



January 11, 2016

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National Energy Board
517 – 10th Avenue SW
Calgary, AB T2R 0A8

Attention: Ms. Sheri Young

Dear Ms. Young:

**Re: Application for the Trans Mountain Expansion Project
Hearing Order OH-001-2014
Board File OF-Fac-Oil-T260-2013-03-02
Final Argument of the Province of British Columbia**

Please find enclosed the Province's written final argument, along with two appendices and a list of authorities,

Yours truly,

Elisabeth Graff
Counsel for the Province of British Columbia

EG/sw

ccs: Intervenors

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NATIONAL ENERGY BOARD

IN THE MATTER OF the *National Energy Board Act*, R.S.C. 1985, c. N-7, as amended, and the Regulations made thereunder;

AND IN THE MATTER OF THE *Canadian Environmental Assessment Act*, 2012, S.C., c. 19, s. 52, as amended, and the Regulations made thereunder;

AND IN THE MATTER OF an application by Trans Mountain Pipeline ULC as General Partner of Trans Mountain Pipeline L.P. (collectively “Trans Mountain”) for a Certificate of Public Convenience and Necessity and other related approvals pursuant to Part III of the *National Energy Board Act*.

Final Argument of the Province of British Columbia

January 11, 2016

Introduction

1. Her Majesty the Queen in Right of British Columbia (the “Province”) makes the following argument with respect to the application by Trans Mountain for a Certificate of Public Convenience and Necessity (“CPCN”) for the project referred to in the hearing order referenced above (the “Project”).
2. The Province supports bringing Canada’s oil to international markets. However, this must be accomplished in an environmentally responsible and appropriate manner. Therefore, in July 2012, the Province identified five requirements that must be met in order for it to consider supporting a heavy oil pipeline project within British Columbia.¹ The requirements are:
 - Successful completion of the environmental review process. With respect to the Project, this means a positive recommendation by the Board;
 - World-leading marine oil spill response, prevention and recovery systems for B.C.'s coastline and ocean to manage and mitigate the risks and costs of heavy oil pipelines and shipments;
 - World-leading practices for land oil spill prevention, response and recovery systems to manage and mitigate the risks and costs of heavy oil pipelines;
 - Legal requirements regarding Aboriginal and treaty rights are addressed, and First Nations are provided with the opportunities, information and resources necessary to participate in and benefit from a heavy-oil project; and
 - British Columbia receives a fair share of the fiscal and economic benefits of a proposed heavy oil project that reflects the level, degree and nature of the risk borne by the province, the environment and taxpayers.

¹ A3S0Q7, Application Volume 1, Summary, Section 4.0: Provincial Interests, PDF p. 103.

3. The second and third requirements are closely related in subject matter to issues to be considered by the NEB during this review process, as set out in the List of Issues released on July 29, 2013.²
4. Therefore, throughout this proceeding, the Province's chief focus has been on Trans Mountain's ability to effectively prevent and respond to spills from the proposed pipeline itself, or from tankers calling at the Westridge Marine Terminal. Accordingly, the Province has filed three sets of detailed information requests pertaining to those matters³, and has insisted that Trans Mountain provide full and adequate answers to such requests.⁴
5. In particular, in an effort to evaluate the strength of Trans Mountain's spill planning and preparedness, the Province has asked that Trans Mountain file detailed information regarding the Emergency Management Program in place for the existing pipeline, which the Province has consistently asserted is directly relevant to the issues to be considered by the Board in this proceeding.⁵ However, Trans Mountain has not filed the information required by the Province in order to assess its ability to respond to a spill in a timely and effective manner. The heavily redacted Emergency Management Program documents Trans Mountain has filed do not enable the Province to determine whether Trans Mountain is prepared and able to respond to a Project-related spill.⁶
6. The Province can of course only base its position in this proceeding on what has been filed in it, and within the parameters set by the Board for its consideration of the Project. Had Trans Mountain provided sufficient information in this proceeding to enable the Province to conclude that it would have world-class marine and terrestrial spill prevention and response capacity, then the Province would have been in a position to support the issuance of a certificate for the Project. However, this is not the case.

² In particular, issues No. 5, 11 and 12.

³ A3W7T3, BC Information Request (IR) No. 1; A4G5Y0, BC IR No. 2; and A4H8E1, BC TERMPOL IR.

⁴ A3Y8R3, BC Notice of Motion No. 1.

⁵ *Ibid.*, PDF p. 4-5. See also A4F7Q9, BC Notice of Motion No. 2, PDF p. 5-8, and A4C3Y5, Ruling No. 31, in which the Board found at PDF p. 4 that "Trans Mountain has not shown that its interest in confidentiality of the entire EMP documents outweighs the public interest in disclosure".

⁶ BC Notice of Motion No. 2, *ibid.*, PDF p. 18-19.

While the Province will continue outside this proceeding to evaluate the Project against the requirements referenced in paragraph 2 above, including requirements No. 4 and 5, the evidence on the record in this proceeding is not sufficient to address the Province's concerns with respect to potential Project-related spills. Therefore, the Province cannot support Trans Mountain's application based on the evidence it has filed in this proceeding.

7. In the alternative, should the Board recommend approval of the Project, the Province urges the Board to impose clear, measurable and enforceable certificate conditions. The Province's comments on the draft conditions released by the Board on August 12, 2015, and its recommendations for additional conditions, are set out in Appendices A and B.

The structure of this argument

8. Following a brief discussion of the relevant statutory framework, this argument will set out, in turn, the Province's outstanding concerns with respect to the following aspects of the Project:
 - pipeline spill prevention through pipeline design features;
 - leak detection;
 - particular challenges in responding to a pipeline spill;
 - pipeline spill preparedness and spill response planning; and
 - marine spill preparedness and response.

The statutory framework

9. In making its recommendation with respect to the issuance of a CPCN, the Board may take into consideration a very broad array of factors.⁷

⁷ *Emera Brunswick Pipeline Co. (Re)*, 2007 LNCNEB 3, para. 41-48; *Nakina (Township) v. Canadian National Railway Co.* [1986] F.C.J. No. 426 (C.A.).

10. Section 52(2) of the *National Energy Board Act*⁸ provides that the Board “shall have regard to all considerations that appear to it to be directly related to the pipeline”. The issues of principal concern for the Province, referenced above, namely the prevention of and response to spills from the Project, fall squarely within the scope of considerations “directly related to the pipeline”.
11. The Board also has broad authority with respect to the recommendations it will make under the *Canadian Environmental Assessment Act, 2012*.⁹

The pipeline

Spill prevention through pipeline design

12. The Application states as follows with respect to spill prevention:

KMC, as the operator of the TMPL system, considers the prevention of spills to be the primary goal and will employ the necessary management systems and resources to ensure that this goal is achieved on the TMEP. The measures available to prevent and mitigate spills from new pipelines and facilities will be appropriate to the nature of the threat and the associated consequences of a spill.¹⁰ [emphasis added]

13. Trans Mountain has adopted a risk-based pipeline design approach. On numerous occasions, the evidence given by Trans Mountain refers to this approach as an “industry-leading, world class design approach”.¹¹ Risk-based design, Trans Mountain states, aims to identify potential risks and to define and adopt mitigation measures so as to both reduce the likelihood of a failure and mitigate its consequences. One of the principal methods of mitigating the consequences of a failure is “the optimization of valve placement and design”.¹²
14. However, despite its stated commitment to the use of industry-leading, world-class pipeline design practices, Trans Mountain has, without adequate justification, declined to implement

⁸ R.S.C., 1985, c. N-7.

⁹ S.C. 2012, c. 19, s. 52, ss. 5, 19.

¹⁰ A3S0Q7, Application Volume 1, Summary, Section 2.8: Risk Assessment and Management of Pipeline and Facility Spills (Volume 7), PDF p. 71.

¹¹ A4H8W6, Trans Mountain response to BC IR No. 2.08 a), PDF p. 31.

¹² *Ibid.*, PDF p. 32.

measures to limit the maximum possible volume of oil that would flow from the new pipeline in the event of a loss of containment. When asked by the Province whether it would commit to installing isolation valves so as to limit maximum outflow to 2,000 m³, Trans Mountain states that it would not, citing the “practical limitations with respect to the siting of valves, such as the presence of rivers, steep ravines, avalanche slopes, accessibility, landowner constraints, and practical feasibility of bringing power into a valve site”.¹³ No specific evidence is offered to substantiate the assertion that setting a threshold outflow volume is impractical.

15. This ignores the fact that the proponent of another heavy oil pipeline project designed to pass through British Columbia, Northern Gateway Pipelines Inc. (NGP), has committed to installing valves to limit potential outflow volumes to 2,000 m³ for watercourses identified as having a high fish sensitivity ranking or where a watercourse leads to a high fish sensitivity ranked watercourse.¹⁴
16. Trans Mountain describes the identification of valve placement as an iterative process, involving a “sensitivity analysis” which considers “the marginal benefit on outflow volume among other factors in the decision-making process that is incorporated into the finalization of valve placements”.¹⁵ However, the analysis conducted by Trans Mountain – including the identification and weighting of various considerations and their balancing against each other – has not been made available to the Board, intervenors, and the public. Without any further information regarding the decision-making process employed by Trans Mountain in identifying valve placements, the Province is not satisfied that Trans Mountain’s decision not to set a threshold outflow volume for Line 2 is reasonable.
17. Even if, as Trans Mountain asserts, the goal of limiting potential outflow volumes to 2,000 m³ is not “achievable in a practical sense” for the entirety of the pipeline, it is acknowledged that “watercrossings may lend themselves to this goal”¹⁶. However, Trans Mountain has not alleviated the concerns underlying the Province’s information request – it has not committed to limiting outflow to 2,000 m³ at watercrossings and where reasonably practicable. Nor has it,

¹³ A4H8W6, Trans Mountain response to BC IR No. 2.13 g) and h), PDF p. 59-61.

¹⁴ *Ibid.*, PDF p. 60.

¹⁵ A4K4W3, Trans Mountain response to NEB IR No. 4.17 b.2), PDF p. 85-86.

¹⁶ *Supra* note 13, PDF p. 60.

for locations where such an objective may not be reasonably attained, provided sufficient information for the Province to fully understand why that is so.

18. As a result, maximum spill volumes under the current design remain as high as 4,600 m³.¹⁷ The risk posed by a project capable of releasing 4,600,000 litres of diluted bitumen into the environment is significant, and the Province would have expected Trans Mountain to offer, in its application and in responses to information requests, a more fulsome description of the reasons why, as it alleges, implementing measures that further limit potential spill volumes is not practically feasible. In short, Trans Mountain has not shown that, in this regard, it has adopted world-class design methods for the Project.¹⁸

Spills from the pipeline may occur

19. As noted above, one of the Province's principal concerns is the potential for spills from the pipeline itself, and the ability of Trans Mountain to effectively respond to a spill so as to mitigate its effects.
20. The focus of the Application and of the evidence it has placed on the record is on the alleged infrequency of spills and the improbability of a significant release. The reader is repeatedly reminded of the unlikelihood of a release.¹⁹ However, pipeline spills can occur and have occurred, and Trans Mountain acknowledges that fact.

The effects of a spill could be severe

21. Trans Mountain does not dispute the fact that "substantial adverse environmental and socio-economic effects could result if a credible worst-case or smaller spill were to occur".²⁰ Trans Mountain further concedes that the effects of a pipeline spill could last for decades. Trans Mountain admits, for instance, that site remediation and reclamation following the 2005

¹⁷ A4H8W6, Trans Mountain response to BC IR No. 2.13 d), PDF p. 59.

¹⁸ See also A4H8W6, Trans Mountain response to BC IR No. 2.13 l), PDF p. 61., in which Trans Mountain declines to undertake the requested review of outflow volume thresholds for comparable heavy oil pipelines across North America and Europe.

¹⁹ See, for example, references to the "unlikely event of a release/pipeline release" in Trans Mountain's response to BC IR No. 2, *ibid*, PDF p. 35, 50, 149, 156, 165, 168, 171, 174, 176, and 193.

²⁰ A4H8U3, Trans Mountain response to Matsqui First Nation IR No. 2.04 g), PDF p. 19.

Ward Road release has just been completed²¹, and that the remediation of groundwater contamination in the event of a release could span over two decades.²²

22. The evidence on the record shows that crude oil released from the pipeline could enter a watercourse, and, even if such watercourse is not fish-bearing or a source of drinking water, it is likely to eventually reach a watercourse with high sensitivity for fish and fish habitat, or a watercourse that may be used as a source for drinking water.²³ This potential for adverse impacts on human health and the environment has caused Trans Mountain to highlight the need for a prompt and effective response to a pipeline spill.

Spill response planning is essential

23. Trans Mountain does not take issue with the proposition that spill response planning is vital to the mitigation of the effects of a spill:

... [S]pill prevention, preparedness, and effective response activities must always be a primary focus to reduce the probability of an oil spill, and to have adequate oil spill response plans and procedures in place that have proven capability to reduce the magnitude and extent of actual effects on people and the environment. *[sic]*²⁵

24. Consistent with that goal, Trans Mountain has committed to achieving “world leading land oil spill preparedness and response”²⁶:

KMC must have the necessary resources and plans to ensure the safety of the public and the environment in the event of an oil spill, and ensure that clean-

²¹ A4H8W6, See Trans Mountain response to BC IR No. 2.41 j), PDF p. 194, where Trans Mountain states: “At the end of the emergency response phase, KMC continued with site remediation and reclamation for several years. Remediation is not complete and KMC is in the process of removing the groundwater monitoring wells in order to receive formal closure from the National Energy Board”.

²² See A4H8W6, Trans Mountain response to BC IR No. 2.09 e), PDF p. 38, in which Trans Mountain estimates that returning contaminated groundwater to applicable standards for agricultural and drinking water could take from “under a year to over a decade”, and g), PDF p. 39-40, in which Trans Mountain states that “[r]emediation of the aquifer at [the Trans Mountain facility in Jasper, Alberta] has been ongoing since 1994”.

²³ A4H1V2, Trans Mountain response to NEB IR No. 3.044 a), PDF p. 336.

²⁵ A4H9D0, Trans Mountain response to Squamish First Nation IR No. 2.5 a), PDF p. 26.

²⁶ A3S0Q7, Application Volume 1 – Summary, section 4.3 – World Leading Land Oil Spill Preparedness and Response, PDF p. 108.

up is timely and effective. Accordingly, KMC has an established Emergency Management Program that is central to KMC's response to an emergency.²⁷

25. However, for reasons further discussed below, the Province submits that the evidence Trans Mountain has put on the record can only lead to the conclusion that the Project falls short of a "world leading" standard.

Leak detection

26. The ability to promptly detect a release from the pipeline is the first element of an effective spill response system. However, the evidence on the record does not demonstrate an overall ability to consistently detect a release from the pipeline in a timely manner. Each leak detection method Trans Mountain refers to in the evidence is discussed in turn below.

In-line inspections

27. The standard interval between in-line inspections (ILIs) is five years, and Trans Mountain considers this frequency to be adequate to ensure the integrity of its pipeline system.²⁹ Yet in the event of a slow leak that remains undetected by other means, 100 m³ to 200 m³ of oil would be released from the pipeline during this five year interval.³⁰
28. Trans Mountain's response to any concerns in that regard is that a spill of 100 m³ to 200 m³ of oil would likely be detected by other means long before five years: regular aerial patrols, personnel working on the pipeline, or members of the public would be quick to identify such a sizable spill.³¹
29. The Province does not consider Trans Mountain's reliance on a release becoming sufficiently large to become easily visible on the ground to constitute an appropriate leak detection approach. Beyond the prevention of leaks, Trans Mountain's focus ought to be on their prompt discovery. Mere reliance on visual observation to detect leaks of a significant size has

²⁷ *Ibid.*

²⁹ A3S1L1, Application Volume 4C, Project Design and Execution – Operations and Maintenance, Section 8.1.4, PDF p. 52.

³⁰ A4H8W6, Trans Mountain response to BC IR No. 2.18 c), PDF p. 102.

³¹ *Ibid.*, PDF p. 103.

no place in an industry-leading, world-class leak detection program – particularly when a significant portion of the pipeline is obscured by snow cover for a large part of each year.

Automated leak detection

30. The sensitivity thresholds of the computational pipeline monitoring (CPM) system Trans Mountain will use for Line 2 are expected to be in the range of 2% to 5% of the pipeline flow rate.³² Trans Mountain expects a full bore rupture to be detected within five minutes, while a small leak nearing the minimum detectable threshold could require up to two hours to be detected. Assuming normal CPM function and appropriate human response to system alarms, these timeframes produce an estimated released volume in the range of 314 m³ to 377 m³ for Line 2 (and even higher for the delivery lines).³³ Such volumes are significant.
31. Although Trans Mountain asserts that the CPM system has become increasingly sophisticated, and refers to a number of technology improvements, it offers no evidence to support the assumption that such improvements have, in reality, resulted in improved leak detection.³⁴ Similarly, while Trans Mountain has committed to the use of a second, complementary CPM system that will operate in parallel with the existing system, it provides no evidence to support the claim that this will indeed “maximize[...] CPM leak detection capability”.³⁵
32. Moreover, Trans Mountain concedes that slack flow conditions decrease the reliability, sensitivity and accuracy of the CPM system³⁶, thus resulting in increased estimated release volumes. Slack flow conditions may occur downstream of the Coquihalla summit³⁷, which, as is stated below, happens to be a less accessible, highly sensitive area.
33. Trans Mountain remains confident that a leak falling below the CPM sensitivity threshold is very unlikely to go unnoticed for twelve hours or more, since “the CPM system is used in combination with other monitoring methods, such as Control Centre Operator (CCO)

³² A4H8W6, Trans Mountain response to BC IR No. 2.15 b), PDF p. 72.

³³ A4K4W3, Trans Mountain response to NEB IR No. 4.38 d), PDF p. 150.

³⁴ A4H9J8, Trans Mountain response to A. Weaver IR No. 2.11, PDF p. 65.

³⁵ A4H8I9, Trans Mountain response to City of Vancouver IR No. 2.09.2 i., PDF p. 333.

³⁶ A4K4W3, Trans Mountain response to NEB IR No. 4.38 f.4), PDF p. 151.

³⁷ A3Z4T9, Trans Mountain response to NEB IR No. 2.090 a), PDF p. 361.

monitoring using the supervisory control and data acquisition (SCADA) system, scheduled line balance calculations, and surveillance patrols”.³⁸

34. However, a review of Trans Mountain’s spill history shows that SCADA has not proven to be fully effective in detecting leaks on the pipeline system. In fact, only one of the seven spills reported over the past ten years was initially identified by SCADA.³⁹ Further, none of the remaining six leaks triggered CPM system alarms: five of them fell below the CPM detection threshold, and the last one occurred on the Westridge Delivery Line, which was not included in the CPM model at the time.⁴⁰
35. With a leak going undetected by CPM and SCADA a substantial possibility, visual observation and/or odour complaints remain Trans Mountain’s dominant leak detection method. Of the six leaks that were not identified by SCADA and/or CPM, one was reported by an emergency call to the Control Centre, and two were discovered while investigating odour complaints.⁴¹ In other words, half of the releases came to Trans Mountain’s attention thanks to third party reports.
36. In sum, in light of the evidence on the record, the Province is not satisfied that the leak detection methods on which Trans Mountain currently relies are sufficient to detect a pipeline release in a timely manner. Although Trans Mountain commits to reviewing complementary leak detection systems and to evaluating technology advancements and improvements to existing technology⁴², it makes no firm commitment to the use of such technologies. Similarly, Trans Mountain describes its participation in joint industry projects aimed at investigating the “viability” of commercially available external leak detection systems and aerial surveillance systems.⁴³ Trans Mountain does not, however, commit to the use of such systems.

³⁸ A4H8S4, Trans Mountain response to Katzie First Nation IR No. 2.05 c), PDF p. 15.

³⁹ A3Z2A6, Trans Mountain response to BC motion to compel full and adequate answers to BC IR No. 1 – IR No. 1.4 b), PDF p. 4.

⁴⁰ A4H8W6, Trans Mountain response to BC IR No. 2.15 f), Table 2.15F-1, PDF p. 74.

⁴¹ *Ibid.*

⁴² A4H8W6, Trans Mountain response to BC IR No. 2.15 g) and i), PDF p. 74-76.

⁴³ *Ibid.*, PDF p. 74-75.

37. The Province submits that this lack of a commitment to the use of state-of-the-art systems and technologies falls short of an “industry-leading, world-class” standard. Therefore, in Appendix A, the Province proposes the addition to draft certificate condition No. 125 of a requirement to implement any additional leak detection technology that has been proven to be effective and feasible.

Response to alarms and pipeline shutdown

38. Trans Mountain claims that it would shut down the pipeline immediately if a potential leak were identified or suspected⁴⁴, and that a report of a release would result in the immediate shutdown of pumps⁴⁵. The evidence does not bear out those statements. Following the 2005 Ward Road release, the pipeline, then operated by Terasen, was not shut down for an entire week following the first odour complaint, despite repeated complaints.⁴⁶
39. The 2012 Tank 121 release at the Sumas Tank Farm further demonstrates Trans Mountain’s slow response to an indication of loss of containment. Although in that particular instance no shutdown was required, since the tank was, at the time, inactive and isolated, Trans Mountain did not react to an alarm at the Control Centre for over three hours, and the release was not confirmed until more than four hours after the alarm was triggered.⁴⁷
40. There is, therefore, no evidence on the record to suggest that Trans Mountain’s practice is in fact to shut down the line or take otherwise appropriate action as soon as a leak is suspected or indicated. Instead, Trans Mountain’s response to previous incidents indicates that action would not be taken until confirmation of a leak, which, in some instances, is a lengthy process.
41. Even when shutdown has been prompt, it has not always been carried out appropriately.⁴⁸
42. Although it will review and revise its Control Centre procedures⁴⁹, Trans Mountain has not committed to a prescribed specific shutdown initiation time to be applied during the

⁴⁴ A3Y2Z1, Trans Mountain response to BC IR No. 1.4 c), PDF p. 14.

⁴⁵ A3Y2Z1, Trans Mountain response to BC IR No. 1.17 a), PDF p. 54.

⁴⁶ A4H8W6, Trans Mountain response to BC IR No. 2.20 h), PDF p. 115.

⁴⁷ *Ibid.*, PDF p. 117.

⁴⁸ See the improper shutdown at the Westridge delivery line in 2007, *ibid.*, PDF p. 116, due to the improper identification of the precise location of the leak and the valves to be closed, all of which exacerbated the spill.

operation of Line 2. It simply states that it will “consider” introducing a rule directing Control Centre Operators to perform a controlled shutdown when a leak cannot be ruled out in “a given time period after initial indication”.⁵⁰ In the Province’s submission, this vague commitment does not provide the required assurance that Trans Mountain would appropriately respond to pipeline leaks. Therefore, and as discussed in further detail in Appendix A, the Province supports the imposition of a certificate condition requiring Trans Mountain to introduce a rule directing the Control Centre Operator to perform a controlled shutdown of the pipeline if a leak cannot be ruled out within a prescribed time period after initial indication that a leak may have occurred.

Particular challenges in responding to a spill from the pipeline

Access

43. It is a well-known fact, recognized by Trans Mountain, that following the detection of a release, the ability to quickly reach the site of a spill is critical to the mounting of an effective response.⁵¹
44. Trans Mountain acknowledges that, though an unlikely event, a spill could occur at a remote, difficult to access location:

Acute effects were evaluated following an assumption of no mitigation ... This is not to say that effective oil spill response efforts would not be mounted. Rather it is a conservative assumption that reflects the fact that spills could occur at remote locations, and that substantial environmental effects could occur within 24 hours of a large oil spill occurring.⁵²

⁴⁹ A4H8W6, Trans Mountain response to BC IR No. 2.20 b), PDF p. 112.

⁵⁰ A4H8W6, Trans Mountain response to BC IR No. 2.20 c), PDF p. 113. This lack of a firm commitment contrasts with the clear commitment by NGP to “enforce a strict “10-minute rule” to begin shutting down the lines within that period if an unexpected reading occurred” (Connections – Report of the Joint Review Panel for the Enbridge Northern Gateway Project, Volume 1, Section 3.5, How would the project operate?, PDF p. 45).

⁵¹ A3W9H8, Trans Mountain response to A. Azevedo IR No. 2.2.1 d), PDF p. 12.

⁵² A3W9H8, Trans Mountain response to A. Azevedo IR No. 2.2.1 e), PDF p. 12.

45. The evidence on the record shows that access to a spill from the pipeline would be particularly challenging in at least two locations: at KP 501-505 (Rearguard Falls and Fraser River)⁵³, and near the Coquihalla River.⁵⁴ Those two locations also happen to be home to particularly sensitive fish habitat.⁵⁵
46. Trans Mountain concedes that a pipeline spill has the potential to make its way into bodies of water.⁵⁶ It is also clear that the recovery of crude oil from water bodies is especially difficult.⁵⁷
47. Trans Mountain further concedes that the recovery of oil from fast-moving rivers poses specific challenges, since “vertical and horizontal mixing and other forms of turbulence distribute spilled oil and often restrict response and recovery efforts”⁵⁸. In other words, oil spilled in a fast flowing waterway is difficult to recover and may ultimately become entrained in the water column:

Where flow velocities are excessively high, river banks are too steep, or where there are other concerns, safety becomes the overriding factor that will preclude response efforts at a particular site. Sometimes the same conditions

⁵³ See Trans Mountain’s response to NEB IR No. 4.18, which at PDF p. 89 states: “Other locations in the vicinity of KP 501 to 504 that have poorer access to potential spill sites are in close proximity to a larger watercourse, such as the Fraser River (figure on PDF page 5 of 7).”

⁵⁴ See A3W9H8, Trans Mountain’s response to NEB IR No. 1.71, which states at PDF p. 405-406: “The most difficult section of the rights-of-way to access under all seasons is the Coquihalla Canyon. The pipeline enters the Coquihalla Canyon at about kilometer 963 and exits the difficult to access areas and rejoins Highway 5 at about kilometre 984 During the winter months a response in the Coquihalla Canyon may be slowed by high snowfall conditions. KMC is committed to the safety of employees and contractors; as such the area in the Coquihalla Canyon would first require an aerial evaluation for avalanche risk. If there is a potential for avalanche in the vicinity of the response, or along the access routes, avalanche control may be required.... Spring, summer and fall response is easier by comparison to winter response in the Coquihalla Canyon, but also has the potential risk of slides, and rapidly changing meteorological conditions..... This response specifically addresses the Coquihalla Canyon as potentially difficult to access during any time of the year”.

⁵⁵ See A3W9H8, Trans Mountain’s response to NEB IR No. 1.52 a), PDF p. 290, for a discussion of white sturgeon presence in the Upper Fraser River up to Rearguard Falls. See also the response to NEB IR No. 1.53 i), PDF p. 315: “One important spawning site is the Fraser mainstem downstream (0.5 km) from the confluence with the Coquihalla River (COSEWIC 2003).”

