levels: 1) Ready cash: Trans Mountain must have unfettered access to at least $100 million to cover costs, including compensation to third parties for losses and damages in the near term, while insurance claims are being processed. Once used, this source of cash must be replenished immediately to cover the costs of a potential future spill. This can be in the form of a letter of credit, surety bond or other form acceptable to the NEB. 2) Core coverage: Trans Mountain must put in effect and maintain current at all times a core financial coverage of at least $1 billion that includes third party liability insurance and other financial assurance instruments that comply with the criteria. Core coverage must be a portfolio approach with multiple financial instruments used and may not be composed of a single financial instrument (e.g., only third party liability insurance). At least one component of core coverage must be funds that are readily accessible to Trans Mountain (e.g., cash reserves held by the general partner and not distributed to the limited partners). Trans Mountain may use a number of financial and insurance instruments in its Financial Assurances Plan. However, sales of Project assets used for transporting hydrocarbon commodities will not be eligible candidates. Below are some illustrative financial and insurance instruments that could be potential candidates for the Financial Assurances Plan: • Irrevocable, unfettered letter of credit. • Secured line of credit. • Cash reserves held by the general partner and not distributed to the limited partners (and verifiable on Trans Mountain Pipelines Limited Partnership's balance sheet). • Internal cash flow, committed by Trans Mountain to financial assurances. • Industry pooled fund. • Third party liability insurance with exclusions for only exceptional/non-standard perils. • No fault third party liability insurance. • Parental and other third party guarantees provided by parties demonstrating financial strength through balance sheets and credit ratings. • Other instruments developed by Trans Mountain and the insurance and financial markets. b) Trans Mountain must file the following with the NEB: i) **At least 6 months prior to applying for leave to open Line 2**, a report from an independent third party that has assessed the Financial Assurances Plan and its key components against the criteria and actual experiences of industry damage claims. The report must summarize the key features of each financial and insurance instrument proposed for inclusion in the Financial Assurances Plan.	X	X			X	X	X	

87 The NEB's basis for any final coverage level is described in its report to Governor in Council.

No.	Conditions with initial filings due during construction / prior to commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
121 (cont)	ii) **At least 3 months prior to applying for leave to open Line 2**, a supplement to the report described in b)i) that provides verification of any third party liability insurance coverage, a copy of the insurance certificate, and a summary of the insurance policy's key features. This summary must include: limits on insurance coverage, deductible amounts, the risks and perils and properties covered by the insurance policy, the exclusions from coverage, Trans Mountain's obligations, effective dates, and names of insurers and reinsurers. iii) **With its first leave to open application for Line 2**, a report describing the steps it took to eliminate any deficiencies in its Financial Assurances Plan that were identified in the independent third party report referenced in b)i) and the NEB's subsequent review. iv) **On or before 31 January of each year after commencing operations**, a letter signed by an officer of the company verifying that all components of the Financial Assurances Plan remain as the NEB approved and sufficient to meet the financial assurance coverage levels described in ii). v) **At least 2 months prior to any intended change(s) to the Financial Assurances Plan during the Projects operations phase**, a letter, for approval, detailing the intended change(s) and how the change(s) provides the same or greater level of protection. vi) **Within 30 days after accessing any component of the Financial Assurances Plan**, a report detailing the component accessed, the reason for accessing it, and Trans Mountain's plan to ensure that it continues to meet the requirements of its NEB-approved Financial Assurances Plan.	X	X			X	X	X	
122	**Changing pipeline segment operating conditions (Hinton to Hargreaves; Darfield to Black Pines)** Trans Mountain must file with the NEB for approval, **at least 6 months prior to applying for leave to open Line 2**, the following: a) An engineering assessment in accordance with CSA Z662 for the above two pipeline segments which Trans Mountain proposes to change from operating on the existing TMPL to the proposed Line 2. The engineering assessment must demonstrate that the two pipeline segments are fit for their intended service under the operating conditions of Line 2, and that they meet all relevant requirements of CSA Z662. The engineering assessment must include a schedule of planned integrity monitoring activities. b) A certificate with a supporting report issued by an independent certification body,[88] stating unconditionally that the 43-kilometre-long, 762 millimetre outside diameter (NPS 30) pipeline segment from Darfield to Black Pines, British Columbia is fit for its intended service under the operating conditions[89] of Line 2. The supporting report must include the qualifications of the independent certification body and the justification used to grant the certificate	X							

88 For Conditions 19, 122 and 152, an" independent certification body" is an internationally recognized company or organization, such as Lloyd's Register or Det Norske Veritas, which is able to certify compliance to statutory requirements. The independent certification body must have expertise in pipeline integrity. The NEB reserves the right to accept or reject the certificate. In addition, the NEB's decision is not contingent on the results of the certificate.

89 For Conditions 19, 122 and 152, "operating conditions" must include the Project-specific operating conditions, possible transient flow conditions, slack flow conditions, and effects on operating pressure due to temperature changes.

No.	Conditions with initial filings due during construction / prior to commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
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. Each Evacuation Plan must, at a minimum: i) describe how areas for evacuation were determined; ii) describe the circumstances under which evacuation may be required, as well as the respective methods and procedures for public notification; iii) describe specific evacuation routes, methods, and destinations; iv) be prepared in consultation with Appropriate Government Authorities, first responders and potentially affected Aboriginal groups with the authority to issue evacuation or shelter in place orders during an emergency; v) state how input from Appropriate Government Authorities, first responders and potentially affected Aboriginal groups, with the authority to issue evacuation or shelter in place orders during an emergency, was considered in preparing the plan; vi) define the roles, responsibilities, and jurisdictional authority of all parties involved in implementing an evacuation; and vii) confirm that an independent third party has reviewed and assessed the plan and that Trans Mountain has considered and incorporated comments generated by the review and assessment into the plan. b) Trans Mountain must include with its Evacuation Plan for the Burnaby Terminal, a plan specific to Simon Fraser University that includes the requirements in a) i) to vii), above.	X						X	
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 Emergency Response Plans (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 A3S4V5). This filing must include a description of changes made to Trans Mountain's Emergency Management Program, as required under the *National Energy Board Onshore Pipeline Regulations*, including changes to: a) the Pipeline Emergency Response Plan; b) Emergency Response Plans for the Edmonton, Sumas, and Burnaby Terminals, as well as the Westridge Marine Terminal; and c) site-specific plans and documents related to a) and b), such as Geographic Response Plans, Geographical Response Strategies, control point mapping, tactical plans for submerged and sunken oil and tactical plans for high consequence areas. The summary must demonstrate Trans Mountain's ability to prepare for, respond to, recover from, and mitigate the potential effects of emergencies of any type and in any geographic region or season and must include the following: i) a discussion of how the updated plans conform to the requirements contained within the *National Energy Board Onshore Pipeline Regulations*; ii) a discussion of how the plans consider, and would allow coordination with relevant federal, provincial, municipal and Aboriginal community emergency response plans; iii) a discussion of how the results of research initiatives, such as the Scientific Advisory Committee work noted in Trans Mountain's response to NEB Information Request No. 1.63 (Filing A3W9H8) and other research noted during the OH-001-2014 proceeding, have been considered and incorporated into Trans Mountain's emergency response planning; iv) a description of the models used in response planning, including oil trajectory, fate and behavior, and air dispersion models; and v) confirmation that an independent third party has reviewed and assessed the Emergency Response Plans and that Trans Mountain has considered and incorporated the comments generated by the review and assessment into the plans.	X					X	X	

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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 Plans which must include: a) the following relevant emergency preparedness and response documents: i) an Emergency Response Plan to include the pipeline expansion; ii) updated Emergency Response Plans for the Edmonton, Sumas, and Burnaby Terminals; and iii) all related and accompanying site-specific plans and documents, such as control point mapping, Geographic Response Plans, tactical response plans, volunteer management plans, and fire safety plans; b) an emergency response and preparedness table for the pipeline (including facilities) indicating which plans and documents referenced in a) will be referred to in an emergency response for each 10-kilometre-long pipeline segment. For each pipeline segment, the table must also identify, at a minimum: i) high consequence areas, including environmentally sensitive areas (e.g. wetlands), heritage sites and water supply wells (Condition 93); ii) potentially affected persons or groups; iii) available access to the right-of-way and high consequence areas; iv) nearest control point(s); v) nearest available equipment cache(s); vi) response times for deployment of equipment and Trans Mountain personnel, mutual aid personnel, and third party contractors; vii) the available equipment and trained personnel, whether employed by Trans Mountain, contracted, or available through mutual aid (including contact information); and viii) geological, meteorological, and geographical hazards (e.g., snow avalanche, mud slides, rock slides, and steep slopes); and c) maps depicting the information identified in b).	X				X	X	X	
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: a) all related and accompanying site-specific plans and documents, such as Geographic Response Plans, Geographic Response Strategies, tactical response plans, volunteer management plans, and fire safety plans; b) a list of high consequence areas, including environmentally sensitive areas; c) a list of potentially affected persons or groups; d) nearest available equipment cache(s); e) response times for deployment of equipment and personnel to the incident location and high consequence areas; f) maps depicting the information identified in a) to e).	X							