⁵⁶ See A3S4V6, Application Volume 7 – Risk Assessment and Management of Pipeline and Facility Spills, section 5.3.2 – Release to Water; A3S4V8-A3S4W6, Application Volume 7, Appendix C – Overland and Stream Flow Modeling of Potential Full-bore Ruptures; and A3S4W7, Application Volume 7, Appendix D – Simulations of Hypothetical Oil Spills from the Trans Mountain Expansion Project Pipeline – P1 V6 Route.

⁵⁷ See A4H8W6, Trans Mountain Response to BC IR No. 2.35 a), PDF p. 168, and 2.48 c), PDF p. 234.

⁵⁸ A4H8I7, Trans Mountain response to City of Richmond IR No. 2.15, PDF p. 18.

of high flow velocity, turbulent mixing, and other forces also result in oil being entrained and not amenable to recovery or cleanup.⁵⁹

Spilled diluted bitumen may sink

48. One particular challenge to the recovery of diluted bitumen from water arises when the product becomes submerged or sinks. The evidence shows that this may occur in freshwater⁶⁰, and has occurred. This is most notably evidenced by the significant oil sinking process observed following Enbridge's Marshall, Michigan spill.⁶¹
49. Trans Mountain attributes the presence of sunken oil in the Kalamazoo River following the Marshall, Michigan spill to "soil interactions as well as weathered oil interaction with suspended sediment in the river".⁶²
50. Trans Mountain maintains that the likelihood of diluted bitumen released from its facilities becoming submerged or sinking in river waters is low, owing mainly to the fact that suspended sediment concentrations in British Columbia rivers are not typically sufficiently high to cause significant sediment uptake and to cause an oil density change.⁶³
51. What Trans Mountain does not address in this particular context is the likelihood of sediment uptake, and resulting density changes, being caused by the spilled oil travelling on land and through wetlands before reaching a watercourse, weathering and picking up sediment along the way.⁶⁴ Though Trans Mountain points out that this soil interaction process occurred in Michigan, it does not appear to recognize the potential for this process to take place in British Columbia.⁶⁵

⁵⁹ *Ibid.*, PDF p. 17.

⁶⁰ See, for instance, A4D3F2, Trans Mountain's Pipeline Emergency Response Plan, which states at PDF p. 55 that "it is possible to have sunken or submerged oil in marine and freshwater environments".

⁶¹ A3S4V6, Application Volume 7 – Risk Assessment and Management of Pipeline and Facility Spills, section 5.3.2, Release to Water, PDF p. 14. See also A4L8R8, Written Evidence of E. May, Appendix F – National Transportation Safety Board, Accident Report NTSB/PAR-12/01 PB2012-916501, Enbridge Incorporated Hazardous Liquid Pipeline Rupture and Release – Marshall, Michigan, July 25, 2010.

⁶² A4K4W3, Trans Mountain response to NEB IR No. 4.12, PDF p. 60.

⁶³ A4H8W6, Trans Mountain response to BC IR No. 2.33, PDF p. 161-163. See also A4H8U3, Trans Mountain response to Matsqui First Nation IR No. 2.08 a), PDF p. 40.

⁶⁴ *Supra* note 62, PDF p. 60-66.

⁶⁵ *Supra* note 63, PDF p. 162: "It is also important to note that during the Marshall spill, the spilled oil travelled on land and through wetlands where it could pick up a significant amount of sediment before reaching the

52. In the absence of further information distinguishing the British Columbia context from the Michigan context, Trans Mountain has not convinced the Province that diluted bitumen becoming submerged or sinking in British Columbia rivers is improbable.
53. In its current Pipeline Emergency Response Plan (the “Pipeline ERP”), Trans Mountain describes post-emergency recovery techniques for sunken and submerged oil, which involve “actions to re-mobilize the product so that it surfaces where skimmers and sorbents can be used to collect it”. Techniques for the agitation of bottom sediments include raking, boats dragging sediment-disturbing devices, compressed air lances, and dredging.⁶⁶
54. The Province submits that the effectiveness of these techniques has not been proven, particularly in British Columbia’s rivers. Since these techniques have only had limited success in low-gradient rivers such as the Kalamazoo River⁶⁷, and even in lake waters⁶⁸, the Province questions their usefulness in fast-moving rivers with sensitive spawning areas such as the Fraser or Thompson Rivers. Beyond the rudimentary information, quoted above, contained in its current Pipeline ERP, Trans Mountain has not developed a detailed, customized plan for the recovery of submerged or sunken oil from British Columbia rivers.

Trans Mountain has not demonstrated an ability to effectively respond to pipeline spills

55. In light of the possibility of a spill from the Project’s facilities, and considering the serious consequences a significant spill could have, Trans Mountain must demonstrate – through the disclosure of sufficiently detailed evidence regarding its spill response plans

watercourse. The significance of the sinking process observed during the Marshall spill was not only due to high suspended sediments in the river, but also likely due to sediments that got attached to the oil before reaching the watercourse”.

⁶⁶ *Supra* note 60, section 4.8.3 – Recovery of Sunken and Submerged Oil, PDF p. 56.

⁶⁷ See A4Q1T6, Written Evidence of Upper Nicola Band, NUKA Research and Planning, *Inland Oil Spill Response Logistics Analysis*, at PDF p. 8: “The 2010 diluted bitumen spill into the Kalamazoo River, which migrated 40 miles (65 km) downstream and impacted Morrow Lake, illustrated the potential for diluted bitumen to submerge and sink in fresh water environments, and presented a significant challenge to responders both in terms of locating the submerged oil and remediating it. Response techniques were intrusive and labour-intense, and five years after the spill, oil remains in the lake bed and river sediments (USEPA, 2013; Mueller, 2015)”.

⁶⁸ See the case study of the 2005 spill of Bunker C oil and pole-treating agent into Lake Wabamun, in which the Acquisition Directorate – Research and Development Centre states: “The success of removing the oil from the lake bottom was limited” (A4H7Y5, Trans Mountain response to A. Azevedo IR – Attachment 2.2.1 b-Attachment 1, Development of Bottom Oil Recovery Systems – Final Project Report – Appendix B, Sunken Oil Incidents and Case Studies, PDF p. 9).

and resources – that it does indeed have the capability to effectively respond to a spill. As is articulated in further detail below, the Province submits that the evidence Trans Mountain has placed on the record does not do so. Similarly, Trans Mountain’s assertion that it has “endeavored to address” the Province’s five requirements that must be met in order for it to consider supporting a heavy oil pipeline, including the implementation of “world-leading practices” for land oil spill prevention, response and recovery⁶⁹, is not borne out by the evidence on the record.

Trans Mountain’s safety record

56. The Province’s concerns with respect to Trans Mountain’s ability to respond to a spill are compounded by Trans Mountain’s spill history and its previous responses to spills.
57. Trans Mountain states as follows: “The existing TMPL system has been operating successfully for 60 years and will be safe and reliable for many more as a result of continuing proactive maintenance and integrity programs.”⁷⁰
58. However, in the past ten years, Trans Mountain has reported seven hydrocarbon releases from its facilities in Canada.⁷¹ Of those releases, three exceeded 1,300 bbl.
59. Similarly, Trans Mountain’s emergency response history is a cause for concern, which the evidence on the record fails to alleviate. Trans Mountain’s (then Terasen’s) response to the 2005 Ward Road release, for instance, points to serious faults in its ability to respond to a suspected leak in a timely and effective manner. The company received five odour complaints, but did not identify the source of the odours until one week after the first complaint.⁷² The source of the leak was ultimately identified by the City of Abbotsford’s Police and Fire Rescue Service (FRS). As was found by the Transportation Safety Board,

... the majority of the initial response, including locating the source of the leak, determining the extent of migration of the crude oil, and initiating

⁶⁹ A4W6L8, Trans Mountain Revised Final Argument, PDF p. 90.

⁷⁰ A4H8W6, Trans Mountain response to BC IR No. 2.14 b), PDF p. 66.

⁷¹ A3W9H8, Trans Mountain response to NEB IR No. 1.70 a), PDF p. 397-403.

⁷² A3Z8C3, Trans Mountain follow-up response to BC IR No. 1.16(b), Attachment 1 – Pipeline Investigation Report P05H0044.

containment (constructing three weirs) was completed by the FRS The initial response of FRS personnel was very effective, but because they had not been adequately informed by Terasen of the potential hazards of the products released from the pipeline, they lacked proper detection equipment to protect against potential occupational safety and health issues.⁷³

60. As the Transportation Safety Board concluded, “Terasen’s response and identification of the leak was delayed by a number of factors that were within the company’s capacity to manage and remediate”.⁷⁴ In sum, the Ward Road release demonstrates a failure to adequately react to odour complaints, to identify the source of a release, and to inform emergency personnel of potential occupational health and safety risks.
61. Of particular concern is Trans Mountain’s characterization of its response to that particular incident. The evidence filed in response to the Board’s information request omits the fact that the first odour complaint had been received on July 8, 2005, one week prior to the stated date of release of July 15, 2005, and that Terasen failed to identify the source of the odours and to commence emergency response operations for an entire week, despite repeated odour complaints.⁷⁵ The response also omits to mention the significant role played by Abbotsford FRS in responding to the emergency.⁷⁶
62. When asked by the Province to explain the discrepancy between the information contained within the Transportation Safety Board’s Investigation Report and the evidence supplied in response to the Board’s request, Trans Mountain acknowledges “the odour complaint information presented in [the Investigation Report] which, in hind-sight, suggests the release most likely commenced on or before July 8, 2005”. However, Trans Mountain explains, the Ward Road release was described to the Board as having occurred one week later as “that is

⁷³ *Ibid.*, PDF p. 15-16.

⁷⁴ *Ibid.*

⁷⁵ *Supra* note 71, PDF p. 399. When asked by the Board to identify, for each reported hydrocarbon release, the time it took for Trans Mountain personnel to get to the site and complete an initial assessment and the time it took Trans Mountain to mobilize equipment to the site, set up an incident command post, and commence emergency phase activities, Trans Mountain indicates a time of initial assessment of 7:30 am, an equipment arrival time of 10:40 am on July 15, 2005 and a time of incident command post activation of 11:10 am. The stated date of the release is July 15, 2005.

⁷⁶ *Ibid.*

when the release was verified by one of the pipeline operators”.⁷⁷ Trans Mountain goes on to describe the emergency response to the Ward Road release as “appropriate”.⁷⁸

63. In the Province’s submission, emergency response begins at the first indication of a loss of containment, or when an imminent spill risk is identified. That is why Trans Mountain’s response to the Ward Road release exemplifies a problematic approach to emergency response – one rooted in the belief that response need not begin until a release has been verified or confirmed. Given not only the delay in taking appropriate action at the time of the Ward Road event, but also Trans Mountain’s subsequent characterization of its response as prompt and adequate, the evidence concerning the Ward Road release reveals an overall approach to emergency response that falls short of first-rate spill response standards.
64. The Province’s concerns with respect to Trans Mountain’s spill response techniques are further heightened by the evidence filed by the City of Abbotsford. In his affidavit, Donald Beer, Fire Chief for the City of Abbotsford, states that despite the joint emergency preparedness exercises held by the company and the city, which had been committed to and conducted following the Ward Road release, “virtually none of the protocols for communications and emergency response that had been developed between the City and Kinder Morgan were actually carried out by Kinder Morgan employees” during the response to the release at Sumas Mountain Tank Farm in 2012.⁷⁹
65. Trans Mountain’s reluctance to provide the requested details of its response to previous incidents further diminishes the Province’s confidence in its ability to respond to a spill. When asked by the Province to detail the equipment deployed in response to the seven releases

⁷⁷ A4H8W6, Trans Mountain response to BC IR No. 2.41 d), PDF p. 192.

⁷⁸ A4H8W6, Trans Mountain response to BC IR No. 2.41 j), PDF p. 194.

⁷⁹ A4L6D3, Written Evidence of the City of Abbotsford, Affidavit of Donald Beer, para. 18. See also para. 23-24, in which Mr. Beer states: “Kinder Morgan’s operations and emergency response staff did not share immediate and accurate information with the City’s emergency responders despite the fact that in the table top exercises the City had participated in, a requirement for such notification had been established as a protocol for emergency response. Instead, City staff were forced to rely on media information to know what was happening at the Tank Farm. The only reliable basic information about the incident was received several hours into the incident through the City making contact with the BC Ministry of Environment. My observation was that the Kinder Morgan staff who were provided the training and table top exercises were not the same staff relied on with respect to the on ground emergency responses to the Tank 121 release. A related observation is that the City of Abbotsford was not notified of the incident by Kinder Morgan despite the protocols established through the table top exercises”.

referred to above and the source of such equipment, Trans Mountain states: “The specific source and type of equipment that was first on scene is not within the scope of this proceeding and not relevant to the National Energy Board’s List of Issues”.⁸⁰

66. There is no question that Trans Mountain’s response to previous incidents is relevant to the Board’s List of Issues.⁸¹ The Board itself has shown a keen interest in the company’s response to previous incidents.⁸² Information pertaining to the type and source of equipment deployed in response to a spill falls squarely within the scope of the List of Issues. Trans Mountain’s unwillingness to provide the information requested by the Province results in an inability to evaluate Trans Mountain’s ability to effectively respond to a land-based spill. In sum, the limited evidence Trans Mountain has filed regarding its past performance does not provide for confidence in the effectiveness of Trans Mountain’s response to an emergency or in its ability to effectively mitigate the effects of a spill.

Spill preparedness and response

67. The Province acknowledges and welcomes the commitments Trans Mountain has made with respect to terrestrial spill preparedness and response.⁸³ However, in the absence of detailed evidence on the record that shows precisely how Trans Mountain would respond to a spill from its pipeline, Trans Mountain’s commitment to an enhanced emergency management program is not sufficient to alleviate the Province’s concerns with respect to the Project.

⁸⁰ A4H8W6, Trans Mountain response to BC IR No 2.41 a), PDF p. 190.

⁸¹ See Issues No. 11 (“Contingency planning for spills, accidents or malfunctions, during construction and operation of the project”) and No. 12 (“Safety and security during construction of the proposed project and operation of the project, including emergency response planning and third party damage prevention”).

⁸² A3V8V6, NEB IR No. 1.70.

⁸³ For instance, Trans Mountain has committed to creating Geographic Response Plans for each TMPL administrative district (A4S7F1, Trans Mountain Reply Evidence, section 63 – Emergency Management Program, PDF p. 234-235), to reviewing the geographic locations and inventories of its Oil Spills Containment And Response (OSCAR) units (*ibid.*, PDF p. 238), and to creating and implementing a consultation plan so as to ensure affected parties are given the opportunity to provide input in the development of the new Emergency Management Program (*ibid.*, PDF p. 232-233).

Insufficiency of the evidence on the record

68. Naturally, access to emergency management information is required in order to understand how prepared a company is to respond to an emergency. In fact, the Board itself has taken an interest in increasing public access to the emergency management information held by pipeline companies, and has launched a review and “public consultation process on the transparency of emergency management information”.⁸⁴
69. In the specific context of this proceeding, it is equally clear that the strength of Trans Mountain’s spill preparedness and response cannot be adequately evaluated without a comprehensive review of Trans Mountain’s Emergency Management Program (EMP).
70. Trans Mountain has explained that the EMP for the expanded pipeline system will be founded upon the EMP currently in place for Line 1, which will be both modified and enhanced:

In the application for the Trans Mountain Expansion Project (TMEP), KMC has committed to review and revise the EMP to address the needs of the expanded pipeline system should it be approved. The existing EMP will form the foundation of the revised program. [emphasis added]⁸⁵

71. Therefore, the Province asked that Trans Mountain file detailed information regarding the EMP in place for the existing pipeline, which is directly relevant to the issues to be considered by the Board in this proceeding.⁸⁶ However, citing security concerns, Trans Mountain has sought to preserve the confidentiality of its EMP documents.
72. The Board has sided with the Province and other intervenors who have sought disclosure of the EMP documents, as evidenced by the following passage in Ruling No. 31:

Trans Mountain has not shown that its interest in confidentiality of the entire EMP documents outweighs the public interest in disclosure.

The public interest includes the requirement for an open and transparent process, and confidentiality is an exception to this requirement. The evidence

⁸⁴ <http://www.neb-one.gc.ca/bts/nws/nr/2015/nr20-eng.html>.

⁸⁵ A4D3F4, Follow-up to Intervenor Information Request No. 1 Motions – Redacted Emergency Management Program Documents, Attachment 3, Review and Revision of the Emergency Management Program for Trans Mountain Expansion Project, PDF p. 1.

⁸⁶ *Supra* note 4. See also A4F7Q9, BC Notice of Motion No. 2, PDF p. 4-8.

upon which the Board relies to come to a decision must be as open and accessible as possible.⁸⁷

73. Following Ruling No. 31, Trans Mountain filed extensively redacted copies of its existing EMP documents, again citing vague, undefined security concerns in an attempt to justify the redactions. Most notably, Trans Mountain declined to file the Field Guide and Control Points Manual – two documents which, as is set out in further detail below, are of critical importance in the evaluation of Trans Mountain’s spill response plans.
74. In doing so, Trans Mountain overlooked the fact that those very documents are publically available in largely unredacted form in the United States, for the southern extension of the pipeline whose expansion forms the subject of this proceeding.⁸⁸ Undoubtedly, if the information contained within those documents posed a significant threat to the security of Trans Mountain’s operations, then the Board’s American counterpart, the Pipeline and Hazardous Materials Safety Administration, would not have posted them on its public website. In short, Trans Mountain’s repeated reliance on security concerns to justify withholding important information is unfounded.
75. The effect of the extensive redactions Trans Mountain made to the EMP documents it placed on the record is that the Province, and the Board, are unable to determine whether Trans Mountain is prepared and able to respond to a Project-related spill.⁸⁹
76. Pre-identified control points and site-specific tactical plans, for instance, are critical components of an effective spill response plan – a fact which Trans Mountain acknowledges.⁹⁰ Trans Mountain states that it “has identified and documented control points in its Control Point Manual, part of its EMP”⁹¹. The existing Control Points Manual is said to contain information such as detailed control point location information, access directions, descriptions

⁸⁷ A4C3Y5, Ruling No. 31 – Trans Mountain Pipeline ULC – Request to file Emergency Management Program documents confidentially, PDF p. 4.

⁸⁸ http://www.phmsa.dot.gov/staticfiles/PHMSA/ERR/Kinder_Morgan_Trans_Mountain-Puget_Sound.pdf.

⁸⁹ A4F7Q9, BC Notice of Motion No. 2, PDF p. 18-19.

⁹⁰ In A4H8I7, Trans Mountain’s response to City of Richmond IR No. 2.15, PDF p. 18, Trans Mountain states: “Using pre-planned points where response and recovery operations can be conducted will usually result in greater safety for responders and a higher potential for success”.

⁹¹ *Supra* note 83, PDF p. 234.

of the available workspace, water body information, and logistical and strategic information⁹², all of which form precisely the type of information the Province requires in order to evaluate the strength of Trans Mountain's spill response preparedness.

77. However, as Nuka Research and Planning Group notes,

The Trans Mountain Expansion Project application indicates that Control Point planning has been or will be done for the entire pipeline route, but no specific information was provided about the location of these Control Points or the tactical plans for oil containment at each site.⁹³

78. Trans Mountain has committed to confirming the existing control points, developing additional control points where required, and consolidating all of this information, including that contained within the Field Guide, into Geographic Response Plans (GRPs).⁹⁴ As a whole, the proposed GRPs, if developed as described by Trans Mountain⁹⁵, should contain information that would be very valuable in guiding spill response operations. However, since the GRPs are not on the record for the parties to review and evaluate, and the existing plans are also absent from the record, the Province cannot be assured that such plans will be adequate.

79. Other critical evidence, which the Province notes is absent from the record, includes, but is not limited to, details pertaining to the nature and level of training of company staff⁹⁶, the location of staff⁹⁷, the pre-designated Incident Command Posts and staging areas⁹⁸, the availability of third party contractors⁹⁹, including the time required to mobilize personnel and equipment, and potential evacuation zones¹⁰⁰.

⁹² A4H8W6, Trans Mountain response to BC IR No. 2.32, PDF p. 159.

⁹³ A4Q1T3, Written Evidence of Upper Nicola Band, NUKA Research and Planning, *Inland Oil Spill Response Logistics Analysis*, PDF p. 13.

⁹⁴ *Supra* note 83, PDF p. 234-235; *supra* note 88, PDF p. 2.

⁹⁵ *Supra* note 83, PDF p. 234-237.

⁹⁶ See the reference in A4H8W6, Trans Mountain response to BC IR No. 2.25 a), PDF p. 133, to "current, valid training", without further elaboration regarding the precise nature of such training (e.g. level of ICS training). Of further concern is the fact, stated in A4H7Z9, Trans Mountain response to City of Abbotsford IR No. 2.3.10, PDF p. 41, that only 19 of 92 employees located within British Columbia appear to have received HAZWOPER training, without which one is unable to participate in in the field response operations.

⁹⁷ The only information provided is that approximately 92 employees are located in British Columbia (Trans Mountain's response to the City of Abbotsford, *ibid.*, PDF p. 40.

⁹⁸ A4H8W6, Trans Mountain response to BC IR No. 2.26, PDF p. 135-136.

80. What the evidence on the record does show, however, is a general lack of preparedness. Many of the detailed plans that form part of an effective emergency response plan not only remain unprepared, but will, Trans Mountain tells us, be left to be formulated at the time of an incident:

Additional documentation referred to in the Emergency Response Plans such as communication plans, security plans, initial health and safety plans, health and safety plans, refuelling plans, lodging and food plans, medical plans, etc. are documents that are produced at the time of an incident as part of the overall Incident Action Plan.¹⁰¹

81. The Province takes issue with this approach. World-leading spill response preparedness demands that such details be addressed in advance of an incident occurring so as not to impair decision-making during an incident and encumber response operations. Trans Mountain's suggestion that Incident Command ought, for instance, to locate suitable lodging or identify and hire security contractors in the midst of the response to an incident amounts to shifting planning responsibilities from the company (pre-incident) to Incident Command (during an incident), which would undermine the efficiency and effectiveness of emergency response and oil recovery. Similar concerns, though arising from the marine spill response context, are articulated in more detail by EnviroEmerg Consulting, whose report states as follows:

A basic weakness in Trans Mountain's Project application ... is its emphasis on the role of the Incident Command System ... What has been overlooked is that incident Commanders and Incident Management Team members require

⁹⁹ See, for example, A4H8W6, Trans Mountain responses to BC IR No. 2.23 c), PDF p. 125, 2.24 c), PDF p. 129, and No. 2.28 c), PDF p. 139, which, despite the statement that "KMC is confident that private personnel and equipment ... will be available as and when needed", do not provide any information from which to draw any conclusions with respect to contractors' ability to respond to an incident immediately – for instance, it remains unknown whether contractors are on retainer to ensure that their services can be mobilized as soon as possible in the event of an incident.

¹⁰⁰ Those have not yet been identified. See A4H8W6, Trans Mountain response to BC IR No. 2.30 a), PDF p. 143, despite the acknowledgement that they would "provide a means to expedite decisions by the unified command or incident commander in the early stages of an incident".

¹⁰¹ A4H8W6, Trans Mountain response to BC IR No. 2.27 a), PDF p. 137, and 2.28 a), PDF p. 139. In addition to the plans identified in the quoted passage, Trans Mountain has no detailed oiled wildlife plan (see response to BC IR No. 2.37 a), PDF p. 176), no volunteer management plan (see response to BC IR No. 2.37 f), PDF p. 177-178), and no detailed waste management plan identifying oily waste disposal and treatment locations and means to transport waste to those locations (see A4H8W6, Trans Mountain response to BC IR No. 2.36 c), PDF p. 172). The absence of such a plan could result in a complete halt in oil recovery operations.

guidelines and manuals to do their job effectively. Complex assignments require situation-specific plans to be written during the pandemonium of a major incident. This necessitates pre-developed operational guidelines and manuals ... One cannot readily prepare plans on-the-fly without a template, defined process, previously identified tactical considerations, and more.¹⁰²

82. In sum, the limited evidence Trans Mountain has placed on the record is insufficient to substantiate its assertion that it will bring “world-leading” spill preparedness and response to bear on the Project. The Province concurs with Nuka Research and Planning when it concludes that “the information presented in the TMEP application paints a very generalized and vague picture of how spill response would be implemented for inland oil spills”.¹⁰³
83. Moreover, Trans Mountain’s new Emergency Response Program for the expanded pipeline system remains to be formulated, and, as such, is not available for the Board’s and the parties’ review in this proceeding. As a result, the evidence on the record does not demonstrate that Trans Mountain currently has, or will develop, the ability to mount an effective response to any spill from its pipeline.

Inferences the Board should draw from the insufficiency of the evidence on the record

84. There is no question that the Board’s broad mandate under the *National Energy Board Act* allows it to consider the presence or absence of detailed information in deciding whether or not to recommend approval of the project. As the Board stated in *Emera Brunswick Pipeline Co. (Re)*, what should be considered in formulating an opinion with respect to whether a given project is in the public interest will vary according to the circumstances, and may vary as a result of the application, the location, the commodity involved, the various segments of the public affected by the decision, societal values at the time, the purpose of the applicable section of the *National Energy Board Act*, and other things.¹⁰⁵

¹⁰² A4Q1L5, Written Evidence of Cowichan Tribes, EnviroEmerg Consulting, *A Technical Analysis of Project Application Related to Marine Transportation Submitted to the National Energy Board for the Trans Mountain Pipeline Expansion Project* (“EnviroEmerg report”), PDF p. 15.

¹⁰³ *Supra* note 93, PDF p. 4.

¹⁰⁵ *Supra* note 7 at para. 48.

85. In Ruling No. 50, the Board determined that Trans Mountain had filed sufficient information from the existing EMP documents to “meet the Board’s requirements at this stage of the process”. However, the Board went on to emphasize the following:

... [P]roject applicants are required to substantiate any claims made in their applications through facts or other documentary evidence filed. The Board may give less or no weight to claims or assertions made that lack a sufficient evidentiary basis. Through final argument, parties can ask the Board to draw relevant inferences regarding any such unsubstantiated claims made by Trans Mountain or other intervenors.¹⁰⁶ [emphasis added]

86. Therefore, although the Board reached the preliminary conclusion that Trans Mountain should not be compelled to file additional evidence regarding its EMP, it remained open to Trans Mountain to do so, at any stage of the hearing process. Indeed, the Province would have expected Trans Mountain to provide the kind of detailed information that could have demonstrated the practicability of the proposed spill response measures. Having operated the existing pipeline for many years, it of course has plans in place to respond to spills. Some parts of these plans have been produced in this proceeding. As noted above, Trans Mountain asserts that these plans will form the basis for the improved plans that would address spills from the expanded system. Having plans already in hand, it would have been possible for Trans Mountain to produce the enhanced plans for consideration in this proceeding, or at least to provide detailed information with respect to exactly what those plans would contain.