No.	Conditions with initial filings due during construction / prior to commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
127	**Terminal fire protection and firefighting systems** a) Trans Mountain must file with the NEB for approval, **at least 3 months prior to applying for leave to open of any Project component at each respective terminal**, an independent third party report confirming the adequacy of the proposed fire protection and firefighting systems implemented or planned to be implemented at the Edmonton Terminal West Tank Area, the Burnaby Terminal, the Sumas Terminal, and the Westridge Marine Terminal. The report must demonstrate that the resources and firefighting systems are capable of suppressing fires associated with all scenarios identified in the above-mentioned terminals' final risk assessments (required by Condition 129). b) Trans Mountain must file with the NEB for approval, **at least 2 months prior to beginning the assessment leading to the report in a),** the name and qualifications of the proposed independent third party that will prepare the report in a).	X						X	
128	**Offset Measures Plan for residual effects on caribou habitat** Trans Mountain must file with the NEB for approval, in accordance with the timelines below, an Offset Measures Plan for each affected caribou range, the goal of which is to offset all unavoidable and residual direct and indirect Project related effects on caribou habitat, after taking into account the implementation of the measures identified in the relevant Environmental Protection Plan(s) for the Project and the Caribou Habitat Restoration Plan (see Condition 37) measures. The Offset Measures Plan must include: a) A preliminary version, to be filed **at least 3 months prior to applying for leave to open**, with the plan's criteria and measurable goals and that includes: i) an initial quantification of the area of caribou habitat directly and indirectly disturbed by the Project; ii) a list of the potential on-the-ground offset measures available; iii) each potential offset measure's appropriate offset ratio, based on consultation with expert federal and provincial authorities and on a review of the scientific literature on conservation offsets; iv) each potential offset measure's expected effectiveness including a discussion of uncertainty and how measures align with criteria specified in the scientific literature specific to conservation offsets; v) each potential offset measure's relative qualitative and quantitative value toward achieving the offset; and vi) a conceptual decision-making tree(s) or decision framework(s) that will be used to select which specific potential offset measures and accompanying offset ratios will be used under what circumstances. b) A final version, to be filed **on or before 31 January after the second complete growing season after completing final clean-up**, including: i) the contents of the preliminary Offset Measures Plan, with any updates identified in a revision log that includes the rationale for any changes; ii) a tabular list of the potential offset measures and appropriate offset ratios to be implemented or already underway, including site-specific details and maps showing the locations, and an explanation of how they meet criteria in the scientific literature for offsets; iii) a description of factors considered when determining the location of offset measures, including consideration of how the measures could maximize benefits to landscape variables; iv) a schedule indicating when potential offset measures will be initiated and their estimated completion dates; v) either an assessment of the predicted offset measures' effectiveness including a discussion of uncertainty and a quantitative compilation showing how the measures would offset the previously determined residual effects, or a plan for completing an assessment of the potential offset measures' effectiveness and value; and	X	X		X	X	X		

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128 (cont)	vi) an update on the restoration success to support offset measure decisions. Both the preliminary and final versions of the plan must also include the following: 1) a summary of its consultations with Appropriate Government Authorities and potentially affected Aboriginal groups. 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 Offset Measures Plan; 2) a description of how Trans Mountain has taken any available and applicable Aboriginal traditional land use and traditional ecological knowledge studies into consideration in developing the plan including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional land use information and traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information; and 3) evidence of Trans Mountain's consideration of any updates to the applicable Recovery Strategy, as well as to range boundaries and identified critical habitat made prior and up to the date on which leave to open is granted.	X	X		X	X	X		
129	**Final terminal risk assessments** Trans Mountain must file with the NEB for approval, **at least 3 months 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 (ALARP) 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.	X						X	
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. The program must include, at a minimum: a) locations of groundwater monitoring wells, their depths, the rationales for well locations (including how groundwater flow direction was considered), groundwater flow velocity, parameters to be monitored and frequency of monitoring; b) a description of any program changes required to meet this condition for facilities with an existing Groundwater Monitoring Program; c) methods, criteria and rationale for identifying vulnerable aquifers along the pipeline route; d) applicable regulatory criteria for comparing monitoring results, and a process outlining what steps will be followed should monitoring results indicate a negative change in groundwater quality; and e) 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 program.	X	X			X	X	X	

No.	Conditions with initial filings due during construction / prior to commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
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. The report must also include: a) a summary of Trans Mountain's consultation with the Pacific Pilotage Authority regarding the scope of work and activities to be undertaken through the program, including: i) the resources and information that Trans Mountain has provided or will provide to the Pacific Pilotage Authority to addresses the impacts of increased Project-related tanker traffic in the Salish Sea; ii) the activities or actions that Trans Mountain will undertake to communicate applicable information on Project-related vessel timing and scheduling to fishing industry organizations, commercial and recreational vessel operators, Aboriginal groups, and other affected , in conjunction with the Pacific Pilotage Authority's activities; and iii) any issues or concerns raised by the Pacific Pilotage Authority and how Trans Mountain has or will address them; b) a description of the actions or activities that Trans Mountain has or will undertake to incorporate into its own public engagement efforts the activities of the Pacific Pilotage Authority and Transport Canada regarding enhanced safe boating practice education for small vessel operators; c) a plan and schedule for all ongoing and future activities and actions under the program, including anticipated completion dates; and d) a summary of its consultations with Transport Canada, the Canadian Coast Guard, the Chamber of Shipping for British Columbia, commercial and tourism associations and potentially affected Aboriginal groups.	X							
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. The program must include: a) the goals and objectives of the program, including a discussion on how they align with the objectives of applicable Fisheries and Oceans marine mammal Recovery Strategies and Action Plans; b) a summary of the issues related to marine mammals from Project-related marine vessels; c) a summary of the initiatives that Trans Mountain has supported or undertaken to-date, including the goals of each initiative and how they relate to the objectives of the program; d) a discussion of the outcomes or progress updates of the initiatives identified in c), and how these outcomes have met or are contributing to the objectives of the program; e) a discussion of how any relevant outcomes of the initiatives identified in c) are being or will be applied to Project-related marine vessels; f) a summary of relevant initiatives that have been implemented or proposed from other national or international relevant jurisdictions to reduce effects from marine shipping on marine mammals, and an analysis or rationale for why these initiatives will or will not be incorporated into the program; g) any other initiatives that Trans Mountain intends to undertake or support in the future that are relevant to the program; and h) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration in developing the Program, including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional land use information and traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information.	X							

No.	Conditions with initial filings due during construction / prior to commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
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: a) Enhanced tug escort through developing a tug matrix and including it as part of Trans Mountain's Tanker Acceptance Standard. The tug matrix would prescribe minimum tug capabilities required to escort outbound laden tankers between the Westridge Marine Terminal and Buoy Juliet, as described in Section 5.3.2.1 of Volume 8A of Trans Mountain's Project application (Filing A3S4Y4), Trans Mountain's response to NEB Information Request No. 1.59 (Filing A60392), and Trans Mountain's response to the NEB's Information Request regarding the TERMPOL report (Filing A65273). b) 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, as described in Volume 8A of Trans Mountain's application and Trans Mountain's response to NEB Information Request No. 1.64 (Filing A3W9H8). Trans Mountain must also include and report on the above-noted marine shipping-related commitments in its commitments tracking table (required by Condition 6).	X							
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.	X							
135	**Slack line flow conditions** Trans Mountain must file with the NEB, **at least 2 months prior to commencing operation of Line 1, and at least 2 months prior to applying for leave to open Line 2, respectively**, the following: a) a list of locations having potential for slack line flow when each of the pipelines is operated at 100 per cent of its maximum operating pressure (MOP), 80 per cent of its MOP, and 50 per cent of its MOP; and b) a description of the following regarding detecting and preventing slack line flow conditions: i) operational measures on Line 1 and Line 2; and ii) design measures on Line 2.	X	X						

No.	Conditions with initial filings due during construction / prior to commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
136	**Pre-operations full-scale emergency response exercises** a) **Prior to commencing operations**, Trans Mountain must complete a full-scale exercise for each of the following scenarios: i) a 160-cubic-metre diluted bitumen release into Burrard Inlet as a result of a release from the Westridge Marine Terminal. The exercise must also consider emergency preparedness and response planning for a release that exceeds a credible worst case scenario spill event; and ii) a credible worst-case release volume at the Burnaby Terminal. b) Trans Mountain must notify the NEB and all potential exercise participants and observers, including Appropriate Government Authorities, first responders, and potentially affected Aboriginal groups, **at least 45 days prior to the date of each exercise in a),** of: i) the exercise's date(s) and location(s); ii) the exercise's objectives; iii) the participants in the exercise; and iv) the scenario for the exercise. c) Trans Mountain must file with the NEB and provide to Appropriate Government Authorities, first responders and potentially affected Aboriginal groups, **within 3 months after completing each exercise in a),** a report on the exercise that includes: i) the results of the completed exercise; ii) areas for improvement; iii) steps to be taken to correct deficiencies; and iv) confirmation that an independent third party has evaluated and assessed the emergency response exercises and that Trans Mountain will consider the comments generated for future exercises.	X						X	
137	**Tank roof design for tanks at the Edmonton Terminal** Trans Mountain must install steel pontoon internal floating roofs and fixed roofs with odour control systems on all of its five proposed tanks at the Edmonton Terminal. Trans Mountain must file with the NEB, **at least 30 days prior to applying for leave to open the five proposed tanks**, a letter signed by an officer of the company that confirms that these roofs were installed.							X	
138	**Confirmation of firefighting capacity at terminals** Trans Mountain must file with the NEB, **at least 30 days prior to commencing operations at the terminals**, confirmation that appropriate firefighting capacity, in accordance with Condition 118, is in place.	X						X	