87. In the Province’s submission, this distinguishes the Project from the Enbridge Northern Gateway project. In that case, the Joint Review Panel did not require the proponent to produce fully realized response plans at the certification stage.¹⁰⁷ However, Northern Gateway has not yet been built, and had no existing spill response plans. Trans Mountain, by contrast, has operated the existing pipeline for decades, and the bulk of the Project would be built in the same right of way. In that light, it is entirely reasonable to expect Trans Mountain to

¹⁰⁶ A4G5I9, Ruling No. 50 – Province of British Columbia notice of motion dated 5 December 2014, PDF p. 4-5.

¹⁰⁷ Report of the Joint Review Panel for the Enbridge Northern Gateway Project – Considerations, Section 7.4, Northern Gateway’s emergency preparedness and response planning (<http://www.gatewaypanel.review-examen.gc.ca/clf-nsi/dcmnt/rcmndtnsrprt/rcmndtnsrprtvlm2chp7-eng.html>).

clearly demonstrate now the concrete steps it would take to respond to a spill from the pipeline.

88. In fact, if Trans Mountain wishes the Board to accept the assertions it has made concerning its ability to respond to a spill and to bring “world-leading” spill response to bear on the Project, then it ought to have provided the evidentiary basis required to support such assertions. Since, as is outlined in paragraphs 68-83 above, it has not done so, the Province asks that the Board give no weight to such assertions. To borrow the Board’s words in Ruling No. 50, the only “relevant inference” that may be drawn from the “unsubstantiated claims” made by Trans Mountain is that Trans Mountain has not provided the evidence required to demonstrate that it “will be prepared to respond in an expeditious and effective manner”¹⁰⁸ to a spill from its pipeline.

Summary respecting the pipeline

89. As set out above, the evidence on the record does not demonstrate an ability to respond adequately to spills from the pipeline. In order for the spill response measures it has proposed to be relevant to the exercise of the Board’s discretion, Trans Mountain must demonstrate that they would in fact be practicable and effective. Instead, Trans Mountain’s contention that a world-leading spill response capability would be in place remains unsupported by the evidence on the record.

Marine transportation

90. The Province also has outstanding concerns with respect to the marine aspects of the project. While Trans Mountain states that it has “endeavored to address” the Province’s five requirements that must be met in order for it to consider supporting a heavy oil pipeline, including having “world-leading” marine oil spill response capabilities in

¹⁰⁸ *Supra* note 69, PDF p. 177.

place¹⁰⁹, the Province submits that the evidence on the record does not show this to be the case.

The evaluation of spill likelihood

91. Very large spills from oil tankers are relatively rare occurrences. However, understanding just how rare such an event would be, in the context of the Project, is an important consideration for the Board in deciding on its recommendation in this matter.
92. In this regard, Trans Mountain has produced a risk assessment (the “RA”) prepared by Det Norske Veritas (DNV)¹¹⁰ describing, amongst other things, the likelihood of spills from tankers related to the Project. The RA concludes that the likelihood of what it has characterized as the “credible worst case” and “mean case” spills from in-transit tankers is low, particularly if additional proposed risk-reduction measures are adopted.¹¹¹
93. The Province acknowledges that that DNV is recognized for its expertise in marine risk assessment.¹¹² However, the Province is concerned that the RA lacks sufficient foundation to be confidently relied upon by the Board. When the Province asked Trans Mountain to provide the information supporting the frequencies and return periods set out in the RA, the Province was effectively referred back to the RA itself.¹¹³ Trans Mountain has also stated that the methodology resulting in the Marine Accident Risk Calculation System (MARCS) model estimates of incident frequencies is commercially valuable intellectual property that cannot be disclosed, beyond what is already stated in the DNV RA.¹¹⁴ Trans Mountain further states that any data not described in the RA or set out in IRs cannot be shared as they are DNV’s intellectual property.¹¹⁵

¹⁰⁹ *Ibid.*, PDF p. 90.

¹¹⁰ A3S5F4-A3S5F8, Application Volume 8C – TERMPOL Reports, TERMPOL 3.15 – General Risk Analysis and Intended Methods of Reducing Risks.

¹¹¹ *Ibid.*, A3S5F6, PDF p. 47 and 66. See also A4G3U5, Trans Mountain Responses to Information Requests regarding the TERMPOL Report and Outstanding Filings from National Energy Board, PDF p. 21.

¹¹² *Supra* note 83, PDF p. 132.

¹¹³ A3Y2Z1, Trans Mountain response to BC IR No. 1.48.

¹¹⁴ A3Y3T9, Trans Mountain response to Tsawout First Nation IR No. 1.30(f).

¹¹⁵ A3Y3T9, Trans Mountain response to Tsawout First Nation IR No. 1.30(j); see also A4H8L1, Trans Mountain responses to Cowichan Tribes IRs 2.1.04 (v), (x) and (dd).

94. This lack of foundation or transparency is evident in the updated information provided in the Responses to Information Requests regarding the TERMPOL Report and Outstanding Filings from National Energy Board (the “DNV Update”).¹¹⁶ In the DNV update, updated analysis with respect to spill frequencies is provided with, it is submitted, little or no explanation of the underlying data supporting this analysis.
95. The Province’s concerns are reflected in criticisms of the DNV RA made by Dr. Kirtley on behalf of the Cowichan Tribes.¹¹⁷ While she has found no major flaws in the methodology of the RA, she notes that certain elements cannot be verified based on the available documentation.¹¹⁸ Dr. Kirtley states that data sources in the RA are often vague or proprietary, are poorly documented and in many cases used without derivation, justification or validation.¹¹⁹ With respect to MARCS, she opines that a full understanding of the logic, underlying incident probabilities and sensitivity to input variables within the MARCS model cannot be gained from the RA.¹²⁰
96. The Province submits that while it is generally accepted that large oil spills from in-transit tankers are rare, the conclusions in the DNV RA cannot be regarded as conclusive in light of the limited foundation for the conclusions expressed in it. As is the case with any expert report, in order to be probative and useful to the decision-maker, the facts and assumptions underpinning the conclusions expressed must be fully set out. As a result, the Province submits that the Board should accord limited weight to DNV’s conclusions in the RA.

Marine spill response

97. It is obvious that a spill in the marine environment could have significant effects. In light of that fact, Trans Mountain has proposed an enhanced response regime for the marine portion of the Project. This regime includes a two hour response time for spills up to

¹¹⁶ *Supra* note 111.

¹¹⁷ A4L9Z8, Written Evidence of the Cowichan Tribes, Appendix G – The Glosten Associates, Expert Opinion on Marine Transport Risk Analysis.

¹¹⁸ *Ibid.*, PDF p. 2.

¹¹⁹ *Ibid.*, PDF p. 5 and 15.

¹²⁰ *Ibid.*, p. 6.

2,500 tonnes in size within the Port of Vancouver; six hours to commence response to a spill up to 2,500 tonnes size outside the Port of Vancouver to Buoy Juliet; and additional equipment necessary to deal with a 20,000 tonne oil spill within 36 hours of initial notification for the entire Increased Response Area.¹²¹ Trans Mountain has also committed to supporting the enhancement of the existing resources of the Western Canada Marine Response Corporation (WCMRC) with an investment of \$100M.¹²²

98. The Province is supportive of these commitments, and in themselves they are laudable. However, the Province submits that Trans Mountain has not provided sufficient evidence in this proceeding to show how a major spill in the marine environment would be addressed. That is, no marine spill response plans, or other detailed information, have been put on the record to show the means by which a marine spill would be responded to. In the absence of this information, the Province is not satisfied that a “world-leading” marine spill response capability will in fact be in place.
99. In this regard, the EnviroEmerg report¹²³, in respect of which Trans Mountain has expressed its appreciation¹²⁴, highlights the many improvements required for an effective spill response capability for the areas in which ships carrying product related to the Project would travel. For example:
- There is no evidence that WCMRC has undertaken any exercises respecting sourcing and managing the large shoreline workforce that would be required to respond to a major spill¹²⁵;
 - There is currently no meaningful offshore response capability, with containment/skimming vessels that are specialized for this challenging environment, in British Columbia. WCMRC’s purpose-built oil spill response

¹²¹ A4H9D0, Trans Mountain response to Squamish First Nation IR No. 2.48 (c), PDF p. 124; A3S4Y6, Application Volume 8A – Marine Transportation, Table 5.5.3, PDF p. 34; *supra* note 90, section 62 – Marine Emergency Preparedness and Response, PDF p. 203.

¹²² *Supra* note 83, section 62 – Marine Emergency Preparedness and Response, PDF p. 200.

¹²³ *Supra* note 102.

¹²⁴ *Supra* note 83, PDF p. 159.

¹²⁵ *Supra* note 102, PDF p. 12.

vessels are mainly suitable for semi-protected areas, but are not necessarily suitable for sustained offshore operations¹²⁶; and

- Additional evidence is required to demonstrate that the logistics for equipment and personnel transport, as well as the process of setting up oil recovery equipment (e.g., containment, skimming, pumping and storage) for on-water response to recover mobile oil, will be sufficient to ensure such operations result in actual oil removal.¹²⁷

100. Certain assertions made by Trans Mountain in its reply evidence do not allay the Province's concerns with respect to the capability to respond to a spill in the marine environment. For example, in the reply evidence Trans Mountain contends that there have been many technological advances with respect to the ability to recover spilled oil during nighttime. The authors then assert that these advances led to the recovery of "more than 80% of released oil during the Marathassa spill in early April 2015."¹²⁸ It is not clear to the Province how this figure is derived, and Trans Mountain offers no detailed information regarding the effectiveness of the technological advances referred to in the reply evidence. Therefore, the basis for the asserted success of nighttime recovery techniques remains unknown.

101. The Canadian Coast Guard's review report concerning the Marathassa incident, attached to the reply evidence¹²⁹, refers to 667L of oil¹³⁰ remaining on the water¹³¹ from an estimated 2800L on the water on April 9. Taken out of context, this would indicate

¹²⁶ *Ibid.*, PDF p. 65-6. The Province notes that at PDF p. 52 of its report (A3S5I9, Application Volume 8C –TERMPOL Reports, Future Oil Spill Report Approach Plan – Recommendations on Bases and Equipment), WCMRC recommends the acquisition of two 27.5m mobile skimmers with the ability to transit in Beaufort Scale 6 conditions and "accommodations that allow for extended time at sea in open water conditions". However, Trans Mountain has, to date, not explicitly committed to supporting the acquisition of these additional vessels.

¹²⁷ *Ibid.*, PDF p. 103.

¹²⁸ A4S7K7, Reply Evidence, Attachment 1.10 – Reply to the City of Vancouver, Tsleil-Waututh Nation, City of Burnaby, Metro Vancouver, "Technical Analysis of Oil Spill Response Capabilities and Limitations for the Trans Mountain Expansion Project", PDF p. 24.

¹²⁹ A4S7J6, Reply Evidence, Appendix 62B – Canadian Coast Guard, Independent Review of the M/V Marathassa Fuel Oil Spill Environmental Response Operation, PDF p. 47 fd.

¹³⁰ The Province notes that this spill did not involve the release of diluted bitumen, whose properties may differ from those of the oil spilled.

¹³¹ *Supra* note 129, PDF p. 12.

the recovery of about 76% of the oil. In fact, the “subjective estimate” of the “total actual fuel oil recovered” is 1400L from the estimated 2800L of fuel on the water.¹³² Whether or not this equates to the recovery of half of the spilled oil is unclear, because the 2800L figure may not represent the amount spilled – that too could have been reduced by environmental forces, and the 2800L figure does not include amounts recovered the previous night.¹³³ The Coast Guard’s report acknowledges that the “nature and amount of fuel oil released from the vessel will be the subject of further investigation by” Transport Canada.¹³⁴ In short, it is unclear from the report what portion of spilled oil was recovered. Trans Mountain’s unsupported assertion that 80% of the released oil was recovered does not provide the Province with confidence that this proportion of oil could in fact be recovered in the event of a spill.

Summary respecting marine transportation

102. In sum, the Province submits that the evidence on the record is not sufficient to show that world class spill response capability would be in place in advance of the Project commencing operations, though ultimately this may be achieved. However, if the Board were to recommend the issuance of a CPCN for the Project, the Province recommends the improvement of several draft conditions, as set out in Appendix A, so as to ensure that the requirements placed on Trans Mountain with respect to marine spill response are clear, measurable and enforceable.

First Nations involvement

103. An important issue for the Province in this proceeding is the extent to which First Nations have had the opportunity to fully participate. It is important that the interests of First Nations be fully considered by the Board. Many First Nations have been involved in these proceedings. Indeed, the Province has relied on evidence submitted by them in

¹³² *Ibid.*, p. 58.

¹³³ *Ibid.*, p. 57.

¹³⁴ *Ibid.*, p. 58.

the preparation of this argument. This argument does not include any submissions on whether the Board process has satisfied the honour of the Crown or other obligations to First Nations.


Draft certificate conditions

104. If the Board decides to recommend that the Project be approved, then it is of the utmost importance that such approval be accompanied by clear, measureable and enforceable conditions.
105. The Province strongly supports the conditions the Board has proposed regarding leak detection systems (draft condition No. 125), Trans Mountain's Emergency Management Program (draft conditions No. 88, 117, 122, 123, and 124), and emergency response training and exercises (draft conditions No. 116, 119, 120, and 136). That said, the Province suggests improvements to the wording of these conditions, so as to ensure they are clear and enforceable. In some instances, the Province also recommends the addition of certain requirements to increase the effectiveness of the conditions.
106. With respect to the marine aspects of the project, Trans Mountain has proposed a number of measures to reduce the potential for marine incidents, including the use of escort tugs. Trans Mountain has also committed to enhanced marine spill response capacity. The Province is supportive of these commitments. The Province has also reviewed the conditions proposed in respect of these commitments, and is supportive of them as well. While these have largely been included in draft condition No. 114, the Province submits that the way in which this condition has been drafted lacks the necessary clarity, measurability and enforceability that would make it effective – and, therefore, suggestions are made for its improvement. The Province also recommends the addition of certain requirements to increase the strength of the condition.
107. The Province's recommendations for improvements to the proposed conditions, with respect to both the pipeline and marine aspects of the Project, are attached as Appendix A.


108. In addition, the Province recommends the addition of a number of other conditions with respect to the operation of the pipeline. The Province regards these as important means to help ensure, as much as possible, that spills are prevented, or if they occur, spill response is effective and timely. These additional conditions are set out in Appendix B.

ALL OF WHICH IS RESPECTFULLY SUBMITTED,

DATED: January 11, 2016



Elisabeth Graff



Christopher Jones

Counsel for the Province of British Columbia

Condition No.	Condition Topic	National Energy Board Draft Certificate Condition	Province of British Columbia’s Proposed Changes	Province of British Columbia’s Rationale
1	Condition compliance	Trans Mountain must comply with all of the [certificate/order] conditions, unless the NEB otherwise directs.	Trans Mountain must comply with all of the [certificate/order] conditions, unless the NEB otherwise directs.	The phrase “unless the NEB otherwise directs” seems to give the Board excessive power to alter the conditions that have been the subject of this proceeding. Further, conditions may be amended at any time, as long as principles of fairness are adhered to. Therefore, the phrase should be removed as redundant.
8	Commitments tracking table	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: i) within 90 days after the [certificate/order] date; and ii) at least 30 days prior to commencing construction; b) update the status of the commitments and file those updates with the NEB on a monthly basis until commencing operations, and quarterly during operations until all conditions are satisfied (except those that involve filings for the Project’s operational life); c) post on its company website the same information required by a) and b), using the same indicated timeframes; and d) 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	Without limiting Conditions No. 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: i) within 90 days after the [certificate/order] date; and ii) at least 30 days prior to commencing construction; b) update the status of the commitments and file those updates with the NEB on a monthly basis until commencing operations, and quarterly during operations until all conditions are satisfied (except those that involve filings for the Project’s operational life); c) post on its company website the same information required by a) and b), using the same indicated timeframes; and d) 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	Ensures that commitments that may not have been captured in the commitments tracking table are adhered to.

		<p>those from the Project application and subsequent filings, and conditions from received permits, authorizations, and approvals;</p> <p>ii) copies of any permits, authorizations, and approvals for the Project issued by federal, provincial, or other permitting authorities that include environmental conditions or site-specific mitigation or monitoring measures; and</p> <p>iii) any subsequent variances to any permits, authorizations, and approvals in d)ii).</p>	<p>those from the Project application and subsequent filings, and conditions from received permits, authorizations, and approvals;</p> <p>ii) copies of any permits, authorizations, and approvals for the Project issued by federal, provincial, or other permitting authorities that include environmental conditions or site-specific mitigation or monitoring measures; and</p> <p>iii) any subsequent variances to any permits, authorizations, and approvals in d)ii).</p>	
19	Air Emissions Management Plan for the Westridge Marine Terminal	<p>Trans Mountain must file with the NEB for approval, at least 6 months prior to commencing construction, an Air Emissions Management Plan for the Westridge Marine Terminal that includes:</p> <p>a) a description of the baseline, pre-construction conditions informed by relevant modelling results and recent existing monitoring data;</p> <p>b) locations of air monitoring sites (on a map or diagram), including the rationale for the locations selected;</p> <p>c) the timing for installing air monitoring stations;</p> <p>d) 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], carbon monoxide, nitrogen oxide, sulphur dioxide, hydrogen sulphide, and volatile organic compounds);</p> <p>e) procedures for monitoring station data recording, assessment, and reporting details;</p> <p>f) a particulate matter management plan;</p>	<p>Trans Mountain must file with the NEB for approval, at least 6 months prior to commencing construction, an Air Emissions Management Plan for the Westridge Marine Terminal. In developing the plan, Trans Mountain must consult with appropriate government authorities and any potentially affected landowners and Aboriginal groups. The plan must include the following that includes:</p> <p>a) a description of the baseline, pre-construction conditions informed by relevant modelling results and recent existing monitoring data;</p> <p>b) locations of air monitoring sites (on a map or diagram), including the rationale for the locations selected;</p> <p>c) the timing for installing air monitoring stations;</p> <p>d) 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], carbon monoxide, nitrogen oxide, sulphur dioxide, hydrogen sulphide, and volatile organic compounds);</p>	<p>While subsection j) requires Trans Mountain to include a consultation summary in the plan, the condition as currently drafted does not actually require Trans Mountain to consult with government authorities or affected parties. The suggested wording makes that requirement clear.</p>

		<ul style="list-style-type: none"> 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 could be implemented as a result of the monitoring data or ongoing concerns; and j) a summary of consultation with appropriate government authorities and any potentially affected landowners and Aboriginal groups, including any issues or concerns raised with respect to the Air Emissions Management Plan and how Trans Mountain has addressed or responded to them. 	<ul style="list-style-type: none"> e) procedures for monitoring station data recording, assessment, and reporting details; 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 could be implemented as a result of the monitoring data or ongoing concerns; j) a description of how the real time and non-continuous air quality monitoring data will be made available to the public; and k) a summary of consultation with appropriate government authorities and any potentially affected landowners and Aboriginal groups, including any issues or concerns raised with respect to the Air Emissions Management Plan and how Trans Mountain has addressed or responded to them. 	<p>Communication with the public concerning contaminants of potential concern in the air is critical to minimize public health impacts.</p>
21	Caribou Habitat Restoration Plan (CHRP)	<p>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.</p> <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> i) The CHRP’s goals and measureable objectives for each caribou range. ii) A list of criteria used to identify potential caribou habitat restoration sites. 	<p>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. In developing the CHRP, Trans Mountain must consult with appropriate government authorities and any potentially affected Aboriginal groups and stakeholders.</p> <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> i) The CHRP’s goals and measureable objectives 	<p>While subsection a) viii) requires Trans Mountain to include a consultation summary in the CHRP, the condition as currently drafted does not actually require Trans Mountain to consult with government authorities or affected parties. The suggested wording makes that requirement clear.</p> <p>Given the Province’s responsibility for</p>

		<ul style="list-style-type: none"> iii) Conceptual decision-making tree(s) or decision framework(s) that will be used to identify and prioritize restoration sites, and mitigative actions to be used at different types of sites, including consideration of typical site factors that may constrain implementation. iv) A literature review upon which the decision-making tree(s) or decision framework(s) are based, including: <ul style="list-style-type: none"> 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. v) 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 objectives have been met, and the need for further measures to offset unavoidable and residual effects on habitat. vi) A schedule indicating when mitigation measures will be initiated and their estimated completion dates. vii) 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. viii) A summary of Trans Mountain’s consultation with appropriate government authorities and any potentially affected Aboriginal groups 	<ul style="list-style-type: none"> for each caribou range. ii) A list of criteria used to identify potential caribou habitat restoration sites. iii) Conceptual decision-making tree(s) or decision framework(s) that will be used to identify and prioritize restoration sites, and mitigative actions to be used at different types of sites, including consideration of typical site factors that may constrain implementation. iv) A literature review upon which the decision-making tree(s) or decision framework(s) are based, including: <ul style="list-style-type: none"> 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. v) 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 objectives have been met, and the need for further measures to offset unavoidable and residual effects on habitat. vi) A schedule indicating when mitigation measures will be initiated and their estimated completion dates. vii) 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. 	<p>stewardship and protection of Provincial Crown land and natural resources, it is critical that Trans Mountain consult with the Province in developing the plan.</p>
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		<p>regarding the preliminary CHRP. This summary must include any issues or concerns raised regarding the preliminary CHRP and how Trans Mountain has addressed or responded to them.</p> <p>b) Final CHRP – to be filed on or before 1 November after the first complete growing season after commencing operations. This version of the CHRP must include the following:</p> <ul style="list-style-type: none"> i) The preliminary CHRP, with any updates identified in a revision log that includes the rationale for any changes. ii) A detailed decision-making tree(s) or process that will be used to identify and prioritize restoration actions among selected habitat restoration sites. iii) A complete tabular list of caribou habitat restoration sites, including locations, spatial areas, habitat quality descriptions, site-specific restoration activities, and challenges. iv) Maps or updated Environmental Alignment Sheets showing the site locations. v) Specification drawings for the implementation of each restoration method. vi) A quantitative and qualitative 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. vii) A summary of Trans Mountain’s consultation with appropriate government authorities and any potentially affected Aboriginal groups regarding the final CHRP. This summary must 	<ul style="list-style-type: none"> viii) A summary of Trans Mountain’s consultation with appropriate government authorities and any potentially affected Aboriginal groups regarding the preliminary CHRP. This summary must include any issues or concerns raised regarding the preliminary CHRP and how Trans Mountain has addressed or responded to them. <p>b) Final CHRP – to be filed on or before 1 November after the first complete growing season after commencing operations. This version of the CHRP must include the following:</p> <ul style="list-style-type: none"> i) The preliminary CHRP, with any updates identified in a revision log that includes the rationale for any changes. ii) A detailed decision-making tree(s) or process that will be used to identify and prioritize restoration actions among selected habitat restoration sites. iii) A complete tabular list of caribou habitat restoration sites, including locations, spatial areas, habitat quality descriptions, site-specific restoration activities, and challenges. iv) Maps or updated Environmental Alignment Sheets showing the site locations. v) Specification drawings for the implementation of each restoration method. vi) A quantitative and qualitative 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. vii) A summary of Trans Mountain’s consultation with appropriate government authorities and 	
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		include any issues or concerns raised regarding the final CHRP and how Trans Mountain has addressed or responded to them.	any potentially affected Aboriginal groups regarding the final CHRP. This summary must include any issues or concerns raised regarding the final CHRP and how Trans Mountain has addressed or responded to them.	
22	Sowaqua Spotted Owl Mitigation Plan	<p>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:</p> <ul style="list-style-type: none"> 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 	<p>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. In developing the plan, Trans Mountain must consult with appropriate government authorities, any potentially affected Aboriginal groups and other stakeholders. The plan must include the following that includes:</p> <ul style="list-style-type: none"> 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; 	<p>While subsection i) requires Trans Mountain to include a consultation summary in the Sowaqua Spotted Owl Mitigation Plan, the condition as currently drafted does not actually require Trans Mountain to consult with government authorities or affected parties. The suggested wording makes that requirement clear.</p> <p>Given the Province’s responsibility for stewardship and protection of Provincial Crown land and natural resources, it is critical that Trans Mountain consult with the Province in developing the plan.</p>

		<p>describes the circumstances under which each measure will be applied, any adjustments to the offset measures, and a proposed reporting schedule;</p> <p>g) a commitment to include results of the monitoring in the post-construction environmental monitoring reports filed under Condition No. 140;</p> <p>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 mitigation plan;</p> <p>i) a summary of Trans Mountain’s consultation concerning a) to f) with appropriate government authorities, species experts, and any potentially affected Aboriginal groups, including any issues or concerns raised and how Trans Mountain has addressed or responded to them; and</p> <p>j) confirmation that Trans Mountain will update the relevant Environmental Protection Plans to include any relevant information from the mitigation plan.</p>	<p>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;</p> <p>g) a commitment to include results of the monitoring in the post-construction environmental monitoring reports filed under Condition No. 140;</p> <p>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 mitigation plan;</p> <p>i) a summary of Trans Mountain’s consultation concerning a) to f) with appropriate government authorities, species experts, and any potentially affected Aboriginal groups, including any issues or concerns raised and how Trans Mountain has addressed or responded to them; and</p> <p>j) confirmation that Trans Mountain will update the relevant Environmental Protection Plans to include any relevant information from the mitigation plan.</p>	
23	Air Emissions Management Plan for the Edmonton, Sumas, and Burnaby Terminals	<p>Trans Mountain must file with the NEB for approval, at least 6 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:</p> <p>a) a description of the baseline, pre-construction conditions informed by relevant modelling results and recent existing monitoring data;</p> <p>b) descriptions of the locations of air monitoring sites</p>	<p>Trans Mountain must file with the NEB for approval, at least 6 months prior to commencing construction at each of the Edmonton, Sumas, and Burnaby terminals, an Air Emissions Management Plan for each of those terminals. In developing the plan, Trans Mountain must consult with appropriate government authorities and any potentially affected Aboriginal groups and stakeholders. The plan must include the following that includes:</p>	<p>While subsection i) requires Trans Mountain to include a consultation summary in the plan, the condition as currently drafted does not actually require Trans Mountain to consult with</p>

		<p>(on a map or diagram), including the rationale for the locations selected;</p> <ul style="list-style-type: none"> 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; 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 consultation with appropriate government authorities, any potentially affected landowners and Aboriginal groups, including any issues or concerns raised with respect to the Air Emissions Management Plan and how Trans Mountain has addressed or responded to them. 	<ul style="list-style-type: none"> 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; 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; i) a description of how the real time and non-continuous air quality monitoring data will be made available to the public; and j) a summary of consultation with appropriate government authorities, any potentially affected landowners and Aboriginal groups, including any issues or concerns raised with respect to the Air Emissions Management Plan and how Trans Mountain has addressed or responded to them. 	<p>government authorities or affected parties. The suggested wording makes that requirement clear.</p> <p>Communication with the public concerning contaminants of potential concern in the air is critical to minimize public health impacts.</p>
44	Wildlife Species at Risk	Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction,	Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction,	

	<p>Mitigation and Habitat Restoration Plans</p>	<p>Wildlife Species at Risk Mitigation Plans for each species whose draft, candidate, proposed, or final critical habitat is directly or indirectly affected by the Project. Each plan must include</p> <ul style="list-style-type: none"> a) a summary of supplementary pre-construction survey results, including surveys for biophysical attributes of critical habitat; b) the area and type of critical habitat, including biophysical attributes, potentially directly and indirectly affected by the Project footprint; c) mitigation and habitat restoration 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; d) details on post-construction monitoring of mitigation measures and 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; e) a commitment to include the results of the monitoring in the post-construction environmental monitoring reports filed under Condition No. 140; 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 plans; g) a summary of Trans Mountain’s consultation 	<p>Wildlife Species at Risk Mitigation Plans for each species whose draft, candidate, proposed, or final critical habitat is directly or indirectly affected by the Project. Each plan must include In developing each plan, Trans Mountain must consult with appropriate government authorities, any potentially affected Aboriginal groups and other stakeholders. Each plan must include the following that includes:</p> <ul style="list-style-type: none"> a) a summary of supplementary pre-construction survey results, including surveys for biophysical attributes of critical habitat; b) the area and type of critical habitat, including biophysical attributes, potentially directly and indirectly affected by the Project footprint; c) mitigation and habitat restoration 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; d) details on post-construction monitoring of mitigation measures and 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; e) a commitment to include the results of the monitoring in the post-construction environmental monitoring reports filed under Condition No. 140; f) a description of how Trans Mountain has taken 	<p>While subsection g) requires Trans Mountain to include a consultation summary in the Mitigation and Habitat Restoration Plans, the condition does not actually require Trans Mountain to consult with government authorities or affected parties. The suggested wording makes that requirement clear.</p> <p>Given the Province’s responsibility for stewardship and protection of Provincial Crown land and natural resources, it is critical that Trans Mountain consult with the Province in developing the plan.</p>
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		<p>concerning a) to f) with appropriate government authorities, species experts, and any potentially affected Aboriginal groups, including any issues or concerns raised and how Trans Mountain has addressed or responded to them; and</p> <p>h) confirmation that Trans Mountain will update the relevant Environmental Protection Plans to include any relevant information from the Wildlife Species at Risk Mitigation and Habitat Restoration Plans.</p>	<p>available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration in developing the plans;</p> <p>g) a summary of Trans Mountain’s consultation concerning a) to f) with appropriate government authorities, species experts, and any potentially affected Aboriginal groups, including any issues or concerns raised and how Trans Mountain has addressed or responded to them; and</p> <p>h) confirmation that Trans Mountain will update the relevant Environmental Protection Plans to include any relevant information from the Wildlife Species at Risk Mitigation and Habitat Restoration Plans.</p>	
45	Grizzly Bear Mitigation Plan	<p>Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction, a Grizzly Bear Mitigation Plan that includes:</p> <p>a) a summary of results from any supplemental surveys conducted;</p> <p>b) potential direct and indirect effects of Project activities on vulnerable grizzly bear population units;</p> <p>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 goals for evaluating mitigation success;</p> <p>d) details on post-construction monitoring of mitigation measures, including survey methods, corrective measures, detailed criteria using clear and unambiguous language that describes the</p>	<p>Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction, a Grizzly Bear Mitigation Plan. In developing the plan, Trans Mountain must consult with appropriate government authorities, any potentially affected Aboriginal groups and other stakeholders. The plan must include the following that includes:</p> <p>a) a summary of results from any supplemental surveys conducted;</p> <p>b) potential direct and indirect effects of Project activities on vulnerable grizzly bear population units;</p> <p>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 goals for evaluating mitigation success;</p>	<p>While subsection g) requires Trans Mountain to include a consultation summary in the Mitigation and Habitat Restoration Plans, the condition does not actually require Trans Mountain to consult with government authorities or affected parties. The suggested wording makes that requirement clear.</p> <p>Given the Province’s responsibility for stewardship and protection of Provincial Crown land and natural resources, it is critical that Trans Mountain consult with the Province in developing the plan.</p>

		<p>circumstances under which each measure will be applied, and a proposed reporting schedule;</p> <p>e) a commitment to include results of the monitoring in the post-construction environmental monitoring reports filed under Condition No. 140;</p> <p>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;</p> <p>g) a summary of Trans Mountain’s consultation concerning a) to d) with appropriate government authorities, species experts, and any potentially affected Aboriginal groups, including any issues or concerns raised and how Trans Mountain has addressed or responded to them; and</p> <p>h) confirmation that Trans Mountain will update the relevant Environmental Protection Plans 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.</p>	<p>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;</p> <p>e) a commitment to include results of the monitoring in the post-construction environmental monitoring reports filed under Condition No. 140;</p> <p>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;</p> <p>g) a summary of Trans Mountain’s consultation concerning a) to d) with appropriate government authorities, species experts, and any potentially affected Aboriginal groups, including any issues or concerns raised and how Trans Mountain has addressed or responded to them; and</p> <p>h) confirmation that Trans Mountain will update the relevant Environmental Protection Plans 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.</p>	
50	Rare Ecological Community and Rare Plant Population Management	Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction , an updated Rare Ecological Community and Rare Plant Population Management Plan that includes ecological communities of concern; rare plants and lichens; and	Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction , an updated Rare Ecological Community and Rare Plant Population Management Plan that includes ecological communities of concern; rare plants and lichens; and	

	<p>Plan</p>	<p>draft, candidate, proposed, or final critical habitat for plant and lichen species under the <i>Species at Risk Act</i> that are potentially affected by the Project during construction or operations. The plan must include the following:</p> <ul style="list-style-type: none"> a) A summary of supplementary survey results. b) 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. c) A description of how the avoidance, mitigation, and offset hierarchy was considered in developing the plan. d) Details on post-construction monitoring, including survey methods, corrective measures, and detailed criteria using clear and unambiguous language that describes the circumstances under which each measure will be applied. e) A Preliminary Rare Ecological Community and Rare Plant Population Offset Plan for ecological communities and rare plant and lichen species that have an at-risk status of S1 or S1S2 or that are listed under federal or provincial legislation for protection and that, after five years of operations, have not achieved reclamation success. This preliminary plan must include the following: <ul style="list-style-type: none"> i) A discussion of whether the community, species, or critical habitat can be avoided by a sufficient distance to avoid both direct and indirect residual effects. 	<p>draft, candidate, proposed, or final critical habitat for plant and lichen species under the <i>Species at Risk Act</i> that are potentially affected by the Project during construction or operations. In developing the plan, Trans Mountain must consult with appropriate government authorities, any potentially affected Aboriginal groups and other stakeholders. The plan must include the following:</p> <ul style="list-style-type: none"> a) A summary of supplementary survey results. b) 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. c) A description of how the avoidance, mitigation, and offset hierarchy was considered in developing the plan. d) Details on post-construction monitoring, including survey methods, corrective measures, and detailed criteria using clear and unambiguous language that describes the circumstances under which each measure will be applied. e) A Preliminary Rare Ecological Community and Rare Plant Population Offset Plan for ecological communities and rare plant and lichen species that have an at-risk status of S1 or S1S2 or that are listed under federal or provincial legislation for protection and that, after five years of operations, have not achieved reclamation success. This preliminary plan must include the following: <ul style="list-style-type: none"> i) A discussion of whether the community, 	<p>While subsection g) requires Trans Mountain to include a consultation summary in the Mitigation and Habitat Restoration Plans, the condition does not actually require Trans Mountain to consult with government authorities or affected parties. The suggested wording makes that requirement clear.</p> <p>Given the Province’s responsibility for stewardship and protection of Provincial Crown land and natural resources, it is critical that Trans Mountain consult with the Province in developing the plan.</p>
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		<ul style="list-style-type: none"> ii) If avoidance by a sufficient distance is not feasible: <ul style="list-style-type: none"> 1) the expected residual effects on that community, species, or critical habitat, taking into account the success on past projects of the proposed mitigation and corrective measures in b) and d) above; 2) an explanation of how the need for offset measures will be determined and quantified, including offset ratios; 3) the potential offset measures, the process for selecting which will be implemented, and an evaluation of the probability of their success; and 4) a discussion of how the effectiveness of offsets measures will be monitored, assessed, and reported on. 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; g) A summary of Trans Mountain’s consultation concerning a) to f) with appropriate government authorities, species experts, and any potentially affected Aboriginal groups, including any issues or concerns raised and how Trans Mountain has addressed or responded to them. h) Confirmation that the relevant Environmental Protection Plans will be updated to include any relevant information from the Rare Ecological Community and Rare Plant Population Management Plan, including confirmation that the mitigation, monitoring, corrective, and offset measures in the Rare Ecological Community and 	<p>species, or critical habitat can be avoided by a sufficient distance to avoid both direct and indirect residual effects.</p> <ul style="list-style-type: none"> ii) If avoidance by a sufficient distance is not feasible: <ul style="list-style-type: none"> 1) the expected residual effects on that community, species, or critical habitat, taking into account the success on past projects of the proposed mitigation and corrective measures in b) and d) above; 2) an explanation of how the need for offset measures will be determined and quantified, including offset ratios; 3) the potential offset measures, the process for selecting which will be implemented, and an evaluation of the probability of their success; and 4) a discussion of how the effectiveness of offsets measures will be monitored, assessed, and reported on. 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; g) A summary of Trans Mountain’s consultation concerning a) to f) with appropriate government authorities, species experts, and any potentially affected Aboriginal groups, including any issues or concerns raised and how Trans Mountain has addressed or responded to them. h) Confirmation that the relevant Environmental Protection Plans will be updated to include any relevant information from the Rare Ecological Community and Rare Plant Population Management 	
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		Rare Plant Population Management Plan will be implemented in the case of discovery via their inclusion in the Rare Ecological Communities or Rare Plant Species Discovery Contingency Plan.	Plan, including confirmation that the mitigation, monitoring, corrective, and offset measures in the Rare Ecological Community and Rare Plant Population Management Plan will be implemented in the case of discovery via their inclusion in the Rare Ecological Communities or Rare Plant Species Discovery Contingency Plan.	
51	Old Growth Management Areas Mitigation and Replacement Plan	<p>Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction, an Old Growth Management Areas Mitigation and Replacement Plan that includes:</p> <ul style="list-style-type: none"> a) a description (including quantification) of all old growth management areas intersected by the final Project footprint; b) mitigation to be implemented to avoid and reduce the effects on old growth management areas; c) replacement or other offset measures that will be implemented to compensate for unavoidable residual effects; d) a summary of Trans Mountain’s consultation concerning a) to c) with appropriate government authorities, and any potentially affected Aboriginal groups, including any issues or concerns raised and how Trans Mountain has addressed or responded to them; and e) confirmation that the relevant Environmental Protection Plans will be updated to include any relevant information from the Old Growth Management Areas Mitigation and Replacement Plan. 	<p>Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction, an Old Growth Management Areas Mitigation and Replacement Plan. In developing the plan, Trans Mountain must consult with appropriate government authorities, any potentially affected Aboriginal groups and other stakeholders. The plan must include the following that includes:</p> <ul style="list-style-type: none"> a) a description (including quantification) of all old growth management areas intersected by the final Project footprint; b) mitigation to be implemented to avoid and reduce the effects on old growth management areas; c) replacement or other offset measures that will be implemented to compensate for unavoidable residual effects; d) a summary of Trans Mountain’s consultation concerning a) to c) with appropriate government authorities, and any potentially affected Aboriginal groups, and other stakeholders, including any issues or concerns raised and how Trans Mountain has addressed or responded to them; and e) confirmation that the relevant Environmental Protection Plans will be updated to include any relevant information from the Old Growth Management Areas Mitigation and Replacement 	<p>While subsection d) requires Trans Mountain to include a consultation summary in the Old Growth Management Areas Mitigation and Replacement Plan, the condition does not actually require Trans Mountain to consult with government authorities or affected parties. The suggested wording makes that requirement clear.</p> <p>Given the Province’s responsibility for stewardship and protection of Provincial Crown land and natural resources, it is critical that Trans Mountain consult with the Province in developing the plan.</p> <p>The addition of the phrase “and other stakeholders” is required to capture other potentially affected parties (e.g. forest licensees).</p>

			Plan.	
52	Wetland Survey and Mitigation Plan	<p>Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction, a pre-construction Wetland Survey and Mitigation Plan that includes:</p> <ul style="list-style-type: none"> a) A summary of supplementary survey results for wetlands potentially affected by the Project. 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. 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) and a description of the methods used to determine functional conditions. d) A description of the crossing methods, mitigation measures, and reclamation measures to be implemented for potentially affected wetlands, including clear and unambiguous criteria, and rationales for such criteria, explaining under what circumstances such methods and measures will be applied. e) Measurable goals for evaluating wetland mitigation and reclamation success. f) A description of how the avoidance, mitigation, and offset hierarchy, and the goal of no net loss of each individual wetland function, were considered in developing the plan. g) Details of the monitoring plan for wetlands for the 	<p>Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction, a pre-construction Wetland Survey and Mitigation Plan. In developing the plan, Trans Mountain must consult with appropriate government authorities, any potentially affected Aboriginal groups and other stakeholders. The plan must include the following that includes:</p> <ul style="list-style-type: none"> a) A summary of supplementary survey results for wetlands potentially affected by the Project. 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. 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) and a description of the methods used to determine functional conditions. d) A description of the crossing methods, mitigation measures, and reclamation measures to be implemented for potentially affected wetlands, including clear and unambiguous criteria, and rationales for such criteria, explaining under what circumstances such methods and measures will be applied. e) Measurable goals for evaluating wetland mitigation and reclamation success. f) A description of how the avoidance, mitigation, and offset hierarchy, and the goal of no net loss of each 	<p>While subsection j) requires Trans Mountain to include a consultation summary in the Wetland Survey and Mitigation Plan, the condition does not actually require Trans Mountain to consult with government authorities or affected parties. The suggested wording makes that requirement clear.</p> <p>Given the Province’s responsibility for stewardship and protection of Provincial Crown land and natural resources, it is critical that Trans Mountain consult with the Province in developing the plan.</p>

		<p>first five years of operations, including corrective actions that might be necessary and the circumstances under which each such action would be taken.</p> <p>h) A Preliminary Wetland Offset Plan for those wetlands that will have a temporary loss in any individual functional condition and for those wetlands that, after five years of operations, have not achieved reclamation success. This plan must include:</p> <ul style="list-style-type: none"> i) an explanation of how the need for offset measures will be determined and quantified, including offset ratios; ii) the potential offset measures, the process for selecting which will be implemented, and an evaluation of the probability of their success; iii) a discussion of how the effectiveness of offsets measures will be monitored, assessed, and reported on; and iv) the offset measures that will be implemented during the first five years of operations to compensate for expected temporary losses to individual functional conditions, including a timeline for their implementation and monitoring. <p>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.</p> <p>j) A summary of Trans Mountain’s consultation concerning a) to i) with appropriate government authorities, and any potentially affected Aboriginal groups, including any issues or concerns raised and how Trans Mountain has addressed or responded</p>	<p>individual wetland function, were considered in developing the plan.</p> <p>g) Details of the 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.</p> <p>h) A Preliminary Wetland Offset Plan for those wetlands that will have a temporary loss in any individual functional condition and for those wetlands that, after five years of operations, have not achieved reclamation success. This plan must include:</p> <ul style="list-style-type: none"> i) an explanation of how the need for offset measures will be determined and quantified, including offset ratios; ii) the potential offset measures, the process for selecting which will be implemented, and an evaluation of the probability of their success; iii) a discussion of how the effectiveness of offsets measures will be monitored, assessed, and reported on; and iv) the offset measures that will be implemented during the first five years of operations to compensate for expected temporary losses to individual functional conditions, including a timeline for their implementation and monitoring. <p>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.</p> <p>j) A summary of Trans Mountain’s consultation concerning a) to i) with appropriate government</p>	
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53	Weed and Vegetation Management Plan	<p>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:</p> <ul style="list-style-type: none"> a) a summary of supplementary survey results, including pre-construction weed surveys, and a justification 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) management procedures and a decision-making framework for selecting the appropriate treatment measures, including how stakeholder concerns and potential adverse effects of treatment measures will be considered; e) short- and long-term vegetation monitoring; f) a summary of Trans Mountain’s consultation concerning a) to e) with appropriate government authorities, landowners, invasive plant councils or committees, and any potentially affected Aboriginal groups, including any issues or concerns raised and how Trans Mountain has addressed or responded to them; and g) confirmation that the relevant Environmental Protection Plans will be updated to include any relevant information from the Weed and Vegetation Management Plan. 	<p>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. In developing the plan, Trans Mountain must consult with appropriate government authorities, any potentially affected Aboriginal groups and other stakeholders. The plan must include the following that includes:</p> <ul style="list-style-type: none"> a) a summary of supplementary survey results, including pre-construction weed surveys, and a justification 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) management procedures and a decision-making framework for selecting the appropriate treatment measures, including how stakeholder concerns and potential adverse effects of treatment measures will be considered; e) short- and long-term vegetation monitoring; f) a summary of Trans Mountain’s consultation concerning a) to e) with appropriate government authorities, landowners, invasive plant councils or committees, and any potentially affected Aboriginal groups, including any issues or concerns raised and how Trans Mountain has addressed or responded to them; and 	<p>While subsection f) requires Trans Mountain to include a consultation summary in the Weed and Vegetation Management Plan, the condition does not actually require Trans Mountain to consult with government authorities or affected parties. The suggested wording makes that requirement clear.</p> <p>Given the Province’s responsibility for stewardship and protection of Provincial Crown land and natural resources, it is critical that Trans Mountain consult with the Province in developing the plan.</p>

			g) confirmation that the relevant Environmental Protection Plans will be updated to include any relevant information from the Weed and Vegetation Management Plan.	
55	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 Facilities Environmental Protection Plan and Pipeline Environmental Protection Plan (required by Condition Nos. 62 and 63, respectively). 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: <ul style="list-style-type: none"> 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; 	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 Facilities Environmental Protection Plan and Pipeline Environmental Protection Plan (required by Condition Nos. 62 and 63, respectively). In developing each plan, Trans Mountain must consult with appropriate government authorities, any potentially affected Aboriginal groups and other stakeholders. 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: <ul style="list-style-type: none"> 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 	<p>While subsection i) requires Trans Mountain to include a consultation summary in the Access Management Plan, the condition does not actually require Trans Mountain to consult with government authorities or affected parties. The suggested wording makes that requirement clear.</p> <p>Given the Province’s responsibility for stewardship and protection of Provincial Crown land and natural resources, it is critical that Trans Mountain consult with the Province in developing the plan.</p>

		<ul style="list-style-type: none"> 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 No. 140), 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; and i) a summary of Trans Mountain’s consultation with appropriate government authorities and any potentially affected Aboriginal groups and stakeholders, including any issues or concerns raised and how Trans Mountain has addressed or responded to them. 	<p>access control measures implemented during construction and operations, and justification of the adequacy of such monitoring;</p> <ul style="list-style-type: none"> 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 No. 140), 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; and i) a summary of Trans Mountain’s consultation with appropriate government authorities and any potentially affected Aboriginal groups and stakeholders, including any issues or concerns raised and how Trans Mountain has addressed or responded to them. 	
62	Facilities Environmental Protection Plan	<p>Trans Mountain must file with the NEB for approval, at least 90 days prior to commencing construction, an updated Project-specific Facilities Environmental Protection Plan for the construction of the facilities, including supporting infrastructure.</p> <p>The updated Environmental Protection Plan must be a comprehensive compilation of all environmental</p>	<p>Trans Mountain must file with the NEB for approval, at least 90 days prior to commencing construction, an updated Project-specific Facilities Environmental Protection Plan for the construction and operation of the facilities, including supporting infrastructure.</p> <p>The updated Environmental Protection Plan must be a comprehensive compilation of all environmental</p>	<p>The Facilities Environmental Protection Plan should address environmental protection during facilities operations as well as construction.</p>

		<p>protection procedures, mitigation measures, and monitoring commitments, as set out in Trans Mountain’s Project application, its subsequent filings, the evidence it provided during the OH-001-2014 proceeding, or as otherwise committed to during questioning or in its related submissions. 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.</p> <p>The updated Environmental Protection Plan must include the following:</p> <ul style="list-style-type: none"> 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 studies into consideration. g) A summary of Trans Mountain’s consultation with appropriate government authorities and any potentially affected Aboriginal groups and 	<p>protection procedures, mitigation measures, and monitoring commitments, as set out in Trans Mountain’s Project application, its subsequent filings, the evidence it provided during the OH-001-2014 proceeding, or as otherwise committed to during questioning or in its related submissions. 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.</p> <p>In developing the updated plan, Trans Mountain must consult with appropriate government authorities and any potentially affected Aboriginal groups and stakeholders.</p> <p>The updated Environmental Protection Plan must include the following:</p> <ul style="list-style-type: none"> 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 studies into consideration. 	<p>While subsection g) requires Trans Mountain to include a consultation summary in the updated Environmental Protection Plan, the condition does not actually require Trans Mountain to consult with government authorities or affected parties. The suggested wording makes that requirement clear.</p> <p>Given the Province’s responsibility for stewardship and protection of Provincial Crown land and natural resources, it is critical that Trans Mountain consult with the Province in developing the updated plan.</p>
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		stakeholders, including any issues or concerns raised and how Trans Mountain has addressed or responded to them.	g) A summary of Trans Mountain’s consultation with appropriate government authorities and any potentially affected Aboriginal groups and stakeholders, including any issues or concerns raised and how Trans Mountain has addressed or responded to them.	
63	Pipeline Environmental Protection Plan	<p>Trans Mountain must file with the NEB for approval, at least 90 days 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, the evidence it provided during the OH-001-2014 proceeding, or as otherwise committed to during questioning and in its related submissions. 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:</p> <ul style="list-style-type: none"> 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 	<p>Trans Mountain must file with the NEB for approval, at least 90 days prior to commencing construction, an updated Project-specific Pipeline Environmental Protection Plan for the construction and operation 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, the evidence it provided during the OH-001-2014 proceeding, or as otherwise committed to during questioning and in its related submissions. 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.</p> <p>In developing the updated plan, Trans Mountain must consult with appropriate government authorities and any potentially affected Aboriginal groups and stakeholders.</p> <p>The updated Environmental Protection Plan must include the following:</p> <ul style="list-style-type: none"> a) Environmental procedures (including site-specific plans), criteria for implementing these procedures, mitigation measures, and monitoring applicable to all Project phases and activities. 	<p>The Pipeline Environmental Protection Plan should address environmental protection during pipeline operations as well as construction.</p> <p>While subsection g) requires Trans Mountain to include a consultation summary in the updated Environmental Protection Plan, the condition does not actually require Trans Mountain to consult with government authorities or affected parties. The suggested wording makes that requirement clear.</p> <p>Given the Province’s responsibility for</p>

		<p>updated Environmental Protection Plan.</p> <p>c) Any additional measures arising from supplemental pre-construction studies and surveys.</p> <p>d) Updated contingency plans and management plans, including a plan that includes procedures for protecting identified vulnerable aquifers along the pipeline route and specific measures to mitigate any construction or operation impacts to these aquifers.</p> <p>e) Updated alignment sheets.</p> <p>f) A description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge studies into consideration.</p> <p>g) A summary of Trans Mountain’s consultation with appropriate government authorities and any potentially affected Aboriginal groups and stakeholders, including any issues or concerns raised and how Trans Mountain has addressed or responded to them.</p>	<p>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.</p> <p>c) Any additional measures arising from supplemental pre-construction studies and surveys.</p> <p>d) Updated contingency plans and management plans, including a plan that includes procedures for protecting identified vulnerable aquifers along the pipeline route and specific measures to mitigate any construction or operation impacts to these aquifers. This plan must include procedures for monitoring groundwater data at monitoring well locations identified in collaboration with the municipalities, communities and Aboriginal groups consulted pursuant to Condition No. 81, and must, in collaboration with the consulted parties, establish protocols for monitoring groundwater quality and quantity before and during construction, and during operations;</p> <p>e) Updated alignment sheets.</p> <p>f) A description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge studies into consideration.</p> <p>g) A summary of Trans Mountain’s consultation with appropriate government authorities and any potentially affected Aboriginal groups and stakeholders, including any issues or concerns raised and how Trans Mountain has addressed or responded to them.</p>	<p>stewardship and protection of Provincial Crown land and natural resources, it is critical that Trans Mountain consult with the Province in developing the updated plan.</p> <p>Adds specificity, consistently with the suggestions made by the City of Chilliwack in its Letter of Comment (A4S4J9, PDF p. 9).</p>
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64	<p>Westridge Marine Terminal Environmental Protection Plan</p>	<p>Trans Mountain must file with the NEB for approval, at least 90 days prior to commencing construction, an updated Project-specific Westridge Marine Terminal Environmental Protection Plan.</p> <p>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, the evidence it provided during the OH-001-2014 proceeding, or as otherwise committed to during questioning and in its related submissions. 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.</p> <p>The updated Environmental Protection Plan must include the following elements:</p> <ul style="list-style-type: none"> 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 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 	<p>Trans Mountain must file with the NEB for approval, at least 90 days prior to commencing construction, an updated Project-specific Westridge Marine Terminal Environmental Protection Plan.</p> <p>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, the evidence it provided during the OH-001-2014 proceeding, or as otherwise committed to during questioning and in its related submissions. 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.</p> <p>In developing the updated plan, Trans Mountain must consult with appropriate government authorities and any potentially affected Aboriginal groups and stakeholders.</p> <p>The updated Environmental Protection Plan must include the following elements:</p> <ul style="list-style-type: none"> 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 Environmental Protection Plan. c) Any additional measures arising from supplemental pre-construction studies and surveys. 	<p>While subsection g) requires Trans Mountain to include a consultation summary in the updated Environmental Protection Plan, the condition does not actually require Trans Mountain to consult with government authorities or affected parties. The suggested wording makes that requirement clear.</p> <p>Given the Province’s responsibility for stewardship and protection of Provincial Crown land and natural resources, it is critical that Trans Mountain consult with the Province in developing the updated plan.</p>
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		<p>available and applicable Aboriginal traditional land use and traditional ecological knowledge studies into consideration.</p> <p>g) A summary of Trans Mountain’s consultation with appropriate government authorities and any potentially affected Aboriginal groups and stakeholders, including any issues or concerns raised and how Trans Mountain has addressed or responded to them.</p>	<p>d) Updated contingency plans and management plans.</p> <p>e) Updated alignment sheets.</p> <p>f) A description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge studies into consideration.</p> <p>g) A summary of Trans Mountain’s consultation with appropriate government authorities and any potentially affected Aboriginal groups and stakeholders, including any issues or concerns raised and how Trans Mountain has addressed or responded to them.</p>	
69	Risk Management Plan for geohazards	<p>Trans Mountain must develop and file with the NEB, at least 90 days prior to commencing construction, an updated Risk Management Plan for addressing the threats of existing and potential geohazards during construction of the new Line 2 and delivery pipeline segments, and related facilities.</p> <p>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.</p>	<p>a) Trans Mountain must develop and file with the NEB for approval, and provide to the Province of British Columbia (for those locations within British Columbia), at least 90 days prior to commencing construction, an updated Risk Management Plan for addressing the threats of existing and potential geohazards during construction of the new Line 2 and delivery pipeline segments, and related facilities, or of geohazards initiated or exacerbated through Project construction or operation.</p>	<p>The addition of the phrase “for approval” ensures the adequacy of the risk management plan through Board review and approval.</p> <p>Given the Province’s interest in the safe construction and operation of the Project, this plan should be provided to the Province for its review. Segments of the plan that do not pertain to locations within British Columbia may be omitted.</p> <p>Trans Mountain has committed to ensuring that the potential for geohazards to be initiated or exacerbated during construction is minimized (A3Z2A6, Trans Mountain Response to BC Motion to Compel Full and Adequate Answers to BC IR No. 1, entry No. 1.2 b)). The suggested wording</p>