No.	Conditions with initial filings due after commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
139	**Project completion** Trans Mountain must file with the NEB, **within 30 days after commencing operations**, confirmation, signed by an officer of the company, that the Project was completed and constructed in compliance with all applicable [certificate/order] conditions. If compliance with any of the conditions cannot be confirmed, the officer of the company must include the reason(s) for this and the proposed course of action to achieve compliance.	X	X	X	X	X	X	X	X
140	**Post-construction greenhouse gas (GHG) 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. The report must include: a) the methodology used for the assessment, including the sources of GHG emissions, assumptions, and methods of estimation; b) the total direct GHG emissions generated from Project construction, including land-clearing; c) a breakdown of direct GHG emissions generated by the construction of individual Project components (pipeline, pump stations, tank terminals and Westridge Marine Terminal) and by land-clearing activities; and d) a comparison and discussion of the direct GHG emissions calculated in b) with the predicted emissions in Trans Mountain's application and subsequent submissions.	X			X	X	X	X	
141	**Post-construction noise surveys** Trans Mountain must file with the NEB, **within 3 months after commencing operations**, the results of post-construction noise surveys conducted at the Sumas and Burnaby Terminals and at the Westridge Marine Terminal, demonstrating compliance with the British Columbia Oil and Gas Commission's *British Columbia Noise Control Best Practices Guideline (2009),* and any further mitigation that Trans Mountain will undertake to achieve compliance.	X						X	
142	**GHG 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. The plan must include: a) a list and discussion of all possible offset options considered; b) the criteria against which each option was assessed for viability; c) a description of the offset option(s) selected for direct GHG emissions generated from Project construction, and the rationale for selecting the option(s); d) confirmation that the selected offset option is registered under the approved quantification protocols and has been verified by an accredited "verification body[90]"; e) a schedule indicating when the selected offset options(s) will be initiated; and f) an accounting of offsets confirming no net GHG emissions from Project construction.	X			X	X	X	X	

90 In these conditions, "verification body" means a competent and independent person, or persons, with responsibility for performing and reporting on the verification process (as defined by ISO 14064).

No.	Conditions with initial filings due after commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
143	**Baseline inspections** a) Trans Mountain must conduct the following pipeline inspections on Line 2 and the new delivery pipelines, at the times indicated: i) a high-resolution in-line caliper inspection (i.e., a GEOPIG™ inspection) **within 6 months after commencing operations** to establish accurate pipeline position and to detect pipe deformations; ii) an in-line ultrasonic crack detection inspection **within 2 years after commencing operations**; iii) an in-line corrosion magnetic flux leakage inspection in both the circumferential and longitudinal directions **within 2 years after commencing operations**; iv) an in-line ultrasonic wall measurement inspection **within 2 years after commencing operations**; and v) a close interval survey **within 2 years after commencing operations**. b) Trans Mountain must file with the NEB, **within 6 months after completing each inspection in a),** a report that includes a summary of the inspection results, the proposed re-inspection interval, and mitigation measures for the anomalies detected through any of the inspections, if required.	X							
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. Trans Mountain must provide each report to Transport Canada, the Canadian Coast Guard, the Pacific Pilotage Authority, Port Metro Vancouver, British Columbia Coast Pilots, Western Canada Marine Response Corporation, Fisheries and Oceans Canada and the Province of British Columbia at the same time as it is filed with the NEB. If a particular party mentioned above requests that it not be provided the annual report, Trans Mountain may cease providing it to that party.	X							
145	**Community Benefit Program progress reports** Trans Mountain must file with the NEB, **on or before 31 January of each of the first 5 years after commencing operations**, a progress report summarizing the initiatives and activities undertaken as benefits that are in addition to compensation for access and potential impacts to community lands, and/or that exceed regulatory requirements. The report must summarize initiatives supported, at a minimum, in the areas of community programs and infrastructure improvements, environmental stewardship, and education and training during the reporting period, including local emergency management enhancements, improvements to community parks, as well as support for events. The filing must contain a commitment from Trans Mountain, and a description of how Trans Mountain will make progress reports publicly available until the Project is abandoned or decommissioned pursuant to the NEB Act. The progress reports must include: a) a description of the initiatives undertaken or supported; b) a list of participants or beneficiaries, including Aboriginal groups, local and regional communities, service providers, or others; c) an update on the timing, status, and outcomes of each initiative, including its estimated completion date, if applicable; and d) a summary of Trans Mountain's consultation activities regarding the Community Benefit Program initiatives.	X							

No.	Conditions with initial filings due after commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
146	**Reports on engagement with Aboriginal groups – operations** Trans Mountain must file with the NEB, **on or before 31 January of each of the first 5 years after commencing operations**, a report on the engagement activities it has undertaken with Aboriginal groups. Each report must include, at a minimum, for each Aboriginal group engaged: a) the name of the group; b) the method(s), date(s), and location(s) of engagement activities; c) a summary of any issues or concerns raised; and d) the measures taken, or that will be taken, to address or respond to issues or concerns, or an explanation why no further action is required to address or respond to issues or concerns. Trans Mountain must provide a copy of each report to each group engaged (and identified in a) above) at the same time that it is filed with the NEB.	X	X		X	X	X	X	
147	**Natural hazard assessment** Trans Mountain must file with the NEB, **within 1 year after commencing operations**: a) the results of the baseline natural hazard assessment for the Project; and b) confirmation that the natural hazard assessment will be: i) updated at intervals not exceeding 5 years; and ii) integrated into the existing Natural Hazard Management Program for the Trans Mountain Pipeline system.	X				X	X	X	
148	**Pipeline Geographic Information System (radio) data** Trans Mountain must file with the NEB, **within 1 year after commencing operations**, Geographic Information System data in the form of an Esri® shape file that contains pipeline segment centre lines and right-of-way boundaries, where each pipeline segment has a unique outside diameter, wall thickness, MOP, external coating, field-applied girth weld coating, and pipe manufacturing specification. If the above values of the pipeline change at any point along the length of the Project, the pipeline(s) should be segmented at that point. Trans Mountain must also provide Geographic Information System locations and names of all Project pump stations, terminals, custody transfer meters, tunnel entrances, pipeline bridges, check valves, and block valves, as applicable. The datum must be NAD83 and projection must be geographic (latitudes and longitudes).	X							
149	**Caribou Habitat Restoration and Offset Measures Monitoring Program** Trans Mountain must file with the NEB for approval, **on or before 31 January after the first complete growing season after commencing operations**, a program for monitoring and verifying the effectiveness of caribou habitat restoration and offset measures implemented as part of the final Caribou Habitat Restoration Plan (Condition 37) and the final Offset Measures Plan (Condition 128). This program must include: a) the scientific methods or protocols for short- and long-term monitoring of the restoration and offset measures, and effectiveness of the measures; b) monitoring frequency, timing, and locations, and the rationale for each; c) protocols for how restoration and offset measures will be adapted, as required, based on the monitoring results from the program's implementation; d) a summary of Trans Mountain's consultation with Appropriate Government Authorities and any species experts on the design of the monitoring program; and e) a proposed schedule for filing reports on monitoring results and adaptive management measures to the NEB, Environment and Climate Change Canada, and appropriate provincial authorities to be contained in the Caribou Habitat Restoration and Offset Measures Monitoring Program as well as at the beginning of each report filed.	X	X		X	X	X		

No.	Conditions with initial filings due after commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
150	**Caribou habitat restoration and offset measures monitoring report(s)** Trans Mountain must file with the NEB, **based on the approved schedule for the Caribou Habitat Restoration and Offset Measures Monitoring Program** (required by Condition 149), a report(s) outlining the monitoring program's results, including the observed effectiveness of habitat restoration and offset measures for each affected caribou range, and how those measures will be adapted, as required, based on monitoring results. Any proposed changes to the NEB-approved reporting schedule must be included within the relevant report prior to any reporting on a revised schedule.	X	X		X	X	X		
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 growing seasons after completing final clean-up**, a post-construction environmental monitoring report for the Project that must include: a) a description of the valued components or issues that were assessed or monitored; b) measurable goals for each valued component or issue; c) monitoring methods for each valued component or issue, results of the monitoring, and a comparison to the defined measurable goals; d) corrective actions taken, their observed success, and their current status; e) identification on a map or diagram of the locations where corrective actions were taken; f) any further corrective actions planned and a schedule for monitoring and reporting; and g) a summary of its consultations with appropriate government authorities and any potentially affected Aboriginal groups and affected landowners/tenants. In the environmental monitoring report filed after the fifth full growing season after completing clean-up, Trans Mountain must include: i) an assessment of the effectiveness of mitigative and corrective actions and how learnings have been or will be applied to Trans Mountain's Environmental Protection Program; ii) a detailed description of all valued components or issues for which the measurable goals have not been achieved during the duration of the post-construction monitoring program; and iii) an evaluation of the need for any further corrective actions, measurable goals, assessments, or monitoring of valued components or issues, including a schedule for those. 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.	X	X	X	X	X	X	X	X