			<p>b) The Risk Management Plan must identify any locations where the likelihood of impacts to public safety, private property, infrastructure or the environment posed by a geohazard initiated or exacerbated through Project construction is greater than 10^{-5}.</p> <p>c) This plan must be updated as additional site-specific geotechnical information is obtained through detailed investigations, and modified as geohazards are encountered during construction, or initiated or exacerbated through Project construction or operation. Trans Mountain must make any updates or modifications available to the NEB and the Province of British Columbia (for those locations within British Columbia) upon request.</p>	<p>ensures that geohazards that may result from construction are identified and addressed.</p> <p>The suggested wording is consistent with Condition No. 68, which requires justification or mitigation for any location where the FLoC value is greater than 10^{-5}.</p>
73	Field changes manual for geohazard mitigation	<p>Trans Mountain must file with the NEB for approval, at least 90 days prior to commencing construction, a field changes manual for geohazard mitigation. This manual must include:</p> <p>a) decision criteria for implementing mitigation for any geohazards identified during construction;</p> <p>b) specific criteria for implementing changes to the designs, grading, special materials, protective structures, increased burial depth, installation procedures, erosion mitigation measures, and monitoring; and</p> <p>c) details regarding the required qualifications of the field staff that will implement the manual.</p>	<p>Trans Mountain must file with the NEB for approval, at least 90 days prior to commencing construction, a field changes manual for geohazard mitigation. This manual must include:</p> <p>a) decision criteria for implementing mitigation for any geohazards identified during construction;</p> <p>b) specific criteria for implementing changes to the designs, grading, special materials, protective structures, increased burial depth, installation procedures, erosion mitigation measures, and monitoring; and</p> <p>c) details regarding the required qualifications of the field staff that will implement the manual; and</p> <p>d) a requirement that all changes set out in a) and b)</p>	<p>The condition as currently worded does not call for specific field staff qualifications to be required by the field</p>

			be reviewed and approved by a Professional Engineer.	changes manual. Without a clearly stated requirement for professional oversight, it would potentially be possible for any field staff member – regardless of his or her qualifications – to set the decision criteria and make the types of changes set out in paragraphs a) and b). Alternatively, paragraph c) could be replaced entirely by the new proposed paragraph d).
77	Plan for implementing, monitoring, and complying with marine shipping-related commitments	Trans Mountain must file with the NEB, at least 60 days prior to commencing construction , a plan describing how it will implement, monitor, and ensure compliance with its marine shipping-related commitments identified in Condition No. 114. 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, and Fisheries and Oceans Canada. Trans Mountain must provide the plan to the above-mentioned parties at the same time as it is filed with the NEB.	Trans Mountain must file with the NEB for approval, at least 60 days prior to commencing construction , a plan describing how it will implement, monitor, and ensure compliance with its marine shipping-related commitments identified in Condition No. 114. 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, and Fisheries and Oceans Canada, and the Province of British Columbia . Trans Mountain must provide the plan to the above-mentioned parties at the same time as it is filed with the NEB.	The addition of the phrase “for approval” ensures the adequacy of the plan through Board review and approval. This information must be shared with the Province, given its responsibilities in the response to marine spills that threaten or impact shorelines (A3S4X3, Application Volume 8A, section 1.4.2.6, PDF p. 53), provincially-regulated species, marine areas under provincial jurisdiction and other provincial interests.
79	Riparian Habitat Management Plan	Trans Mountain must file with the NEB for approval, at least 60 days prior to commencing construction , a Riparian Habitat Management Plan for any riparian	Trans Mountain must file with the NEB for approval, at least 60 days prior to commencing construction , a Riparian Habitat Management Plan for any riparian	

		<p>areas that will be impacted by Project construction. This plan must include:</p> <ul style="list-style-type: none"> a) a pre-construction assessment of riparian habitat functionality (e.g., for fish, wildlife, and rare plants) and a quantification of the riparian habitat within the Project footprint; b) measureable goals to determine that riparian habitat has returned to pre-construction functionality; c) site-specific reclamation plans, including a discussion on the length of time it will take to return riparian habitat to pre-construction functionality; d) details of monitoring that will be undertaken; e) a Preliminary Riparian Habitat Enhancement and Offset Plan for any riparian habitat that has not returned to pre-construction functionality, which must include: <ul style="list-style-type: none"> i) how the need for enhancement and offset measures will be determined and quantified, including offset ratios; ii) potential enhancement and 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 enhancement and offset measures will be monitored, assessed, and reported on; 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; and g) a summary of Trans Mountain’s consultation concerning a) to e) with appropriate government 	<p>areas that will be impacted by Project construction. In developing the plan, Trans Mountain must consult with appropriate government authorities, any potentially affected Aboriginal groups and other stakeholders. This plan must include:</p> <ul style="list-style-type: none"> a) a pre-construction assessment of riparian habitat functionality (e.g., for fish, wildlife, and rare plants) and a quantification of the riparian habitat within the Project footprint; b) measureable goals to determine that riparian habitat has returned to pre-construction functionality; c) site-specific reclamation plans, including a discussion on the length of time it will take to return riparian habitat to pre-construction functionality; d) details of monitoring that will be undertaken; e) a Preliminary Riparian Habitat Enhancement and Offset Plan for any riparian habitat that has not returned to pre-construction functionality, which must include: <ul style="list-style-type: none"> i) how the need for enhancement and offset measures will be determined and quantified, including offset ratios; ii) ii) potential enhancement and 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 enhancement and offset measures will be monitored, assessed, and reported on; 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; and 	<p>While subsection g) requires Trans Mountain to include a consultation summary in the Riparian Habitat Management Plan, the condition does not actually require Trans Mountain to consult with government authorities or affected parties. The suggested wording would make that requirement clear.</p> <p>Given the Province’s responsibility for stewardship and protection of Provincial Crown land and natural resources, it is critical that Trans Mountain consult with the Province in developing the plan.</p>
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		authorities, species experts, and any potentially affected Aboriginal groups, including any issues or concerns raised and how Trans Mountain has addressed or responded to them.	g) a summary of Trans Mountain’s consultation concerning a) to e) with appropriate government authorities, species experts, and any potentially affected Aboriginal groups, including any issues or concerns raised and how Trans Mountain has addressed or responded to them.	
80	Water well inventory	<p>Trans Mountain must file with the NEB, at least 60 days 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 inventory must include a description of the methods used to identify and physically verify wells, including:</p> <ul style="list-style-type: none"> 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; e) a plan for updating the inventory over the life of the Project, including: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> i) the reason why properties or right-of-way sections were not physically accessed; ii) an estimate of the potential number of wells 	<p>a) Trans Mountain must file with the NEB, at least 60 days 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 inventory must include a description of the methods used to identify and physically verify wells, including in addition to the following information:</p> <ul style="list-style-type: none"> i) a) each well’s location in proximity to the right-of-way, including its GPS coordinates; ii) b) a description of each well’s type or use (e.g., drinking water, agricultural use, use by Aboriginal groups, any other uses); iii) c) each well’s tenure or ownership (e.g., private, municipal, Aboriginal community); iv) d) each well’s operational status, including abandoned or decommissioned wells; v) information about each well, including well depth, lithogy and water depth, if available; vi) e) a plan for updating the inventory over the life of the Project, including: <ul style="list-style-type: none"> - ii) the methods for identifying and verifying abandoned or decommissioned wells, and new or replacement wells; and - iii) the frequency of inventory updates; vii) f) a list of any properties or sections of the right-of-way that were not physically verified, 	<p>Suggested grammatical change to reflect the fact that not all items listed in the subsections can be described as “methods used to identify and physically verify wells”.</p> <p>Information regarding well depth, lithogy and water depth is required to gauge the vulnerability of the well.</p>

		<p>that have not been physically verified; and</p> <p>iii) a proposed schedule for accessing properties or right-of-way sections; and</p> <p>g) a description of Trans Mountain’s plans for communicating information about the locations of water wells to owners or affected users.</p> <p>Trans Mountain must continue to update this inventory for audit purposes for the operational life of the Project, according to the frequency specified in e). Trans Mountain must make the inventory available to the NEB upon request.</p>	<p>including;</p> <ul style="list-style-type: none"> - ii) the reason why properties or right-of-way sections were not physically accessed; - iii) an estimate of the potential number of wells that have not been physically verified; and - iv) a proposed schedule for accessing properties or right-of-way sections; and <p>viii) g) a description of Trans Mountain’s plans for communicating information about the locations of water wells to owners or affected users.</p> <p>b) Trans Mountain must continue to update this inventory for audit purposes for the operational life of the Project, according to the frequency specified in vi. e). Trans Mountain must make the inventory available to the NEB and to the Province of British Columbia upon request.</p> <p>c) During pipeline construction and operation, Trans Mountain must investigate and respond to all complaints by well owners potentially related to pipeline construction or operation.</p> <p>d) Trans Mountain must retain an independent professional hydrogeologist to investigate all complaints and to recommend any remedial actions that may be required.</p> <p>e) In consultation with the well owner, Trans Mountain must implement the recommended remedial actions.</p> <p>f) In the event that pipeline construction or operation results in diminished water quality or quantity, Trans Mountain must re-establish or replace the potable water supply.</p>	<p>Given the Province’s responsibility for the management of water resources, the Province must have access to this information.</p> <p>Paragraphs c) – f) build upon Commitment No. 177 (“Trans Mountain plans to identify all water wells with the Project Footprint prior to construction. Trans Mountain will investigate and respond to neighbouring water well owner complaints potentially related to the pipeline operations, regardless of available pre- or post-construction testing requirements. In the unlikely event that pipeline construction has resulted in diminished water quality or quantity and its [<i>sic</i>] directly related to the construction or operation of the</p>
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				pipeline, Trans Mountain will re-establish or replace a potable water supply”), by requiring the involvement of an independent third party in the investigation and resolution of water well owner complaints.
81	Consultation reports— Protection of local water sources	Trans Mountain must file with the NEB, at least 60 days prior to commencing construction, and on or before 31 January of each year during construction and of the first 5 years after commencing Project operations , a report on Trans Mountain’s consultations with municipalities, communities, and Aboriginal groups related to the protection of municipal and community water sources. Each report must include: a) The name of the municipality, 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. d) A description of the measures taken, or that will be taken, to address or respond to concerns raised, or an explanation why no further action is required to address or respond to issues or concerns. e) 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, 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	a) Trans Mountain must consult with municipalities, communities, and Aboriginal groups with respect to the protection of municipal and community water sources, whether those sources are currently relied upon for water supply or are contemplated as a future water supply source. b) Trans Mountain must file with the NEB, at least 60 days prior to commencing construction, and on or	The aim of the suggested changes is to broaden the scope of the condition beyond the filing of a consultation report to include (1) a requirement that consultation be conducted, and (2) a requirement that measures for the protection of water sources be implemented. While the draft condition requires the filing of a consultation report, it does not actually require that consultation be carried out. The suggested wording makes that requirement clear. Further, local communities must also be consulted with respect to sources which may be used as a water supply source in the future, as the presence of the pipeline should not prohibit a community from using water from a nearby aquifer in the future (see for instance, A4S4J9, Letter of Comment of the City of Chilliwack, where at PDF p. 5 the City of Chilliwack states its plans to draw water from the Chilliwack-Rosedale Aquifer).

		<p>modelling or monitoring locations and parameters;</p> <p>iii) results of any modelling or monitoring; and</p> <p>iv) any measures that have been taken to address modelling or monitoring results.</p>	<p>before 31 January of each year during construction and of the first 5 years after commencing Project operations, a report on Trans Mountain’s consultations with municipalities, communities, and Aboriginal groups related to the protection of municipal and community water sources. Each report must include:</p> <p>i) a) The name of the municipality, community, or Aboriginal group consulted.</p> <p>ii) b) The methods, dates, and locations of all meetings or consultations.</p> <p>iii) c) A summary of all issues or concerns raised.</p> <p>iv) d) A description of the measures taken, or that will be taken, to address or respond to concerns raised, or an explanation why no further action is required to address or respond to issues or concerns.</p> <p>v) e) 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, communities, or Aboriginal groups. This summary must include:</p> <ul style="list-style-type: none"> - 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; and - iv) any measures that have been taken to address modelling or monitoring results. 	
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			c) Trans Mountain must implement the steps or measures for the protection of water sources identified in consultation with municipalities, communities and Aboriginal groups.	Builds upon Commitment No. 766 (“Trans Mountain will work with communities that have specific concerns related to protection of municipal water sources and will consider installation of monitoring wells in strategic locations.”), by mandating the implementation of the measures for the protection of local water sources identified through consultation.
82	Heritage Resources	Trans Mountain must file with the NEB, at least 60 days prior to commencing construction: 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) 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); and c) a description of how Trans Mountain has incorporated any additional mitigation measures into its Environmental Protection Plans as a result of any conditions or recommendations referred to in b).	Trans Mountain must file with the NEB, at least 60 days prior to commencing construction: 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) for each palaeontological site within British Columbia that is likely to be disturbed during construction, 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 any mitigation measures to compensate for the disturbance c) b) 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) c) a description of how Trans Mountain has incorporated any additional mitigation measures into its Environmental Protection Plans as a result of any	Reflects the following commitment made in Trans Mountain’s response to A3W9H8, NEB IR No. 1.18 c): “Whenever feasible, palaeontological sites will be avoided. As stated in the table, previously unidentified palaeontological sites within the construction footprint may be disturbed during construction. In the unlikely event that a palaeontological site is discovered during construction, the Heritage Resources Discovery Contingency Plan (Volume 6B, Appendix B of the Application) will be implemented (i.e., construction at that

			above.	carried out. The suggested wording makes that requirement clear.
97	Groundwater Seepage Management Plan	Trans Mountain must file with the NEB for approval, at least 45 days prior to commencing construction of the Burnaby Mountain tunnel , 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; and c) a description of measures that Trans Mountain would implement during the operations phase in the event that there is groundwater seepage into the tunnel.	Trans Mountain must file with the NEB for approval, at least 45 days 90 days prior to commencing construction of the Burnaby Mountain tunnel , 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; and c) a description of measures that Trans Mountain would implement during the operations phase in the event that there is groundwater seepage into the tunnel; d) 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.	A 90 day timeframe is suggested, as 45 days may not be sufficient to assess and alter (if required) the plan to prevent potential impacts on water resources. Trans Mountain has acknowledged that the construction of the Burnaby Mountain tunnel could result in “temporary changes to groundwater table and resources” ((A4F5D6, PDF p. 25). Therefore, the plan must include a description of such effects and of the proposed mitigation measures.
100	Watercourse crossing inventory	Trans Mountain must file with the NEB, at least 60 days 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;	a) Trans Mountain must file with the NEB, at least 60 days prior to commencing any watercourse crossing construction activities , the following: i) An updated inventory of all watercourses to be crossed, including, for each crossing: - the name of the watercourse being crossed and an identifier for the	

		<p>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) the fisheries timing window of least risk; and vii) an indication of whether all of Fisheries and Oceans Canada’s applicable “Measures to Avoid Causing Harm to Fish and Fish Habitat” will be implemented.</p> <p>b) Detailed generic design drawings of trenchless, dry open-cut, frozen open-cut, and isolation crossings of various watercourse types.</p> <p>c) For each non-trenchless watercourse crossing that will be conducted outside of the fisheries timing window of least risk (both primary and contingency methods), or for any crossings that will be conducted in non-isolated flowing water conditions, please provide:</p> <p>i) detailed crossing-specific design drawings; ii) photographs of the crossing location; iii) an indication of the fish species that may be present and if fish spawning is likely to occur within the immediate area; iv) site-specific mitigation and habitat enhancement measures to be used to minimize impacts to fish; v) any potential residual effects; vi) proposed reclamation measures; and vii) a discussion of the potential impacts to local fisheries resources within the immediate area as a result of the crossing’s construction.</p> <p>d) A description of how Trans Mountain has taken available and applicable Aboriginal traditional land</p>	<p>crossing; - the location of the crossing; - the primary and contingency crossing methods; - planned construction timing; - information on the presence of fish and fish habitat; - the fisheries timing window of least risk; and - an indication of whether all of Fisheries and Oceans Canada’s applicable “Measures to Avoid Causing Harm to Fish and Fish Habitat” will be implemented.</p> <p>ii) Detailed generic design drawings of trenchless, dry open-cut, frozen open-cut, and isolation crossings of various watercourse types.</p> <p>iii) For each non-trenchless watercourse crossing that will be conducted outside of the fisheries timing window of least risk (and for both primary and contingency pipeline construction methods), or for any crossings that will be conducted in non-isolated flowing water conditions, please provide:</p> <p>- detailed crossing-specific design drawings; - photographs of the crossing location; - an indication of the fish species that may be present and if fish spawning is likely to occur within the immediate area; - site-specific mitigation and habitat enhancement measures to be used to minimize impacts to fish;</p>	<p>For increased clarity.</p> <p>Corrects minor grammatical error.</p>
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		<p>use and traditional ecological knowledge into consideration in developing the watercourse crossing designs.</p>	<ul style="list-style-type: none"> - any potential residual effects; - proposed reclamation measures; and - a discussion of the potential impacts to local fisheries resources within the immediate area as a result of the crossing's construction. <p>iv) A description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration in developing the watercourse crossing designs.</p> <p>b) For each non-trenchless watercourse crossing that will be conducted outside of the fisheries timing window of least risk (and for both primary and contingency pipeline construction methods), or for any crossings that will be conducted in non-isolated flowing water conditions, Trans Mountain must consult with appropriate government authorities, species experts, and any potentially affected Aboriginal groups regarding potential impacts to fish and mitigation measures.</p> <p>c) Trans Mountain must file with the NEB, at least 60 days prior to commencing any watercourse crossing construction activities, a summary of Trans Mountain's consultation concerning c) with appropriate government authorities, species experts, and any potentially affected Aboriginal groups, including any issues or concerns raised and how Trans Mountain has addressed or responded to them.</p>	<p>Reflects the comments provided with respect to Conditions No. 44, 45, 52, 53, 55, 63, 64, and 75, for instance, regarding the need to explicitly require that consultation be carried out.</p> <p>Mirrors the wording of Conditions No. 44, 45, 52, 53, 55, 63, 64, and 75, for instance, which requires that a consultation summary be filed.</p>
105	Hydrostatic Testing Plan	<p>Trans Mountain must file with the NEB, at least 60 days prior to pressure testing any Project component, a Hydrostatic Testing Plan for the Project that includes:</p>	<p>Trans Mountain must file with the NEB for approval, at least 60 days prior to pressure testing any Project component, a Hydrostatic Testing Plan for the Project</p>	<p>Ensures adequacy of Hydrostatic Testing Plan through Board review and approval.</p>

		<ul style="list-style-type: none"> 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. 	<p>that includes:</p> <ul style="list-style-type: none"> 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) a description of hydrostatic test water testing procedures and of 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. 	<p>Trans Mountain has committed to testing hydrostatic test water prior to discharge (A3S2S3, PDF p. 287-288).</p>
108	Financial Assurances Plan – operations phase	<ul style="list-style-type: none"> a) Trans Mountain must file with the NEB for approval, at least 6 months prior to applying for leave to open, a Financial Assurances Plan that includes details of the financial resources and secured sources of funds that will be capable of covering the costs of liabilities for, without limitation, cleanup, remediation, and other damages caused by the Project facilities during the operations phase.⁸ 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 Westridge Marine Terminal, up to and including spills of a quantity that have the potential of being a catastrophic event. The Financial Assurances Plan must be signed by an 	<ul style="list-style-type: none"> a) Trans Mountain must file with the NEB for approval, at least 6 months prior to applying for leave to open, a Financial Assurances Plan that includes details of the financial resources and secured sources of funds that will be capable of covering the costs of liabilities for, without limitation, cleanup, remediation, and other damages caused by the Project facilities during the operations phase.⁸ 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 Westridge Marine Terminal terminals, up to and including spills of a quantity that have the potential of being a catastrophic event. The Financial Assurances Plan must be signed by an officer of the company, verifying that it is accurate, 	<p>The suggested wording captures spills originating from the Edmonton, Sumas and Burnaby terminals as well as the Westridge Marine Terminal.</p>

		<p>officer of the company, verifying that it is accurate, complete, and, at a minimum, meets the criteria and coverage levels described below:</p> <p>i) Criteria for financial assurance instruments and plan:</p> <ul style="list-style-type: none"> • 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 of liabilities for, without limitation, cleanup, remediation, and other damages. • Third party liability insurance must be current, and broad, respecting the scope of environmental damages covered by the policy (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. • 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 a senior 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. 	<p>complete, and, at a minimum, meets the criteria and coverage levels described below:</p> <p>i) Criteria for financial assurance instruments and plan:</p> <ul style="list-style-type: none"> • 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 of liabilities for, without limitation, cleanup, remediation, and other damages. • Third party liability insurance must be current, and broad, respecting the scope of environmental damages covered by the policy (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. • 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 a senior 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. • Immediately after a catastrophic event, 	
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		<ul style="list-style-type: none"> • Immediately after a catastrophic event, sales of Project assets used for transporting hydrocarbons will not be eligible as financial assurance instruments in the Financial Assurances Plan unless Trans Mountain intends to abandon the facilities rather than continuing to use them in operating the Project. • 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. <p>ii) Financial assurance components and coverage levels: Trans Mountain's Financial Assurances Plan must provide a total coverage of \$1.1 billion⁹ for the costs of liabilities for, without limitation, cleanup, remediation, and other damages caused by the Project during the operations phase. The plan should include the following components and minimum coverage levels:</p> <ul style="list-style-type: none"> • 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 	<p>sales of Project assets used for transporting hydrocarbons will not be eligible as financial assurance instruments in the Financial Assurances Plan unless Trans Mountain intends to abandon the facilities rather than continuing to use them in operating the Project.</p> <ul style="list-style-type: none"> • 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. <p>ii) Financial assurance components and coverage levels: Trans Mountain's Financial Assurances Plan must provide a total coverage of \$1.1 billion⁹ for the costs of liabilities for, without limitation, cleanup, remediation, and other damages caused by the Project during the operations phase. The plan should include the following components and minimum coverage levels:</p> <ul style="list-style-type: none"> • 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 	
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		<p>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.</p> <ul style="list-style-type: none"> • 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). <p>Below are some illustrative financial and insurance instruments that could be potential candidates for the Financial Assurances Plan:</p> <ul style="list-style-type: none"> • 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. 	<p>bond or other form acceptable to the NEB.</p> <ul style="list-style-type: none"> • 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). <p>Below are some illustrative financial and insurance instruments that could be potential candidates for the Financial Assurances Plan:</p> <ul style="list-style-type: none"> • 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 	
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		<ul style="list-style-type: none"> • 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. <p>b) Trans Mountain must file the following with the NEB:</p> <p>i) At least 6 months prior to applying for leave to open, a report from an appropriate 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.</p> <p>ii) At least 90 days prior to applying for leave to open, 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.</p> <p>iii) With its leave to open application, a report describing the steps it took to eliminate any deficiencies in its Financial Assurances Plan</p>	<p>strength through balance sheets and credit ratings.</p> <ul style="list-style-type: none"> • Other instruments developed by Trans Mountain and the insurance and financial markets. <p>b) Trans Mountain must file the following with the NEB:</p> <p>i) At least 6 months prior to applying for leave to open, a report from an appropriate 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.</p> <p>ii) At least 90 days prior to applying for leave to open, 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.</p> <p>iii) With its leave to open application, a report describing the steps it took to eliminate any deficiencies in its Financial Assurances Plan that were identified in the third party report in b)i) and the NEB's subsequent review.</p> <p>iv) On or before 31 January of each year after its</p>	
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		<p>that were identified in the third party report in b)i) and the NEB's subsequent review.</p> <p>iv) On or before 31 January of each year after its leave to open application is approved, a letter signed by an officer of the company verifying that all components of the Financial Assurances Plan remain complete and as the NEB approved.</p> <p>v) At least 60 days 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.</p> <p>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.</p>	<p>leave to open application is approved, a letter signed by an officer of the company verifying that all components of the Financial Assurances Plan remain complete and as the NEB approved.</p> <p>v) At least 60 days 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.</p> <p>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.</p>	
110	Offset Measures Plan for residual effects on caribou habitat	<p>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 Trans Mountain's Post-Construction Environmental Monitoring Program and CHRP (see Condition No. 21) measures.</p> <p>a) A preliminary version, to be filed at least 90 days prior to applying for leave to open, with the plan's criteria and measurable goals and that includes:</p> <p>i) an initial quantification of the area of caribou</p>	<p>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 Trans Mountain's Post-Construction Environmental Monitoring Program and CHRP (see Condition No. 21) measures. In developing the plan, Trans Mountain must consult with appropriate government authorities, any potentially affected Aboriginal groups and other stakeholders.</p> <p>a) A preliminary version, to be filed at least 90 days</p>	<p>While subsection 1) requires Trans Mountain to include a consultation summary in the Offset Measures Plans, the condition does not actually require Trans Mountain to consult with</p>