No.	Conditions with initial filings due after commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
152	**Pipeline segment reactivation (Hinton to Hargreaves; Darfield to Black Pines) – new certificate and certificate validation** Trans Mountain must file with the NEB, **before expiry of the previous certificate identified in Condition 19**, a new certificate with a supporting report issued by an independent certification body[91] for the two pipeline segments identified in Condition 19. The certificate and report must demonstrate that the two pipeline segments: a) are fit for service for the specified operating conditions;[92] b) meet all applicable requirements of CSA Z662; and c) will meet the hydrostatic test requirements outlined in CSA Z662, at any time during the certified period. The certificate must be valid for at least 5 years and be validated on an annual basis during the certified period. The supporting report must include the qualifications of the independent certification body, the justification used to grant the certificate, and the expiry date of the certificate.		X						
153	**Full-scale emergency response exercises during operations** a) **Within 5 years after commencing operations**, Trans Mountain must complete full-scale exercises to test each of the following five scenarios: i) a full-bore rupture under ice and snow conditions in the Coquihalla Mountain Range; ii) a full-bore rupture into the Athabasca River during high spring flow conditions; iii) a full-bore rupture into Fraser River at the Port Mann Bridge, under peak flow conditions; iv) a full-bore rupture into the North Thompson River during high spring flow conditions; and v) a tank fire at the Burnaby Terminal. b) Trans Mountain must notify the NEB and all potential exercise participants and observers, including Appropriate Government Authorities, first responders and potentially affected Aboriginal groups **at least 45 days prior to the date of each exercise in a),** of: i) the exercise's date and location(s); ii) the exercise's objectives; iii) the participants in the exercise; and iv) the scenario for the exercise. c) Trans Mountain must file with the NEB, and provide to Appropriate Government Authorities, first responders and potentially affected Aboriginal groups, **within 3 months after completing each exercise in a),** a report on the exercise that includes: i) the results of the completed exercise; ii) areas for improvement; iii) steps to be taken to correct deficiencies; and iv) confirmation that an independent third party has evaluated and assessed the emergency response exercises and that Trans Mountain will consider the comments generated for future exercises.	X						X	

91 For Conditions 19, 122 and 152, an" independent certification body" is an internationally recognized company or organization, such as Lloyd's Register or Det Norske Veritas, which is able to certify compliance to statutory requirements. The independent certification body must have expertise in pipeline integrity. The NEB reserves the right to accept or reject the certificate. In addition, the NEB's decision is not contingent on the results of the certificate.

92 For Conditions 19, 122 and 152, "operating conditions" must include the Project-specific operating conditions, possible transient flow conditions, slack flow conditions, and effects on operating pressure due to temperature changes.

No.	Conditions with initial filings due after commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
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. a) The report must include, for each defined watercourse crossed by the Project: i) an evaluation of performed reclamation activities against the identified measureable goals and targets (required by Condition 71), that includes an identification of the defined watercourses where riparian habitat that has not returned to, or trending towards a sufficient, pre-construction functionality; ii) a description of the proposed enhancement measures and corrective actions selected and the rationale for the selected option(s); and iii) a schedule for when the enhancement measures and corrective actions will be initiated and an estimated timeline for completion, including any monitoring that will be required. b) The plan must include, for defined watercourses crossed by the Project located in watersheds identified as being above the riparian habitat disturbance threshold (>18 per cent of riparian habitat disturbed in the watershed) or classified as High Sensitive fish-bearing by Trans Mountain, during the OH-001-2014 proceeding, and, where, after the fifth complete growing season, riparian habitat has not returned, or is not trending towards sufficient pre-construction functionality: i) a description of the proposed offset measures selected that includes details with rationales on the amount and type of offsets required, how the offset measures would be implemented, and the location of offset sites; ii) a schedule for when the offset measures will be initiated, an estimated timeline for completion, including any monitoring that will be required, and a schedule for when the results of the offsets monitoring will be filed with the Board that demonstrate offset success. iii) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration in developing the report/plan, including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional land use information and traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information; and iv) a summary of 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 report/plan.	X	X						