		<p>habitat directly and indirectly disturbed;</p> <ul style="list-style-type: none"> ii) a list of the potential 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 literature on conservation offsets; iv) each potential offset measure’s expected effectiveness; 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. <p>b) A final version, to be filed on or before 31 January after the second complete growing season after commencing operations, including:</p> <ul style="list-style-type: none"> i) the preliminary Offset Measures Plan, with any updates identified in a revision log that includes the rationale for any changes; ii) a detailed decision-making tree(s) or process that will be used to select which specific potential offset measures and accompanying offset ratios will be used under what circumstances; iii) a tabular list of the potential offset measures and appropriate offset ratios to be implemented or already underway, including a description of site-specific details and maps showing the locations; iv) a schedule indicating when potential offset 	<p>prior to applying for leave to open, with the plan’s criteria and measurable goals and that includes:</p> <ul style="list-style-type: none"> i) an initial quantification of the area of caribou habitat directly and indirectly disturbed; ii) a list of the potential 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 literature on conservation offsets; iv) each potential offset measure’s expected effectiveness; 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. <p>b) A final version, to be filed on or before 31 January after the second complete growing season after commencing operations, including:</p> <ul style="list-style-type: none"> i) the preliminary Offset Measures Plan, with any updates identified in a revision log that includes the rationale for any changes; ii) a detailed decision-making tree(s) or process that will be used to select which specific potential offset measures and accompanying offset ratios will be used under what circumstances; iii) a tabular list of the potential offset measures and appropriate offset ratios to be implemented or already underway, including a description of site-specific details and maps showing the 	<p>government authorities or affected parties. The suggested wording would make that requirement clear.</p> <p>Given the Province’s responsibility for stewardship and protection of Provincial Crown land and natural resources, it is critical that Trans Mountain consult with the Province in developing the plans.</p>
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		<p>measures will be initiated and their estimated completion dates;</p> <p>v) either an assessment of the potential offset measures’ effectiveness and their value in offsetting residual effects, or a plan for completing an assessment of the potential offset measures’ effectiveness and value; and</p> <p>vi) an update on the restoration success to support offset measure decisions.</p> <p>Both the preliminary and final versions of the plan must also include the following:</p> <ol style="list-style-type: none"> 1) A summary of Trans Mountain’s consultation with appropriate government authorities and any potentially affected Aboriginal groups regarding the Offset Measures Plan. This summary must include any issues or concerns raised regarding the plan and how Trans Mountain has addressed or responded to them. 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. 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. 	<p>locations;</p> <p>iv) a schedule indicating when potential offset measures will be initiated and their estimated completion dates;</p> <p>v) either an assessment of the potential offset measures’ effectiveness and their value in offsetting residual effects, or a plan for completing an assessment of the potential offset measures’ effectiveness and value; and</p> <p>vi) an update on the restoration success to support offset measure decisions.</p> <p>Both the preliminary and final versions of the plan must also include the following:</p> <ol style="list-style-type: none"> 1) A summary of Trans Mountain’s consultation with appropriate government authorities and any potentially affected Aboriginal groups regarding the Offset Measures Plan. This summary must include any issues or concerns raised regarding the plan and how Trans Mountain has addressed or responded to them. 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. 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. 	
114	Marine shipping-related commitments	Trans Mountain must file with the NEB, at least 90 days 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	Trans Mountain must file with the NEB, at least 90 days 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	

		<p>it has implemented or caused to be implemented the following commitments related to oil tanker traffic and enhanced oil spill response:</p> <ul style="list-style-type: none"> 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 tankers between the Westridge Marine Terminal and the limit of Canada’s territorial sea, 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). c) Inclusion of any future guidelines, standards, or best management practices designed to reduce underwater noise from commercial vessels within Trans Mountain’s Tanker Acceptance Standard, as amended from time to time, and as described in Trans Mountain’s response to NEB Information Request No. 2.065(a) (Filing A3Z4T9). <p>Trans Mountain must also include and report on the above-noted marine shipping-related commitments in its commitments tracking table (required by Condition</p>	<p>it has implemented or caused to be implemented the following commitments related to oil tanker traffic and enhanced oil spill response:</p> <p>1. Tug Standards</p> <ul style="list-style-type: none"> 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 Trans Mountain must prepare a “tug matrix” that prescribes minimum tug capabilities required to escort tankers between the Westridge Marine Terminal and the limit of Canada’s territorial sea (“the tug area”), and include the “tug matrix” in Trans Mountain’s Tanker Acceptance Standard.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) The “tug matrix” must be developed in consultation with the Pacific Pilotage Authority, Transport Canada and BC Coast Pilots. c) The Tanker Acceptance Standard must provide that tankers that do not commit to tug escort in the tug area will be denied approval to load at the Westridge terminal. d) The tugs described in the “tug matrix” must, at a 	<p>Amended for clarity</p> <p>Reflects the commitments made by Trans Mountain with respect to the development of the “tug matrix”. See A4F8Z4, TERMPOL Review Process Report on the Trans Mountain Expansion Project, recommendations 8 and 10, PDF p. 42-43; and A4G3U5, Table A-1, response respecting recommendation 8.</p> <p>Reflects Trans Mountain’s commitment with respect to use of the Westridge terminal: A4G3U5, Table A-1, response respecting recommendation 8.</p> <p>Reflects the minimum standards</p>
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		No. 8).	<p>minimum, meet the criteria set out in section 10 of the report entitled “An Evaluation of Local Escort and Rescue Tug Capabilities in Juan de Fuca Strait” (Filing A3S5G0).</p> <p><u>2. Spill Response Standards</u></p> <p>b) Trans Mountain must maintain an enhanced marine oil spill response regime capable of delivering 20,000 tonnes of capacity within 36 hours of notification, with dedicated resources suitable for all protected, semi-protected and open water marine environments and for the recovery of all types of product to be shipped through the pipeline system, 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).</p> <p><u>3. Reduction of Underwater Noise</u></p> <p>c) Trans Mountain must include inclusion of any future guidelines, standards, or best management practices designed to reduce underwater noise from commercial vessels within Trans Mountain’s Tanker Acceptance Standard, as amended from time to time, and as described in Trans Mountain’s response to NEB Information Request No. 2.065(a) (Filing A3Z4T9). Trans Mountain must also include and report on the above-noted marine shipping-related commitments in its commitments tracking table (required by Condition No. 8).</p>	<p>recommended by Trans Mountain’s expert: A3S5G0, PDF p. 47.</p> <p>Ensures that Trans Mountain has comprehensive response capacity for all marine environments traversed by the project and for spills of all types of product to be shipped through the system.</p>
115	Updated Tanker Acceptance Standard	Trans Mountain must file with the NEB, at least 90 days prior to loading the first tanker at the Westridge Marine Terminal with oil transported by the Project, and 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	Trans Mountain must file with the NEB for approval, at least 90 days prior to loading the first tanker at the Westridge Marine Terminal with oil transported by the Project, and 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	Ensures adequacy of updated Tanker Acceptance Standard through Board review and approval.

		revisions made to the Standard.	revisions made to the Standard.	
116	Pre-operations full-scale emergency response exercises	<p>a) Prior to commencing operations, Trans Mountain must complete full-scale exercises for the following scenarios:</p> <ul style="list-style-type: none"> i) a 160-cubic-metre diluted bitumen release into Burrard Inlet as a result of a release from the Westridge Marine Terminal; and ii) a credible worst case release volume at the Burnaby Tank Farm. <p>b) Trans Mountain must notify the NEB, at least 45 days prior to the date of each exercise in a), of:</p> <ul style="list-style-type: none"> 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. <p>c) Trans Mountain must file with the NEB, within 60 days after completing each exercise in a), a report on the exercise that includes:</p> <ul style="list-style-type: none"> 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. 	<p>a) Prior to commencing operations, Trans Mountain must complete full-scale exercises for the following scenarios:</p> <ul style="list-style-type: none"> i) a 160-cubic-metre diluted bitumen release into Burrard Inlet as a result of a release from the Westridge Marine Terminal; and ii) a credible worst case release volume at the Burnaby Tank Farm-; iii) a full-bore rupture under ice and snow conditions in the Coquihalla Mountain Range; iv) a full-bore rupture into the Athabasca River during high spring flow conditions; v) a full-bore rupture into Fraser River at the Port Mann Bridge, under peak flow conditions; vi) a full-bore rupture into the North Thompson River during high spring flow conditions; and vii) a tank fire at the Burnaby Terminal. <p>c) Trans Mountain must invite lead federal and provincial agencies, local governments, First Nations and other key stakeholders, as identified based on the location of each exercise, to observe or participate in the exercises.</p> <p>b) Trans Mountain must notify the NEB, at least 45 days prior to the date of each exercise in a), of:</p> <ul style="list-style-type: none"> 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. <p>d) Trans Mountain must file with the NEB and the Province of British Columbia (for those exercises located in British Columbia), within 60 days after completing each exercise in a), a report on the exercise that includes:</p>	<p>Inclusion of additional scenarios to reflect Condition No. 136.</p> <p>All agencies with responsibilities in a spill must be invited to participate in emergency response exercises so as to ensure the integration of their respective plans. Exercises that do not include all key participants do not reflect real spill scenarios.</p> <p>Given the Province’s role in the response to environmental emergencies, the Province requires copies of these reports in order to understand Trans Mountain’s level of spill response</p>

			<ul style="list-style-type: none"> 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. 	<p>preparedness and to precisely know what Trans Mountain would do in the event of a spill. This would also contribute to the integration of spill response plans.</p>
117	Reporting on improvements to Trans Mountain’s Emergency Management Program	<p>Trans Mountain must file with the NEB, at least 2 years, 1 year, and 6 months prior to commencing operations, detailed updates for the company’s review of its Emergency Management Program referenced in Condition No. 122. This filing must include:</p> <ul style="list-style-type: none"> a) A summary of work undertaken to-date; b) The approximate timing for completing remaining work; and c) A summary of interested parties that were consulted and how their comments and feedback were considered in improving the program. 	<p>Trans Mountain must file with the NEB, at least 2 years, 1 year, and 6 months prior to commencing operations, detailed updates for of the company’s review of its Emergency Management Program referenced in Condition No. 122. This filing must include:</p> <ul style="list-style-type: none"> a) A summary of work undertaken to-date; b) The approximate timing for completing remaining work; and c) A summary of interested parties that were consulted and how their comments and feedback were considered in improving the program. 	<p>Correction of minor grammatical error.</p>
119	Emergency preparedness and response exercise training program	<p>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:</p> <ul style="list-style-type: none"> a) A defined scope, other objectives in addition to 	<p>Trans Mountain must file with the NEB for approval, 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; and the intended tanker route within Canada’s 200 nautical mile limit. 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</p>	<p>Ensures adequacy of Emergency Preparedness and Response Exercise and Training Program through Board review and approval.</p> <p>Marine spills beyond the Westridge Marine Terminal must be included in the Emergency Preparedness and Response Exercise and Training Program. As EnviroEmerg points out, limiting the response area to the 12 mile territorial limit would have the effect of ignoring western, northern and central coast</p>

		<p>those noted above, and program targets that address responder turn-over and ensure responders' ongoing training and practice.</p> <p>b) A list of mandatory courses for responders.</p> <p>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, and into watercourses under varying flow conditions.</p> <p>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.</p> <p>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.</p> <p>f) A discussion of how emergency response exercises will meet the objectives of testing Trans Mountain's:</p> <ul style="list-style-type: none"> 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. <p>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</p>	<p>following:</p> <p>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.</p> <p>b) A list of mandatory courses for responders.</p> <p>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, and into watercourses under varying flow conditions, and into waterbodies (aquifers or streams) that are used as municipal water supply sources.</p> <p>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.</p> <p>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.</p> <p>f) A discussion of how emergency response exercises will meet the objectives of testing Trans Mountain's:</p> <ul style="list-style-type: none"> i) emergency response procedures; ii) company personnel training; iii) communications systems, including public and agency notification systems; iv) response equipment; v) safety procedures; vi) interagency coordination and incident management; vii) reliance on response contractors; 	<p>communities with regards to prevention and mitigation in the event of a tanker casualty and oil spill in offshore Pacific waters (A4Q1L5, PDF p. 10).</p> <p>Given the importance of protecting local water sources (see Condition No. 81), the Exercise and Training Program should include the response to releases with potential effects on water sources.</p> <p>Suggested for greater specificity.</p> <p>It is critical to ensure that emergency preparedness and response exercises test all phases and elements of the</p>
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		<p>purposes:</p> <ul style="list-style-type: none"> i) To validate plans. ii) To develop 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 and well-established emergency response procedures. <p>h) A plan for addressing the training requirements contained within the <i>National Energy Board Onshore Pipeline Regulations</i>.</p> <p>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.</p>	<ul style="list-style-type: none"> viii) volunteer management plans; ix) waste management plans; x) evacuation and shelter-in-place plans; xi) oiled wildlife plans; xii) firefighting plans; xiii) sampling and monitoring plan; and xiv) the effectiveness of its liaison and continuing education programs. <p>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:</p> <ul style="list-style-type: none"> i) To validate plans. ii) To develop 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 and well-established emergency response procedures. <p>h) A plan for addressing the training requirements contained within the <i>National Energy Board Onshore Pipeline Regulations</i>.</p> <p>i) Confirmation that a qualified 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.</p>	<p>response to an emergency (A3S4V5, PDF p. 72; A4Q1L7, PDF p. 40; A4L6C0, PDF p. 14).</p> <p>Corrects minor grammatical error.</p> <p>Added for greater specificity.</p>
120	Notification and reporting on emergency	For any tabletop, functional, and full-scale emergency response exercises undertaken as part of its Emergency Preparedness and Response Exercise and Training	For any preplanned tabletop, functional, and full-scale emergency response exercises undertaken as part of its Emergency Preparedness and Response Exercise and	In its comments on draft conditions, Trans Mountain suggests that the condition should read as follows: “Trans

	<p>response exercises</p>	<p>Program required by Condition No. 119:</p> <p>a) Trans Mountain must notify the NEB, at least 45 days prior to the date of each exercise, of:</p> <ul style="list-style-type: none"> 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. <p>b) Trans Mountain must file with the NEB, within 60 days after completing each exercise, a report on the exercise that includes:</p> <ul style="list-style-type: none"> i) the results of the completed exercise; ii) areas for improvement; and iii) steps to be taken to correct deficiencies. 	<p>Training Program required by Condition No. 119:</p> <p>a) Trans Mountain must notify the NEB, at least 45 days prior to the date of each exercise, of:</p> <ul style="list-style-type: none"> 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. <p>b) Trans Mountain must file with the NEB, the Province of British Columbia (for exercises in British Columbia), and any local government or First Nation that would be directly impacted by the scenario based on the exercise location, within 60 days after completing each exercise, a report on the exercise that includes:</p> <ul style="list-style-type: none"> i) the results of the completed exercise; ii) areas for improvement; and iii) steps to be taken to correct deficiencies. 	<p>Mountain must file with the NEB, within 90 60 days after completing each <u>full scale exercise</u>, a report on the exercise ...” [emphasis added]. The Province disagrees with the suggestion that the application of this condition be limited to full-scale exercises. Exercises of all scales, with the exception of unannounced exercises (see comments on Condition No. 156), must be subject to reporting requirements. Trans Mountain has provided no justification for limiting the application of this condition to full scale exercises only. The Province takes no issue with the extended timeline for reporting proposed by Trans Mountain.</p> <p>Sharing information with interested parties on all scales of exercises will contribute to continuous improvement and help ensure the integration of spill plans between all levels of government.</p>
<p>121</p>	<p>Evacuation plans</p>	<p>a) Trans Mountain must file with the NEB, at least 6 months prior to commencing operations, an Evacuation Plan for people present in areas potentially affected by an incident at each of Trans Mountain’s Edmonton, Sumas, and Burnaby tank</p>	<p>a) Trans Mountain must file with the NEB, at least 6 months prior to commencing operations, an Evacuation Plan for people present in areas potentially affected by an incident at each of Trans Mountain’s Edmonton, Sumas, and Burnaby tank</p>	

		<p>facilities. Each Evacuation Plan must, at a minimum:</p> <ul style="list-style-type: none"> 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 local municipalities and first responders; v) state how input from local municipalities and first responders was considered in preparing the plan; vi) define the roles, responsibilities, and jurisdictional authority 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. <p>b) Trans Mountain must include with its Evacuation Plan for the Burnaby tank facilities a plan specific to Simon Fraser University that includes the requirements in a)i) to vii) above.</p>	<p>facilities, at the terminals and along the pipeline route. Each Evacuation Plan must, at a minimum:</p> <ul style="list-style-type: none"> 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 local municipalities governments, and first responders, potentially affected First Nations, and the Province of British Columbia; v) state how input from local municipalities governments, and first responders, First Nations, and the Province of British Columbia was considered in preparing the plan; vi) define the roles, responsibilities, and jurisdictional authority 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. <p>b) Trans Mountain must include with its Evacuation Plan for the Burnaby tank facilities a plan specific to Simon Fraser University that includes the requirements in a)i) to vii) above.</p>	<p>Evacuation Plans must be developed for people present near the terminals and pipeline as well as the tank facilities.</p> <p>Edited to include regional districts, First Nations and the Province.</p>
122	Implementing improvements to Trans	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	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	

	<p>Mountain’s Emergency Management Program</p>	<p>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 <i>National Energy Board Onshore Pipeline Regulations</i>, as a result of the review, including changes to:</p> <ul style="list-style-type: none"> a) The pipeline Emergency Response Plan; b) Facility Emergency Response Plans for the Edmonton, Sumas, and Burnaby Terminals, as well as the Westridge Marine Terminal; and c) An updated list of all related and accompanying site-specific plans and documents, such as control point mapping and tactical plans for high consequence areas. 	<p>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 <i>National Energy Board Onshore Pipeline Regulations</i>, as a result of the review, including changes to:</p> <ul style="list-style-type: none"> a) The pipeline Emergency Response Plan; b) Facility Emergency Response Plans for the Edmonton, Sumas, and Burnaby Terminals, as well as the Westridge Marine Terminal; and c) An updated list of all related and accompanying site-specific plans and documents, such as control point mapping and tactical plans for high consequence areas; and d) A summary of Trans Mountain’s consultation with the parties identified in Condition No. 88 c) and d), including any issues or concerns raised and how Trans Mountain has addressed or responded to them. 	<p>Mirrors the wording of Conditions No. 44, 45, 52, 53, 55, 63, 64, and 75, for instance, which requires that a consultation summary be filed. Ensures that input obtained through consultation is appropriately incorporated throughout the development of the Emergency Management Program.</p>
<p>123</p>	<p>Emergency Response Plan for the pipeline and the Edmonton, Sumas, and Burnaby Terminals</p>	<p>Trans Mountain must file with the NEB, at least 6 months prior to commencing operations, an Emergency Response Plan for the pipeline to verify compliance with its commitments regarding emergency preparedness and response. The plan 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</p>	<p>Trans Mountain must file with the NEB for approval and provide to the Province of British Columbia, at least 6 months prior to commencing operations, an Emergency Response Plan for the pipeline to verify compliance with its commitments regarding emergency preparedness and response. The plan must demonstrate Trans Mountain’s ability to prepare for, respond to, and mitigate the potential effects of emergencies of any type and in any geographic region or season and must</p>	<p>Ensures adequacy of the Emergency Response Plan through Board review and approval.</p> <p>Given the Province’s responsibilities in the response to environmental emergencies, the Province requires copies of these plans in order to understand Trans Mountain’s level of</p>

		<p>following:</p> <ul style="list-style-type: none"> a) The following relevant emergency preparedness and response documents: <ul style="list-style-type: none"> i) an emergency response plan to include the pipeline expansion. ii) updated facility response plans for the Edmonton, Sumas, and Burnaby Terminals. iii) all related and accompanying site-specific plans and documents, such as control point mapping, tactical plans, volunteer management plans, and fire safety plans. b) An emergency response and preparedness table for the pipeline (including facilities) indicating which plans 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: <ul style="list-style-type: none"> i) high consequence areas, including environmentally sensitive areas; 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; and vii) geological, meteorological, and geographical hazards (e.g., snow avalanche, mud slides, rock slides, and steep slopes). c) Maps depicting the information identified in b). d) A description of the models used in response planning, including oil trajectory, fate and behavior, and air dispersion models. 	<p>include the following:</p> <ul style="list-style-type: none"> a) The following relevant emergency preparedness and response documents: <ul style="list-style-type: none"> i) an emergency response plan to that includes the pipeline expansion. ii) updated facility response plans for the Edmonton, Sumas, and Burnaby Terminals. iii) all related and accompanying site-specific plans and documents, such as control point mapping, tactical plans, volunteer management plans, and fire safety plans, geographic response plans/geographic response strategies, a volunteer management plan, a fire safety plan, a wildlife care plan, a waste management plan, a sampling and monitoring (including air quality monitoring) plan, an evacuation plan, a pre-Shoreline Cleanup and Assessment Techniques (SCAT) plan, a submerged oil plan, and an incident notification and communications plan. b) an emergency response and preparedness table for the pipeline (including facilities) indicating which plans 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: <ul style="list-style-type: none"> i) high consequence areas, including environmentally sensitive areas, as well as heritage sites (as defined under the BC Heritage Conservation Act, R.S.B.C. 1996, c. 187), the water supply wells identified in the Water Well 	<p>spill response preparedness and to know precisely what Trans Mountain would do in the event of a spill. This would also contribute to the integration of spill response plans.</p> <p>Minor grammatical correction.</p> <p>References to detailed plans added for greater specificity.</p> <p>Beyond High Consequence Areas (as defined in the Application), heritage sites, municipal water supply wells and critical infrastructure should be identified in the emergency</p>
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			<p>g) A discussion of how the plan considers, and would allow coordination with, relevant federal, provincial, and municipal and First Nations emergency disaster response plans.</p> <p>h) Confirmation that an independent third party has reviewed and assessed the Emergency Response Plan and that Trans Mountain has considered and incorporated the comments generated by the review and assessment into the plan.</p> <p>i) On an annual basis, Trans Mountain must review and revise its emergency preparedness and response documents to incorporate any changes that may affect the adequacy of such plans including, but not limited to, changes to the following:</p> <ul style="list-style-type: none"> i) the availability of third party contractors and resources available under mutual aid agreements; ii) communication and notification contact information; iii) GRPs/GRSs due to changes in river morphology; and iv) lessons learned from incidents and near misses as well as new research findings. 	<p>For increased clarity and inclusion of First Nations plans.</p> <p>To be useful, emergency response plans must be reviewed and updated regularly so as to ensure the information they contain is up-to-date.</p>
124	Emergency Response Plan for the Westridge Marine Terminal	Trans Mountain must file with the NEB, at least 6 months prior to commencing operations , an Emergency Response Plan for the Westridge Marine Terminal to verify compliance with its commitments regarding emergency preparedness and response. The plan must demonstrate geographic familiarity with the area and the response needed to prepare for, respond to, recover from, and mitigate the potential effects of emergencies of any type and must include:	Trans Mountain must file with the NEB for approval, at least 6 months prior to commencing operations , an Emergency Response Plan for the Westridge Marine Terminal to verify compliance with its commitments regarding emergency preparedness and response. The plan must demonstrate geographic familiarity with the area and the response needed to prepare for, respond to, recover from, and mitigate the potential effects of emergencies of any type and must include:	Ensures adequacy of the Emergency Response Plan through Board review and approval.

		<ul style="list-style-type: none"> a) All related and accompanying site-specific plans and documents, such as geographic response plans, geographic response strategies, 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 equipment and personnel to the water and high consequence areas; f) Maps depicting the information identified in a) to e); g) A description of models used in response planning, including oil trajectory, fate and behavior, and air dispersion models; h) 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 oil fate and behavior research noted during the OH-001-2014 proceeding, have been considered and incorporated into Trans Mountain’s emergency response planning; i) A discussion of how the plan conforms to the requirements contained within the <i>National Energy Board Onshore Pipeline Regulations</i>; j) A discussion of how the plan considers, and would allow coordination with, relevant provincial and municipal disaster response plans; and k) Confirmation that an independent third party has reviewed and assessed the Emergency Response Plans and that Trans Mountain has considered and incorporated comments generated by the review 	<ul style="list-style-type: none"> a) All related and accompanying site-specific plans and documents: such as geographic response plans (GRPs)/geographic response strategies (GRSs), a volunteer management plans, and a fire safety plans, a wildlife care plan, a waste management plan, an evacuation plan, a sampling and monitoring (including air quality monitoring) plan, a pre-Shoreline Cleanup and Assessment Techniques (SCAT) plan, a submerged oil plan, and an incident notification and communications plan; 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 water incident location and high consequence areas; f) Maps depicting the information identified in a) to e); g) A description of models used in response planning, including oil trajectory, fate and behavior, and air dispersion models; h) 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 oil fate and behavior research noted during the OH-001-2014 proceeding, have been considered and incorporated into Trans Mountain’s emergency response planning; i) A discussion of how the plan conforms to the requirements contained within the <i>National Energy Board Onshore Pipeline Regulations</i>; j) A discussion of how the plan considers, and would 	<p>Reference to additional detailed plans for greater specificity.</p> <p>Response times are relevant for all areas affected by a spill, not just aquatic areas</p>
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		<p>and assessment into the plan.</p>	<p>allow coordination with, relevant federal, provincial, and municipal and First Nations emergency disaster response plans; and</p> <p>k) Confirmation that an independent third party has reviewed and assessed the Emergency Response Plans and that Trans Mountain has considered and incorporated comments generated by the review and assessment into the plan.</p> <p>l) On an annual basis, Trans Mountain must review and revise the plans to incorporate any changes that may affect the adequacy of such plans including, but not limited to, changes to the following:</p> <ul style="list-style-type: none"> i) the availability of third party contractors and resources available under mutual aid agreements; ii) communication and notification contact information; iii) GRPs and GRSs due to changes in river morphology; and iv) lessons learned and new research findings. 	<p>For increased clarity and inclusion of First Nations plans.</p> <p>To be useful, emergency response plans must be reviewed and updated regularly so as to ensure the information they contain is up-to-date.</p>
125	<p>SCADA and leak detection system design</p>	<p>Trans Mountain must file with the NEB, at least 90 days prior to commencing operations, a report describing the final design of the expanded Trans Mountain Pipeline System’s SCADA and leak detection systems. This report must include:</p> <ul style="list-style-type: none"> a) Trans Mountain’s plan to validate the performance of the leak detection system and alarms within the first year of Project operations; b) an update on the status of alternate leak detection technologies that Trans Mountain is considering and any decisions made about their implementation for the Project; c) a description of how Trans Mountain’s revised 	<ul style="list-style-type: none"> a) Before and during operations, Trans Mountain must <ul style="list-style-type: none"> i) continue to investigate the effectiveness and the feasibility of alternate leak detection methods, including external leak detection technologies; and ii) implement any leak detection technology that has been proven to be effective and feasible by its adoption by other high capacity, low-vapour pressure pipeline systems. b) Before commencing operations, Trans Mountain must introduce into its revised procedures a rule directing the Control Centre Operator to perform a controlled shutdown of the pipeline when a leak 	<p>Holds Trans Mountain to its commitment to continuous improvement (A4H8W6, Trans Mountain response to BC IR No. 2.15 g), PDF p. 75), particularly to address gaps in existing leak detection systems (e.g. to aid in the detection of leaks falling below current CPM sensitivity thresholds).</p> <p>Trans Mountain must be required to establish a rule prescribing the controlled shutdown of the pipeline within a specified time period if a leak</p>

		<p>procedures have introduced a rule directing the Control Center Operator to perform a controlled shutdown of the pipeline when a leak cannot be ruled out in a given time period after initial indication; and</p> <p>d) Trans Mountain’s plan for upgrading the existing measurement instrumentation that supports the acquisition of input data to improve the performance of leak detection capabilities on Line 1.</p>	<p>cannot be ruled out in a given time period, approved by the NEB, after initial indication. Trans Mountain must ensure that Control Centre Operators are adequately trained and exercised in these procedures.</p> <p>c) Trans Mountain must file with the NEB, at least 90 days prior to commencing operations, a report describing the final design of the expanded Trans Mountain Pipeline System’s SCADA and leak detection systems. This report must include:</p> <ul style="list-style-type: none"> i) a) Trans Mountain’s plan to validate the performance of the leak detection system and alarms within the first year of Project operations; ii) b) an update on the status of alternate leak detection technologies that Trans Mountain is considering and any decisions made about their implementation for the Project; iii) c) a description of how Trans Mountain’s revised procedures have introduced a rule directing the Control Center Operator to perform a controlled shutdown of the pipeline when a leak cannot be ruled out in a given time period after initial indication; and 	<p>cannot be ruled out. (Note that Northern Gateway Pipelines committed to establishing such a rule, the “10-minute rule”: Connections – Report of the Joint Review Panel for the Enbridge Northern Gateway Project, Volume 1, PDF p. 45). The wording of paragraph c) does not make it sufficiently clear that such a rule <u>must</u> be introduced. The requirement that Control Centre Operators be adequately trained and exercised is to avoid leak detection delays such as, for instance, that which occurred following the 2012 Sumas Tank 121 leak (A3Y2Z2, PDF p. 16).</p>
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			<p>iv) iv) Trans Mountain’s plan for upgrading the existing measurement instrumentation that supports the acquisition of input data to improve the performance of leak detection capabilities on Line 1.</p> <p>d) During operations, Trans Mountain must file annually with the NEB a report including the update described in c) ii) above.</p>	<p>Given the constant improvements in leak detection methods, providing an update on the status of alternate leak detection technologies is important not only before operations, but also on an ongoing basis during operations. This is consistent with Trans Mountain’s commitment to continuous improvement in leak detection (A4H8W6, PDF p. 72).</p>
127	Groundwater Monitoring Program	<p>Trans Mountain must file with the NEB for approval, at least 90 days prior to commencing operations, a Groundwater Monitoring Program that pertains to all facilities (pump stations, tank terminals, and Westridge Marine Terminal). For each facility, the program must include, at a minimum:</p> <p>a) locations of groundwater monitoring wells, their depths, the rationales for well locations (including how groundwater flow direction was considered [indicate if there is more than one flow regime]), groundwater flow velocity, parameters to be monitored, frequency of monitoring, 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;</p> <p>b) if there is an existing Groundwater Monitoring Program for the facility, a description of any</p>	<p>Trans Mountain must file with the NEB for approval, at least 90 days prior to commencing operations, a Groundwater Monitoring Program that pertains to all facilities (pump stations, tank terminals, and Westridge Marine Terminal) and the pipeline right-of-way. In developing the Groundwater Monitoring Program, Trans Mountain must consult with appropriate government authorities, any potentially affected Aboriginal groups and other stakeholders. For each facility, the program must include, at a minimum:</p> <p>a) locations of groundwater monitoring wells, their depths, the rationales for well locations (including how groundwater flow direction was considered [indicate if there is more than one flow regime]), groundwater flow velocity, parameters to be monitored, frequency of monitoring, applicable regulatory criteria for comparing monitoring results, and a process outlining what steps will be followed</p>	<p>The condition requires groundwater monitoring near the facilities, but not along the pipeline right-of-way. The suggested wording ensures that that monitoring occurs along the pipeline as well.</p> <p>While subsection c) requires Trans Mountain to include a consultation summary in the development of a Groundwater Monitoring Program, the condition does not actually require Trans Mountain to consult with government authorities or affected</p>

		<p>changes required to meet this condition; and</p> <p>c) a summary of consultation with appropriate government authorities, landowners, and any potentially affected Aboriginal groups, including any issues or concerns raised with respect to the Groundwater Monitoring Program and how Trans Mountain has addressed or responded to them.</p>	<p>should monitoring results indicate a negative change in groundwater quality;</p> <p>b) if there is an existing Groundwater Monitoring Program for the facility, a description of any changes required to meet this condition; and</p> <p>c) a summary of consultation with appropriate government authorities, landowners, and any potentially affected Aboriginal groups, including any issues or concerns raised with respect to the Groundwater Monitoring Program and how Trans Mountain has addressed or responded to them.</p>	<p>parties. The suggested wording would make that requirement clear.</p>
133	Baseline inspections	<p>a) Trans Mountain must conduct the following pipeline inspections on Line 2 and the new delivery pipeline, at the times indicated:</p> <p>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;</p> <p>ii) an in-line ultrasonic crack detection inspection within 2 years after commencing operations;</p> <p>iii) an in-line corrosion magnetic flux leakage inspection in both the circumferential and longitudinal directions within 2 years after commencing operations;</p> <p>iv) an in-line ultrasonic wall measurement inspection within 2 years after commencing operations; and</p> <p>v) an above-ground coating survey within 2 years after commencing operations.</p> <p>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</p>	<p>a) Trans Mountain must conduct the following pipeline inspections on Line 2 and the new delivery pipeline, at the times indicated:</p> <p>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;</p> <p>ii) an in-line ultrasonic crack detection inspection within 2 years after commencing operations;</p> <p>iii) an in-line corrosion magnetic flux leakage inspection in both the circumferential and longitudinal directions within 2 years after commencing operations;</p> <p>iv) an in-line ultrasonic wall measurement inspection within 2 years after commencing operations; and</p> <p>v) an above-ground coating survey within 2 years after commencing operations.</p> <p>b) Trans Mountain must file with the NEB for approval, within 6 months after completing each inspection in a), a report that includes a summary of the</p>	<p>NEB review and approval to provide transparency and stakeholder confidence.</p>

		results, the proposed re-inspection interval, and mitigation measures for the anomalies detected through any of the inspections, if required.	inspection results, the proposed re-inspection interval, and mitigation measures for the anomalies detected through any of the inspections, if required.	
136	Full-scale emergency response exercises during operations	<p>a) Within 5 years after commencing operations, Trans Mountain must complete full-scale exercises to test each of the following five scenarios:</p> <ul style="list-style-type: none"> 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. v) A tank fire at the Burnaby Terminal. <p>b) Trans Mountain must notify the NEB, at least 45 days prior to the date of each exercise in a), of:</p> <ul style="list-style-type: none"> 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. <p>c) Trans Mountain must file with the NEB, within 60 days after completing each exercise in a), a report on the exercise that includes:</p> <ul style="list-style-type: none"> 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. 	<p>a) Within 5 years after commencing operations, Trans Mountain must complete full-scale exercises to test each of the following five scenarios, one of which in British Columbia must be unannounced:</p> <ul style="list-style-type: none"> 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. v) A tank fire at the Burnaby Terminal. <p>b) Trans Mountain must invite lead federal and provincial agencies, local governments, First Nations and other key stakeholders, as identified based on the location of each exercise, to observe or participate in the exercises.</p> <p>c) b) Trans Mountain must notify the NEB, at least 45 days prior to the date of each exercise in a), of:</p> <ul style="list-style-type: none"> 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. <p>d) c) Trans Mountain must file with the NEB and provide to the Province of British Columbia, First Nations and local governments, within 60 days after completing each exercise in a), a report on the exercise that includes:</p> <ul style="list-style-type: none"> i) the results of the completed exercise; 	<p>Spills are unpredictable. Therefore, unannounced drills and exercises are required to test the various components of an emergency response plan in a meaningful manner. The suggested wording is consistent with Condition No. 171 developed by the Joint Review Panel for the Enbridge Northern Gateway Project (A4S7Z1, PDF p. 396).</p> <p>All agencies that have responsibilities in a spill must be invited to participate in emergency response exercises to ensure the integration of their respective plans. Exercises that do not include all key participants do not reflect real spill scenarios.</p> <p>Given the Province’s role in the response to environmental emergencies, the Province requires copies of this report in order to understand Trans Mountain’s level of spill response preparedness, and to precisely know what Trans Mountain</p>

			<ul style="list-style-type: none"> 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. <p>e) In addition to the full scale exercises above, Trans Mountain must conduct unannounced drills on individual components of Trans Mountain’s emergency response program for each of the operational areas of the pipeline within British Columbia on an annual basis. Through these drills, Trans Mountain must test the various components of Trans Mountain’s emergency spill response plans, such as, for example: notification and communications; Geographic Response Plans/control points; deployment of equipment; and availability of contractors.</p>	<p>would do in the event of a spill. This would also contribute to the integration of spill response plans.</p> <p>Drills are required to ensure Trans Mountain’s plan is operational at all times. Unannounced drills are the only way to test the various components of Trans Mountain’s spill response program.</p>
137	<p>Ongoing implementation of marine shipping-related commitments</p>	<p>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 No. 114, 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, and Fisheries and Oceans Canada at the same time as it is filed with the NEB. If a particular</p>	<p>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 No. 114, 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, and Fisheries and Oceans Canada, and the Province of British Columbia at the same time as it is</p>	<p>This information must be shared with the Province, given its responsibilities in</p>

		party mentioned above requests that it not be provided the annual report, Trans Mountain may cease providing it to that party.	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.	the response to marine spills that threaten or impact shorelines (A3S4X3, PDF p. 53), provincially-managed species, marine areas under provincial jurisdiction and other provincial interests.
140	Post-construction environmental monitoring reports	<p>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 that must include:</p> <ul style="list-style-type: none"> 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 Trans Mountain’s consultation with appropriate government authorities, and any potentially affected Aboriginal groups and stakeholders, including any issues or concerns raised and how Trans Mountain has addressed or responded to them. <p>In the environmental monitoring report filed after the fifth full growing season after completing clean-up, Trans Mountain must include:</p>	<p>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. In developing the report, Trans Mountain must consult with appropriate government authorities, any potentially affected Aboriginal groups and other stakeholders. The report that must include the following:</p> <ul style="list-style-type: none"> 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 Trans Mountain’s consultation with appropriate government authorities, and any potentially affected Aboriginal groups and stakeholders, including any issues or concerns raised and how Trans Mountain has addressed or 	<p>While subsection g) requires Trans Mountain to include a consultation summary in the post-construction environmental monitoring report, the condition does not actually require Trans Mountain to consult with government authorities or affected parties. The suggested wording makes that requirement clear.</p> <p>Given the Province’s responsibility for stewardship and protection of Provincial Crown land and natural resources, it is critical that Trans Mountain consult with the Province in developing the report.</p>

		<p>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;</p> <p>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</p> <p>iii) information on the need for any further corrective actions, measurable goals, assessments, or monitoring of valued components or issues, including a schedule for those.</p> <p>All filed post-construction environmental monitoring reports must address issues related, but not limited, to soils, weeds, watercourse crossings, riparian vegetation, wetlands, rare plants and ecosystems, wildlife and wildlife habitat, fish and fish habitat, and species at risk.</p>	<p>responded to them.</p> <p>In the environmental monitoring report filed after the fifth full growing season after completing clean-up, Trans Mountain must include:</p> <p>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;</p> <p>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</p> <p>iii) information on the need for any further corrective actions, measurable goals, assessments, or monitoring of valued components or issues, including a schedule for those.</p> <p>All filed post-construction environmental monitoring reports must address issues related, but not limited, to soils, weeds, watercourse crossings, riparian vegetation, wetlands, rare plants and ecosystems, wildlife and wildlife habitat, fish and fish habitat, and species at risk.</p>	
141	Riparian Habitat Enhancement and Offset Plan	<p>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 Enhancement and Offset Plan for all riparian habitat that has not returned to pre-construction functionality or greater. This plan must include:</p> <p>a) an evaluation of performed reclamation activities against the identified measureable goals (required by Condition No. 79), including a quantification of riparian habitat to be enhanced or offset;</p> <p>b) a list and discussion of possible enhancement and offset options considered;</p>	<p>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 Enhancement and Offset Plan for all riparian habitat that has not returned to pre-construction functionality or greater. In developing the plan, Trans Mountain must consult with appropriate government authorities, any potentially affected Aboriginal groups and other stakeholders. This plan must include:</p> <p>a) an evaluation of performed reclamation activities against the identified measureable goals (required by Condition No. 79), including a quantification of</p>	<p>While subsection g) requires Trans Mountain to include a consultation summary in the Riparian Habitat Enhancement and Offset Plan, the condition does not actually require Trans Mountain to consult with government authorities or affected</p>

		<ul style="list-style-type: none"> c) a description of the enhancement and offset option(s) selected and the rationale for the selected option(s); d) a schedule for when the enhancement measures and offsets will be initiated and an estimated timeline for completion; e) monitoring plans to determine the success of enhancement and offset measures and the need for corrective actions, and a proposed reporting schedule; 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; and g) a summary of Trans Mountain’s consultation concerning a) to e) with appropriate government authorities, species experts, and any potentially affected Aboriginal groups, including any issues or concerns raised and how Trans Mountain has addressed or responded to them. 	<ul style="list-style-type: none"> riparian habitat to be enhanced or offset; b) a list and discussion of possible enhancement and offset options considered; c) a description of the enhancement and offset option(s) selected and the rationale for the selected option(s); d) a schedule for when the enhancement measures and offsets will be initiated and an estimated timeline for completion; e) monitoring plans to determine the success of enhancement and offset measures and the need for corrective actions, and a proposed reporting schedule; 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; and g) a summary of Trans Mountain’s consultation concerning a) to e) with appropriate government authorities, species experts, and any potentially affected Aboriginal groups, including any issues or concerns raised and how Trans Mountain has addressed or responded to them. 	<p>parties. The suggested wording would make that requirement clear.</p> <p>Given the Province’s responsibility for stewardship and protection of Provincial Crown land and natural resources, it is critical that Trans Mountain consult with the Province in developing the plan.</p>
142	Rare Ecological Community and Rare Plant Population Mitigation Evaluation and Offset Plan	<p>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 and Offset Plan that includes:</p> <ul style="list-style-type: none"> a) for ecological communities of concern; rare plants and lichens; and draft, candidate, proposed, or final critical habitat for plant and lichen species under the <i>Species at Risk Act</i>, an evaluation of mitigation success with reference to the 	<p>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 and Offset Plan. In developing the plan, Trans Mountain must consult with appropriate government authorities, any potentially affected Aboriginal groups and other stakeholders. The plan must include the following that includes:</p> <ul style="list-style-type: none"> a) for ecological communities of concern; rare plants 	<p>While subsection e) requires Trans Mountain to include a consultation summary in the Rare Ecological Community and Rare Plant Population Mitigation Evaluation and Offset Plan, the condition does not actually require</p>

		<p>measurable goals outlined in the Rare Ecological Community and Rare Plant Population Management Plan required by Condition No. 50;</p> <p>b) identification of any residual effects on ecological communities and rare plant and lichen species that have an at-risk status of S1 or S1S2 or that are listed under federal or provincial legislation for protection, or on any draft, candidate, proposed, or final critical habitat under the <i>Species at Risk Act</i>;</p> <p>c) for the residual effects identified in b), a Final Rare Ecological Community and Rare Plant Population Offset Plan that updates the preliminary plan required by Condition No. 50, and that also includes details on the amount and type of offsets required, and on the offset measures to be implemented, including a timeline for their implementation and monitoring;</p> <p>d) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration; and</p> <p>e) a summary of Trans Mountain’s consultation concerning a) to d) with appropriate government authorities, species experts, and any potentially affected Aboriginal groups, including any issues or concerns raised and how Trans Mountain has addressed or responded to them.</p>	<p>and lichens; and draft, candidate, proposed, or final critical habitat for plant and lichen species under the <i>Species at Risk Act</i>, an evaluation of mitigation success with reference to the measurable goals outlined in the Rare Ecological Community and Rare Plant Population Management Plan required by Condition No. 50;</p> <p>b) identification of any residual effects on ecological communities and rare plant and lichen species that have an at-risk status of S1 or S1S2 or that are listed under federal or provincial legislation for protection, or on any draft, candidate, proposed, or final critical habitat under the <i>Species at Risk Act</i>;</p> <p>c) for the residual effects identified in b), a Final Rare Ecological Community and Rare Plant Population Offset Plan that updates the preliminary plan required by Condition No. 50, and that also includes details on the amount and type of offsets required, and on the offset measures to be implemented, including a timeline for their implementation and monitoring;</p> <p>d) a description of how Trans Mountain has taken available and applicable Aboriginal traditional land use and traditional ecological knowledge into consideration; and</p> <p>e) a summary of Trans Mountain’s consultation concerning a) to d) with appropriate government authorities, species experts, and any potentially affected Aboriginal groups, including any issues or concerns raised and how Trans Mountain has addressed or responded to them.</p>	<p>Trans Mountain to consult with government authorities or affected parties. The suggested wording makes that requirement clear.</p> <p>Given the Province’s responsibility for stewardship and protection of Provincial Crown land and natural resources, it is critical that Trans Mountain consult with the Province in developing the plan.</p>
143	Wetland Reclamation	Trans Mountain must file with the NEB for approval, on or before 31 January after the fifth complete growing	Trans Mountain must file with the NEB for approval, on or before 31 January after the fifth complete growing	

	<p>Evaluation and Offset Plan</p>	<p>season after completing final clean-up, a Wetland Reclamation Evaluation and Offset Plan that includes:</p> <ul style="list-style-type: none"> a) the extent (in hectares), by wetland type, that was impacted by pipeline and facilities construction and associated activities; b) for each wetland impacted, an evaluation of reclamation success with reference to the measurable goals outlined in the Wetland Survey and Mitigation Plan required by Condition No. 52; c) for any wetland that has achieved the intended degree of reclamation success, an evaluation of any temporary loss of each individual functional condition (e.g., habitat, hydrology and biogeochemistry); d) an identification of any wetlands that have not yet achieved the intended degree of reclamation success; e) for those wetlands that have had a temporary loss in any individual functional condition and for those that have not yet achieved reclamation success, a Final Wetland Offset Plan that updates the preliminary plan required by Condition No. 52, and that also includes details on the amount and type of further offsets required, and the offset measures to be implemented including a timeline for their implementation and monitoring; 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; and g) a summary of Trans Mountain’s consultation concerning a) to f) with appropriate government authorities and any potentially affected Aboriginal groups, including any issues or concerns raised and 	<p>season after completing final clean-up, a Wetland Reclamation Evaluation and Offset Plan. In developing the plan, Trans Mountain must consult with appropriate government authorities, any potentially affected Aboriginal groups and other stakeholders. The plan must include the following that includes:</p> <ul style="list-style-type: none"> a) the extent (in hectares), by wetland type, that was impacted by pipeline and facilities construction and associated activities; b) for each wetland impacted, an evaluation of reclamation success with reference to the measurable goals outlined in the Wetland Survey and Mitigation Plan required by Condition No. 52; c) for any wetland that has achieved the intended degree of reclamation success, an evaluation of any temporary loss of each individual functional condition (e.g., habitat, hydrology and biogeochemistry); d) an identification of any wetlands that have not yet achieved the intended degree of reclamation success; e) for those wetlands that have had a temporary loss in any individual functional condition and for those that have not yet achieved reclamation success, a Final Wetland Offset Plan that updates the preliminary plan required by Condition No. 52, and that also includes details on the amount and type of further offsets required, and the offset measures to be implemented including a timeline for their implementation and monitoring; 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; and 	<p>While subsection g) requires Trans Mountain to include a consultation summary in the Wetland Reclamation and Offset Plan, the condition does not actually require Trans Mountain to consult with government authorities or affected parties. The suggested wording makes that requirement clear.</p> <p>Given the Province’s responsibility for stewardship and protection of Provincial Crown land and natural resources, it is critical that Trans Mountain consult with the Province in developing the plan.</p>
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		how Trans Mountain has addressed or responded to them.	g) a summary of Trans Mountain’s consultation concerning a) to f) with appropriate government authorities and any potentially affected Aboriginal groups, including any issues or concerns raised and how Trans Mountain has addressed or responded to them.	
149	Grasslands Survey and Mitigation Plan	<p>Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction, a pre-construction Grasslands Survey and Mitigation Plan that applies to native grasslands in the British Columbia interior and that includes:</p> <p>a) a description of the extent of overlap of the Project with native grasslands in the British Columbia interior;</p> <p>b) a summary of survey results for such grasslands potentially affected by the Project, including but not limited to native plant species diversity, the density and distribution of existing invasive plant species, and the presence of cryptogamic crust;</p> <p>c) a description of the mitigation and reclamation measures to be implemented for potentially affected grasslands, 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;</p> <p>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,</p> <p>e) a description of how the</p> <p>i) avoidance, mitigation, and offset hierarchy, and</p> <p>ii) the goal of no net loss for grasslands,</p>	<p>Trans Mountain must file with the NEB for approval, at least 4 months prior to commencing construction, a pre-construction Grasslands Survey and Mitigation Plan that applies to native grasslands in the British Columbia interior. In developing the plan, Trans Mountain must consult with appropriate government authorities, any potentially affected Aboriginal groups and other stakeholders. The plan must include the following and that includes:</p> <p>a) a description of the extent of overlap of the Project with native grasslands in the British Columbia interior;</p> <p>b) a summary of survey results for such grasslands potentially affected by the Project, including but not limited to native plant species diversity, the density and distribution of existing invasive plant species, and the presence of cryptogamic crust;</p> <p>c) a description of the mitigation and reclamation measures to be implemented for potentially affected grasslands, 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;</p> <p>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,</p>	<p>While subsection i) requires Trans Mountain to include a consultation summary in the Grasslands Survey and Mitigation Plan, the condition does not actually require Trans Mountain to consult with government authorities or affected parties. The suggested wording makes that requirement clear.</p> <p>Given the Province’s responsibility for stewardship and protection of Provincial Crown land and natural resources, it is critical that Trans Mountain consult with the Province in developing the plan.</p>

		<p>were considered in developing the plan;</p> <p>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;</p> <p>g) a Preliminary Grasslands Offset Plan for those grasslands that, after ten years of operations, have not achieved reclamation success – this plan must include:</p> <ul style="list-style-type: none"> i) an explanation of how the need for offset measures will be determined and quantified, including offset ratios; ii) the potential offset measures, the process for selecting which will be implemented, and an evaluation of the probability of their success; and iii) a discussion of how the effectiveness of offsets measures will be monitored, assessed, and reported on; <p>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;</p> <p>i) a summary of Trans Mountain’s consultation concerning a) to h) with appropriate government authorities and any potentially affected Aboriginal groups and stakeholders, including any issues or concerns raised and how Trans Mountain has addressed or responded to them; and</p> <p>j) confirmation that the relevant Environmental Protection Plans will be updated to include any relevant information from the Grasslands Survey and Mitigation Plan.</p>	<p>e) a description of how the</p> <ul style="list-style-type: none"> i) avoidance, mitigation, and offset hierarchy, and ii) the goal of no net loss for grasslands, were considered in developing the plan; <p>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;</p> <p>g) a Preliminary Grasslands Offset Plan for those grasslands that, after ten years of operations, have not achieved reclamation success – this plan must include:</p> <ul style="list-style-type: none"> i) an explanation of how the need for offset measures will be determined and quantified, including offset ratios; ii) the potential offset measures, the process for selecting which will be implemented, and an evaluation of the probability of their success; and iii) a discussion of how the effectiveness of offsets measures will be monitored, assessed, and reported on; <p>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;</p> <p>i) a summary of Trans Mountain’s consultation concerning a) to h) with appropriate government authorities and any potentially affected Aboriginal groups and stakeholders, including any issues or concerns raised and how Trans Mountain has addressed or responded to them; and</p> <p>j) confirmation that the relevant Environmental Protection Plans will be updated to include any</p>	
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			relevant information from the Grasslands Survey and Mitigation Plan.	
150	Grasslands Reclamation Evaluation and Offset Plan	<p>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 and Offset Plan that applies to native grasslands in the British Columbia interior and that includes:</p> <ul style="list-style-type: none"> a) the extent (in hectares) of grasslands that were impacted by pipeline and facilities 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 No. 149; 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 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 No. 149, and that also includes details on the amount and type of offsets required and the offset measures to be implemented, including a timeline for their implementation and monitoring; 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; and f) a summary of Trans Mountain’s consultation concerning a) to e) with appropriate government authorities and any potentially affected Aboriginal 	<p>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 and Offset Plan that applies to native grasslands in the British Columbia interior. In developing the plan, Trans Mountain must consult with appropriate government authorities, any potentially affected Aboriginal groups and other stakeholders. The plan must include the following and that includes:</p> <ul style="list-style-type: none"> a) the extent (in hectares) of grasslands that were impacted by pipeline and facilities 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 No. 149; 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 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 No. 149, and that also includes details on the amount and type of offsets required and the offset measures to be implemented, including a timeline for their implementation and monitoring; 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; and 	<p>While subsection f) requires Trans Mountain to include a consultation summary in the Grasslands Reclamation and Offset Plan, the condition does not actually require Trans Mountain to consult with government authorities or affected parties. The suggested wording makes that requirement clear.</p> <p>Given the Province’s responsibility for stewardship and protection of Provincial Crown land and natural resources, it is critical that Trans Mountain consult with the Province in developing the plan.</p>

		<p>groups and stakeholders, including any issues or concerns raised and how Trans Mountain has addressed or responded to them.</p>	<p>f) a summary of Trans Mountain’s consultation concerning a) to e) with appropriate government authorities and any potentially affected Aboriginal groups and stakeholders, including any issues or concerns raised and how Trans Mountain has addressed or responded to them.</p>	
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Condition Topic	Province of British Columbia’s Proposed Condition	Province of British Columbia’s Rationale
<p>Marine Emergency Response Plan</p>	<p>a) Trans Mountain must file with the NEB for approval, at least 6 months prior to commencing operations, a Marine Emergency Response Plan demonstrating an ability to prepare for, respond to, recover from, and mitigate the potential effects of emergencies of any type caused by Project-related marine shipping activities. The plan must include the following:</p> <p>i) The following relevant emergency preparedness and response documents:</p> <ul style="list-style-type: none"> • A marine emergency preparedness and response plan, and • All related and accompanying plans and documents, including, but not limited to, Geographic Response Plans (GRPs)/Geographic Response Strategies (GRSs) for all areas along the intended tanker route within Canada’s 200 nautical mile limit, a volunteer management plan, a fire safety plan, a wildlife care plan, an environmental impact assessment, a waste management plan, a sampling and monitoring (including air quality monitoring) plan, an evacuation plan, a pre-Shoreline Cleanup and Assessment Techniques plan, a submerged oil plan, and an incident notification and communications plan. <p>ii) A description of the models used in response planning, including oil trajectory, fate and behaviour, and air dispersion models.</p> <p>iii) A description of how the results of research initiatives, such as the Scientific Advisory Committee work noted</p>	<p>The draft conditions address emergency response planning for the pipeline and the Edmonton, Sumas and Burnaby Terminals (Condition No. 123), and for the Westridge Marine Terminal (Condition No. 124) only. Marine spills beyond the Westridge Marine Terminal must be included in the Emergency Preparedness and Response Exercise and Training Program. As EnviroEmerg points out, limiting the response area to the 12 mile territorial limit would have the effect of ignoring “western, northern and central coast communities with regards to prevention and mitigation in the event of a tanker casualty and oil spill in offshore Pacific waters” (A4Q1L5, PDF p. 10).</p> <p>The proposed condition mirrors the wording of conditions No. 123 and 124.</p>