No.	Conditions with initial filings due after commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
155	**Rare Ecological Community and Rare Plant Population Mitigation 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 Rare Ecological Community and Rare Plant Population Mitigation Evaluation Report and Offset Plan for ecological communities of concern, rare plants and lichens, and early draft, candidate, proposed, or final critical habitat for plant and lichen species under the *Species at Risk Act*, that includes: a) an evaluation of avoidance and mitigation success with reference to the measurable goals outlined in the Rare Ecological Community and Rare Plant Population Management Plan required by Condition 40; b) identification of communities, species, and critical habitats that have not yet achieved the intended degree of reclamation success, and an evaluation of the need for ongoing monitoring, reporting and corrective actions; c) identification of any ongoing effects to ecological communities and rare plant and lichen species that have an at-risk status of S1, S1S2 or S2, or that are listed under federal or provincial legislation for protection, or on any early draft, candidate, proposed, or final critical habitat under the *Species at Risk Act*; d) for the ongoing effects identified in c), a Final Rare Ecological Community and Rare Plant Population Offset Plan that updates the Preliminary Rare Ecological Community and Rare Plant Population Offset Plan required by Condition 40, and that also includes details with rationales on the amount and type of offsets required, the offset measures to be implemented, the selection of compensation sites, identification of the parties involved in planning and implementation and their respective roles and responsibilities, a timeline for implementation, and the methods and schedule for monitoring and reporting to demonstrate offset success; e) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration in developing the plan, including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional land use information and traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information; and f) a summary of its consultations with Appropriate Government Authorities, any species experts and potentially affected Aboriginal groups. 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 report/plan.	X	X		X	X	X	X	

No.	Conditions with initial filings due after commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
156	**Wetland 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 Wetland Reclamation Evaluation Report and Offset Plan that includes: a) the extent (in hectares), by wetland type, that was impacted by Project construction and associated activities; b) for each wetland impacted, an evaluation of mitigation and reclamation success with reference to the measurable goals outlined in the Wetland Survey and Mitigation Plan required by Condition 41; c) identification of any wetlands that have not yet achieved the intended degree of reclamation success, and an evaluation of the need for ongoing monitoring, reporting and corrective actions; d) for any wetland to which no-net-loss under the Federal Policy on Wetland Conservation applies, an evaluation of any temporary or ongoing loss of any individual functional condition (e.g., habitat, hydrology and biogeochemistry); e) for any wetland that has not achieved reclamation success in terms of overall wetland function, and for any wetland to which no-net-loss under the Federal Policy on Wetland Conservation applies and that has had a temporary or ongoing loss in any individual functional condition, a Final Wetland Offset Plan that updates the Preliminary Wetland Offset Plan required by Condition 41, and that also includes details with rationales on the amount and type of offsets required, the offset measures to be implemented, the selection of compensation sites, identification of the parties involved in planning and implementation and their respective roles and responsibilities, a timeline for implementation, and the methods and schedule for monitoring and reporting to demonstrate offset success; f) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration in developing the plan, including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional land use information and traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information; and g) 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 report/plan.	X	X		X	X	X	X	

No.	Conditions with initial filings due after commencing operations	CPCN	OC2	OC49	Temp	Pump1	Pump2	Tanks	Deact
157	**Grasslands Reclamation Evaluation Report and Offset Plan** Trans Mountain must file with the NEB for approval, **on or before 31 January after the tenth complete growing season after completing final clean-up**, a Grasslands Reclamation Evaluation Report and Offset Plan that applies to native grasslands in the British Columbia interior and that includes: a) the extent (in hectares) of grasslands that were impacted by Project construction and associated activities; b) an evaluation of reclamation success with reference to the measurable goals outlined in the Grasslands Survey and Mitigation Plan required by Condition 42; c) an identification of any grasslands that have not yet achieved the intended degree of reclamation success, and an evaluation of the need for ongoing monitoring, reporting and corrective actions; d) for those grasslands that have not yet achieved reclamation success, a Final Grasslands Offset Plan that updates the preliminary plan required by Condition 42, and that also includes details with rationales on the amount and type of offsets required, the offset measures to be implemented, the selection of compensation sites, identification of the parties involved in planning and implementation and their respective roles and responsibilities, a timeline for implementation, and the methods and schedule for monitoring and reporting to demonstrate offset success; e) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration in developing the plan, including demonstration that those Aboriginal persons and groups that provided Aboriginal traditional land use information and traditional ecological knowledge, as reported during the OH-001-2014 proceeding and/or pursuant to Condition 97, had the opportunity to review and comment on the information; and f) a summary of its consultations with Appropriate Government Authorities, species experts, 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 report/plan.	X	X		X	X	X		