	<p>in Trans Mountain’s response to NEB’s Information Request No. 1.63 (Filing A3W9H8) and other research noted during the OH-001-2014 proceeding, have been considered and incorporated into the marine emergency response planning.</p> <ul style="list-style-type: none"> iv) A discussion of how the plan considers, and would allow coordination with, relevant federal, provincial, municipal and First Nations emergency response plans. v) Confirmation that an independent third party has reviewed and assessed the Marine Emergency Response Plan and that Trans Mountain has considered and incorporated the comments generated by the review and assessment into the plan. <p>b) On an annual basis, Trans Mountain must review and revise its emergency preparedness and response documents to incorporate any changes that may affect the adequacy of such plans including, but not limited to, changes to the following:</p> <ul style="list-style-type: none"> i) the availability of third party contractors and resources available under mutual aid agreements; ii) communication and notification contact information; iii) GRPs/GRSs due to changes in river morphology; and iv) lessons learned from incidents and near misses as well as new research findings. 	<p>To be useful, emergency response plans must be reviewed and updated regularly so as to ensure the information they contain is up-to-date.</p>
<p>Land-based spill response resources</p>	<p>Before commencing operations, Trans Mountain must:</p> <ul style="list-style-type: none"> a) undertake a risk assessment and gap analysis to determine the need for additional Oil Spill Containment and Recovery (OSCAR) units, trained 	<p>Trans Mountain has committed to undertaking a risk assessment and gap analysis to determine the need for additional OSCAR units and the most</p>

	<p>responders and operational support, and the most effective locations for placement of those resources;</p> <p>b) establish any additional OSCAR units, trained responders and operational support required, as per the analysis conducted pursuant to a);</p> <p>c) ensure that sufficient spill response resources are available at each fixed facility (terminal and tank farm) to respond to a credible worst case spill, as defined in Trans Mountain’s application; and</p> <p>d) file with the NEB, and provide to the Province of British Columbia, a detailed list of the spill response equipment available in each OSCAR unit and at each fixed facility, along with a schedule for testing and maintenance of such resources.</p>	<p>effective locations for those units (A3Y2Z1, PDF p. 64). Paragraph a) builds upon that commitment in order to include trained responders and operational support resources in the analysis.</p> <p>Paragraph b) ensures that following the risk assessment and gap analysis, additional resources are actually established as required.</p> <p>Paragraph c) ensures that, for the terminals and tank farms, sufficient resources are in place in order to respond to a credible worst case spill.</p> <p>Paragraph d) ensures that the NEB and the Province know precisely what equipment would be brought to bear in the event of a spill, and how this equipment will be tested and maintained.</p>
<p>Marine spill response resources</p>	<p>Before commencing operations, Trans Mountain must:</p> <p>a) ensure that the response capacity of the West Coast Marine Response Corporation (WCMRC), or any successor federal response organization, is augmented as described in Filing A3S5I9;</p> <p>b) file with the NEB, and provide to the Province of British Columbia, a detailed list of all marine spill response equipment available through WCMRC or any contracted response organization, along with a schedule for testing and maintenance of such equipment; and</p> <p>c) ensure the acquisition of, or access to, sufficient</p>	<p>Ensures that the enhanced response standards described in Filing A3S5I9 are met through the implementation of the equipment plan described in the report.</p> <p>Ensures that the NEB and the Province know precisely what equipment would be brought to bear in the event of a spill, and how this equipment will be tested and maintained.</p> <p>Filing A3S5I9 describes Current Busters as</p>

	<p>Current Busters boom systems, as well as the resources required for their deployment, for the response to a credible worst-case spill (as defined in Trans Mountain’s application) in open water conditions.</p>	<p>“a unique product for containing and recovering oil in an offshore environment”, and states that Current Busters will be stored on the larger response barge on the West Coast of Vancouver Island, and four additional units will be stored on the Offshore Supply Vessel moored on the Saanich Peninsula. Given the usefulness of the product, it should be acquired (or otherwise readily accessible) in numbers sufficient for the response to a credible worst case spill in open water.</p>
<p>Groundwater remediation</p>	<p>a) In the event of a spill impacting an existing water supply, rendering that supply unusable, Trans Mountain must plan for, organize, implement and pay for the immediate delivery of temporary drinking water to the existing users of that supply.</p> <p>b) In the event of a spill impacting groundwater, Trans Mountain must implement a remediation program to recover oil and treat contaminated water to meet the requirements of the NEB Remediation Process Guide (2011). Trans Mountain must meet the remediation criteria established by the province in which the</p>	<p>Builds upon Commitment No. 864 (“In the event that a pipeline release somehow adversely impacted drinking water aquifer conditions that supply Squamish Nation, Trans Mountain will commit to working with the leadership of the Nation to identify surplus capacity from other drinking water sources in the area, while suitable replacement alternatives were established and implemented.”) by adding specificity.</p> <p>Builds upon Commitment No. 948 (“In the unlikely event that released petroleum impacts groundwater, Trans Mountain will implement a remediation program to recover petroleum and treat contaminated water to meet stringent</p>

	<p>remediation takes place, or the standards established by the Canadian Council of Ministers of the Environment, whichever are more stringent.</p> <p>c) If groundwater remediation cannot occur in a reasonable timeframe (as determined by the province in which the remediation takes place), Trans Mountain must work with the owner of the water supply to identify a new water supply to meet all existing and further needs of the system. Trans Mountain must cover all costs of the planning, design and construction of this new supply, including any upgrades to the existing system that may be required to allow for implementation of the new supply.</p>	<p>government criteria”) and Commitment No. 894 (“In the event of a leak or rupture from a pipeline or facility within Shxw’ōwhámel First Nation (SFN) Traditional Territory, Trans Mountain pipeline ULC (Trans Mountain) will follow the remedial steps outlined in the National Energy Board (NEB) Remediation Process Guide (2011) to ensure that the groundwater contamination is remediated to applicable remediation standards.”) by making explicit reference to the NEB Remediation Process Guide for the remediation of contamination resulting from a release in any location. Builds upon Commitment No. 864 by adding specificity.</p>
<p>Visual effects</p>	<p>a) During route finalization and detailed facility design, Trans Mountain must consult with stakeholders, including the Province of British Columbia, regarding the Project’s visual effects and any potential site-specific mitigation measures in addition to those identified in Trans Mountain’s application.</p>	<p>Trans Mountain has acknowledged that the Project may have “longer term visual effects related to the presence of the new pipeline right of way in select areas” (A3Y2C5, PDF p. 65), and the visual effects of the project have been the subject of</p>

Hearing Order OH-001-2014

Board File: OF-Fac-Oil-T260-2013-0302

NATIONAL ENERGY BOARD

IN THE MATTER OF the *National Energy Board Act*, R.S.C. 1985, c. N-7, as amended, and the Regulations made thereunder;

AND IN THE MATTER OF THE *Canadian Environmental Assessment Act*, 2012, S.C., c. 19, s. 52, as amended, and the Regulations made thereunder;

AND IN THE MATTER OF an application by Trans Mountain Pipeline ULC as General Partner of Trans Mountain Pipeline L.P. (collectively, "Trans Mountain") for a Certificate of Public Convenience and Necessity and other related approvals pursuant to Part III of the *National Energy Board Act*.

Book of Authorities of the Province of British Columbia

January 11, 2016

List of Authorities

1. *Emera Brunswick Pipeline Co. (Re)*, 2007 LNCNEB 3, para. 41-48.
2. *Nakina (Township) v. Canadian National Railway Co.* [1986] F.C.J. No. 426 (C.A.)
3. *National Energy Board Act*, 1985, s. 52(2)
4. *Canadian Environmental Assessment Act*, 2012, ss 5, 19
5. Report of the Joint Review Panel for the Enbridge Northern Gateway Project – Considerations, section 7.4, Northern Gateways Emergency preparedness and response planning <http://www.gatewaypanel.review-examen.gc.ca/clf-nsi/dcmnt/rcmndtnsrprt/rcmndtnsrprtvlm2chp7-eng.html#s74>

Case Name:
Emera Brunswick Pipeline Co. (Re)

IN THE MATTER OF the National Energy Board Act and the regulations made thereunder;
IN THE MATTER OF applications dated 12 July 2007 and 7 August 2007 by Emera Brunswick Pipeline Company Ltd., pursuant to section 33 of the Act, for approval of the Plans, Profiles, and Book of Reference respecting the detailed route for the Brunswick Pipeline Certificate GC-110 from the Canaport™ Liquefied Natural Gas (LNG) Terminal at Mispec Point, New Brunswick to a point on the US border near St. Stephen, New Brunswick;
IN THE MATTER OF written statements of opposition concerning portions of the proposed detailed route of the Brunswick Pipeline Project;
AND IN THE MATTER OF National Energy Board Hearing Order MH-3-2007
RE Detailed Route Hearing

2008 LNCNEB 5

No. MH-3-2007

Canada National Energy Board
Saint John, New Brunswick

Panel: K.M. Bateman, Presiding Member;
S. Crowfoot, Member; D. Hamilton, Member

Heard: January 28, 29, 30, and 31, 2008.

Decision: May 1, 2008.

(194 paras.)

Appearances:

Company

Mr. N. Gretener and Mr. P. Zed, Q.C., for Emera Brunswick Pipeline Company Ltd. Witnesses: Mr. C. Blair, Mr. R. Mayer, Mr. R. MacDonald, Mr. P. Seheult.

Landowner

- ensuring a crossing angle as close to 90 degrees at railways, major highways, and watercourses where practical;
- ensuring temporary working room is available at road crossings, railway crossings, watercourse crossings, and for grade cuts;
- minimizing the amount of road and utility crossings, where practical; and
- minimizing the traversing of interior forests.

2.3 Detailed Route Selection Process

39 Brunswick Pipeline incorporated the concept of establishing fixed "control points" within the corridor. To begin with, the end control points were established at fixed locations, determined by pipeline design criteria, at the Canaport™ LNG Terminal and at the Maritimes and Northeast Pipeline system interconnection. With input and assistance of its field team, Brunswick Pipeline then established intermediate control points or "zones" at locations along the corridor. These control points were selected in accordance with its routing principles, focusing on environmental and construction concerns, especially at watercourse crossings. If more than one location was available for a control point, the upstream and downstream control points were reviewed to determine the best possible location.

40 Most control points were fixed at watercourse, road, and railway crossings, while other control points were fixed in areas where wetlands, waterbodies, or other physical features restricted access across the corridor. Where two or more routing constraints covering all but a portion of the corridor were encountered, a control zone within which to place the control point was established first. As consecutive control points were chosen, a direct RoW route was selected wherever possible to adhere to the primary principle of minimizing overall pipeline length. The resulting detailed route was then reviewed to determine if any secondary principles or constraints justified modification of the proposed RoW.

41 Control points, and the initial detailed route alignments between these control points, were selected by the Brunswick Pipeline RoW selection team, consisting of environmental, lands, and engineering personnel. Each initial alignment was then forwarded to a field team (again comprised of environmental, lands, and engineering personnel) for "ground truthing". The field team took into consideration the detailed route selection criteria, balanced competing criteria, and suggested any routing revisions for review by the RoW selection team before the preliminary preferred RoW was finalized. Once finalized, the preliminary preferred RoW was reviewed by

42 Brunswick Pipeline's environmental consultant and by its management review team to ensure the alignment was acceptable in view of the applicable environmental constraints and to assess, from a broader perspective, the overall suitability of the proposed detailed route.

43 RoW agents for Brunswick Pipeline then contacted affected landowners to present the preliminary preferred RoW and collect input from concerned landowners to refine the route. Also for the purpose of refining the route, further detailed engineering and environmental studies were conducted to gain a better understanding of the corridor and RoW conditions. Where landowner consent was obtained, members of the route selection team also walked the route with the construction contractor to gain a better understanding of field conditions prior to finalizing the route.

44 Any further revisions were then incorporated into the final RoW alignment, which was submitted to the Board on 12 July and 7 August 2007 as the PPBoR. Brunswick Pipeline submitted that it made efforts to consult with objecting landowners in an attempt to resolve their detailed route objections. Furthermore, in an attempt to treat all those affected by the proposed detailed route fairly and impartially, Brunswick Pipeline stated that it made reasonable efforts to resolve individual objections in such a way as not to compromise the integrity of its route selection criteria.

Chapter 3

Jurisdiction of the Board to Consider Routes Outside of the Corridor

3.1 Background

45 In a letter filed 10 December 2007, Galbraith Equipment Co. Ltd. and Galbraith Construction Ltd. (Galbraith) requested that a process be established for the consideration of a route outside of the corridor approved by the Board in the GH-1-2006 Decision on the Brunswick Pipeline Project. The Board ruled, in a letter dated 20 December 2007, that intervenors were not required to commence a review proceeding pursuant to section 21 of the NEB Act⁵ in order to have a route outside of the corridor considered, although the Board may require a section 21 determination at some time.⁶ The Board further held that intervenors were not restricted to suggesting a route within the corridor in their objections to the proposed route.

46 The Board went on to state that:

there may be cases where the Board would want to limit alternate routes to within the approved corridor, such as a situation where the corridor extends for 500m on either side of the proposed route. In that case the Board may take the view that the landowner has sufficient alternatives for a possible route within the corridor to address any concerns there may be. However, in this case, which is not unusual, where the corridor is significantly smaller than that in some places, the Board is of the view that it would limit a landowner's rights under the Act if it were to hold that proposed routes must be within the corridor.

If, at the conclusion of the detailed route hearing and based on the evidence on the record at that time, the Board determines that the route proposed by the landowner is better than that proposed by the pipeline, absent any additional evidence on the alternate route, the Board would not be in a position to approve the plans, profiles and books of reference filed by the company, but would also not be in a position to approve a route proposed by the landowner.

...the Board would require evidence to conduct an environmental assessment pursuant to the *Canadian Environmental Assessment Act*, to evaluate the proposed route under section 21 of the NEB Act and to be able to make a submission to Governor in Council to recommend an amendment to the certificate issued by the Board.

47 Both Galbraith and Sierra Supplies Ltd. (Sierra) proposed routes outside of the corridor for the Brunswick Pipeline Project.

3.2 Views of Parties

3.2.1 Brunswick Pipeline

48 Brunswick Pipeline asserted in its reply evidence filed 21 January 2008 and in argument regarding the Sierra and Galbraith objections that the adequacy of the corridor was properly addressed in the certificate proceeding where the Board clearly turned its mind to the appropriateness of the width of the corridor and found it to be acceptable. It argued that certificate issues should not be reconsidered in detailed route hearings, and that this should include the corridor.

49 Brunswick Pipeline stated that where the Board has heard evidence on alternate routes outside the corridor, this should be solely for the purpose of assisting the Board in determining whether the applied-for detailed route should be approved. It noted the Board's statement in previous decisions that:

in the context of considering a specific landowner objection to the detailed route as filed by the [pipeline] company, [the Board] has no jurisdiction to approve the route outside the corridor in the absence of an application by the proponent. The Board will hear evidence on alternate routes outside the corridor for the sole purpose of assisting it in determining whether the proposed detailed route, as applied for by the [c]ompany, should be approved.⁷

50 A consideration of routes outside the general corridor should, in Brunswick Pipeline's view, be limited to examining the suitability of the location of the pipeline within the corridor. In this way, a route outside the corridor may reveal features that should be considered to determine the best location for the pipeline within the corridor.

51 Brunswick Pipeline stated that the consideration of alternate routes outside the corridor cannot be open-ended as this would result, essentially, in new, mini certificate-like proceedings, at great prejudice to the applicant given the timelines involved. Further, Brunswick Pipeline noted that while it has agreed to minor variances from the corridor, this has only been where there is a compelling reason for the deviation, all affected landowners were supportive, and the application for a variance could be made in a timely manner that would not affect the project schedule. It argued that it should not now be prejudiced by the fact that it applied for variances to resolve landowner concerns in a timely manner.

52 While Brunswick Pipeline disagreed with the idea that the Board could consider denying a route within the corridor on the basis of evidence of a better route outside the corridor, Brunswick Pipeline argued that should the Board consider such an approach, the evidence of the superiority of the route outside the corridor should be overwhelming. It argued that this is not the case before the Board. Further, Brunswick Pipeline contended that it would suffer prejudice if such an approach were taken by the Board. It noted the length of time taken to receive approval of its section 21 variance application and stated that timing for the project will be severely and adversely impacted by a

Indexed as:
Nakina (Township) v. Canadian National Railway Co. (F.C.A.)

**IN THE MATTER OF an Appeal by the Corporation of the
Township of Nakina from the Decision of the Canadian
Transport Commission dated 16th August, 1985, pursuant to
Section 64, National Transportation Act.**

**Between
The Corporation of the Township of Nakina, Appellant, and
Canadian National Railway Company, Respondent**

[1986] F.C.J. No. 426

69 N.R. 124

39 A.C.W.S. (2d) 341

Action No. A-80-86

Federal Court of Appeal
Ottawa, Ontario

Pratte, Urie and Hugessen JJ.

Heard: June 11, 1986

Judgment: June 26, 1986

Railways -- Boards and tribunals -- Jurisdiction -- Public interest -- Railway company seeking leave to abandon station -- Canadian Transport Commission to consider public interest -- Public interest including effect of abandonment of station on community -- Railway Act, R.S.C. c. R-2, s. 120.

This was an appeal from a decision of the Railway Transport Commission granting leave to abandon a station. CN applied to the Commission for leave to abandon a station. The town in which the station was located opposed the application. The Commission granted leave on the basis that it had no jurisdiction to consider the effect abandonment would have on the community.

HELD: The appeal was allowed. The matter was remitted to the Commission for redetermination. In determining whether leave to abandon the station under s. 120 of the Railway Act was to be granted, the Commission was to have regard to the public interest. The effect of abandonment was part of the issue of public interest and should have been considered by the Commission.

Statutes and Regulations Cited

Railway Act, R.S.C. 1970, c. R-2, s. 120.

John H. Hornak, for the Appellant.
Terrence H. Hall, for the Respondent.
Diane Nicholas, for the Canadian Transport Commission.

HUGESSEN J. (for the Court):-- The Canadian National Railway Company (CN) proposes changes in its freight train operations between Hornepayne and Armstrong, in Northern Ontario. The changes involve a "run-through" and consequent closing or abandonment of the station at Nakina. Accordingly leave of the Canadian Transport Commission was required pursuant to section 120 of the Railway Act [Footnote appended to judgment.].

The Railway Transport Committee of the Commission held hearings in connection with the proposed closure or abandonment. At those hearings, the appellant, the Corporation of the Township of Nakina, appeared and presented evidence and argument tending to show that the proposed changes would have a drastic effect upon the economy of the region.

The Committee's decision, which forms the subject matter of the present appeal, granted the requested leave to CN. On the matter of the Township's intervention, the Committee stated the problem before it in the following terms:

Section 120 of the Railway Act merely provides that a railway company shall not remove, close or abandon any station, or divisional point nor create a new divisional point that would involve the removal of employees without leave of the Commission. (emphasis added). In the Committee's opinion, it is an accepted principle that where no limits or guidelines are placed on the discretion of the Committee, the Committee may consider the public interest in deciding whether or not to grant leave. While this is clear, it was not apparent how broadly the Committee should define the public interest in the context of section 120. That is, should the Committee examine only those aspects of the public interest that impact directly on railway operations or are all aspects of the public interest relevant? (Case Book, p. 16-17).

After extensively reviewing the case law on the question, none of which it found to be directly on the point, the Committee concluded as follows:

On balance, then, the Committee is of the opinion that it is not entitled, by the words of section 120 of the Railway Act, to take into consideration the effects of a runthrough on the Township of Nakina. (Case Book, p. 23).

I find this conclusion startling. The Committee concedes that it must have regard to the public interest. I would have thought that, by definition, the term "public interest" includes the interests of all the affected members of the public. The determination of what is in the public interest involves the weighing and balancing of competing considerations. Some may be given little or no weight; others much. But surely a body charged with deciding in the public interest is "entitled" to consider the effects of what is proposed on all members of the public. To exclude from consideration any class or

category of interests which form part of the totality of the general public interest is accordingly, in my view, an error of law justifying the intervention of this Court.

But there is more. In its rationale for limiting its view of what was the public interest, the Committee, quite correctly in my view, stated:

...the question of how broadly it should define the public interest must be answered not only with reference to section 120, but by taking into consideration the Railway Act as a whole. (Case Book, p. 22-23).

It then went on to give the following analysis of the general scheme of the Act:

The Railway Act is legislation dealing with the running of railways and, by its terms, it gives the Railway Transport Committee of the Canadian Transport Commission jurisdiction in the areas of the technical operation of the railways, the safe operation of the railways and the service provided by the railways in their operation. In a general sense, the Committee is under a duty to exercise this jurisdiction for the public benefit. However, this cannot mean that in all operational, safety and service matters that the Committee must look beyond the immediate issue and adjudicate between the particular railway's interest and the interests of the public in general. This being the case, a narrow interpretation of the factors to be considered in granting leave would be in keeping with the well recognized aim of preserving harmony within the Act. (Case Book, p. 23).

I confess that I am at a loss to understand this passage. While it is true, of course, that the Railway Act gives the Commission special responsibilities in the three areas identified by the Committee, namely, technical operation, safety and service, its power of decision making is by no means limited to a narrow consideration of those matters only. Indeed in some cases the Commission is directed to decide in only the most general terms such as in accordance with the public convenience and necessity. To put the matter another way, while the Commission may have the jurisdiction, in the public interest, to regulate questions of technical operation, safety and service, those fields of jurisdiction do not themselves constitute either a limitation or a definition of what the public interest is, either generally or with regard to any particular case.

If evidence is relevant to the determination of the question of public interest, it must be admitted and considered. For my part, I find it impossible to say that evidence dealing with the probable economic effects of the proposed changes on the surrounding communities would not be relevant to the question of the public interest. By the same token, I could not say that, for example, evidence as to the probable environmental effects of the proposed changes would not be relevant. Relevance is, of course, always a matter of degree and will vary from case to case depending on the surrounding circumstances; that, however, goes to weight rather than admissibility.

Accordingly, it is my opinion that it would have been error for the Committee not to admit the appellant's evidence; having admitted it, it was error for the Committee to hold that it could not consider it. For clarity, however, I would emphasise that the error lies simply in the failure to consider. Clearly the weight to be given to such consideration is a matter for the discretion of the Commission, which may, in the exercise of that discretion, quite properly decide that other considerations are of greater importance. What it could not do was preclude any examination of

evidence and submissions as to the adverse economic impact of the proposed changes on the affected community.

I would allow the appeal and certify to the Commission the opinion that, in considering whether or not to grant leave to close or abandon the station at Nakina pursuant to section 120 of the Railway Act, the Commission is entitled to take into consideration the effects of a run-through on the Township of Nakina.

HUGESSEN J.

PRATTE J.:-- I agree.

URIE J.:-- I agree.

Footnote

R.S.C. 1970, c. R-2.

120. The company shall not, at any time, make any change, alteration or deviation in the railway, or any portion thereof, until the provisions of section 119 are fully complied with, nor remove, close, or abandon any station, or divisional point nor create a new divisional point that would involve the removal of employees, without leave of the Commission; and where any such change is made the company shall compensate its employees as the Commission deems proper for any financial loss caused to them by change of residence necessitated thereby.



CANADA

CONSOLIDATION

CODIFICATION

National Energy Board Act

Loi sur l'Office national de l'énergie

R.S.C., 1985, c. N-7

L.R.C. (1985), ch. N-7

Current to December 10, 2015

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(a) on summary conviction, to a fine not exceeding one hundred thousand dollars or to imprisonment for a term not exceeding one year or to both; or

(b) on conviction on indictment, to a fine not exceeding one million dollars or to imprisonment for a term not exceeding five years or to both.

Defence — no notice

(2) No person shall be found guilty of an offence for failing to comply with an order under section 51.1 unless the person was given written notice of the order in accordance with paragraph 51.1(3)(a).

Application of subsections 121(2) to (5)

(3) Subsections 121(2) to (5) apply, with such modifications as the circumstances require, in respect of an offence under this section.

1994, c. 10, s. 25.

Certificates

Report

52 (1) If the Board is of the opinion that an application for a certificate in respect of a pipeline is complete, it shall prepare and submit to the Minister, and make public, a report setting out

(a) its recommendation as to whether or not the certificate should be issued for all or any portion of the pipeline, taking into account whether the pipeline is and will be required by the present and future public convenience and necessity, and the reasons for that recommendation; and

(b) regardless of the recommendation that the Board makes, all the terms and conditions that it considers necessary or desirable in the public interest to which the certificate will be subject if the Governor in Council were to direct the Board to issue the certificate, including terms or conditions relating to when the certificate or portions or provisions of it are to come into force.

Factors to consider

(2) In making its recommendation, the Board shall have regard to all considerations that appear to it to be directly related to the pipeline and to be relevant, and may have regard to the following:

(a) the availability of oil, gas or any other commodity to the pipeline;

(b) the existence of markets, actual or potential;

a) par procédure sommaire, une amende maximale de cent mille dollars et un emprisonnement maximal d'un an, ou l'une de ces peines;

b) par mise en accusation, une amende maximale d'un million de dollars et un emprisonnement maximal de cinq ans, ou l'une de ces peines.

Défense : absence d'avis

(2) Une personne ne peut être déclarée coupable d'une infraction pour inobservation de l'ordre visé à l'article 51.1 si elle n'en a pas été avisée par écrit aux termes du paragraphe 51.1(3).

Application des paragraphes 121(2) à (5)

(3) Les paragraphes 121(2) à (5) s'appliquent, avec les adaptations nécessaires, à l'infraction prévue au présent article.

1994, ch. 10, art. 25.

Certificats

Rapport de l'Office

52 (1) S'il estime qu'une demande de certificat visant un pipeline est complète, l'Office établit et présente au ministre un rapport, qu'il doit rendre public, où figurent :

a) sa recommandation motivée à savoir si le certificat devrait être délivré ou non relativement à tout ou partie du pipeline, compte tenu du caractère d'utilité publique, tant pour le présent que pour le futur, du pipeline;

b) quelle que soit sa recommandation, toutes les conditions qu'il estime utiles, dans l'intérêt public, de rattacher au certificat si le gouverneur en conseil donne instruction à l'Office de le délivrer, notamment des conditions quant à la prise d'effet de tout ou partie du certificat.

Facteurs à considérer

(2) En faisant sa recommandation, l'Office tient compte de tous les facteurs qu'il estime directement liés au pipeline et pertinents, et peut tenir compte de ce qui suit :

a) l'approvisionnement du pipeline en pétrole, gaz ou autre produit;

b) l'existence de marchés, réels ou potentiels;

c) la faisabilité économique du pipeline;

- (c) the economic feasibility of the pipeline;
- (d) the financial responsibility and financial structure of the applicant, the methods of financing the pipeline and the extent to which Canadians will have an opportunity to participate in the financing, engineering and construction of the pipeline; and
- (e) any public interest that in the Board's opinion may be affected by the issuance of the certificate or the dismissal of the application.

Environmental assessment

(3) If the application relates to a designated project within the meaning of section 2 of the *Canadian Environmental Assessment Act, 2012*, the report must also set out the Board's environmental assessment prepared under that Act in respect of that project.

Time limit

(4) The report must be submitted to the Minister within the time limit specified by the Chairperson. The specified time limit must be no longer than 15 months after the day on which the applicant has, in the Board's opinion, provided a complete application. The Board shall make the time limit public.

Excluded period

(5) If the Board requires the applicant to provide information or undertake a study with respect to the pipeline and the Board, with the Chairperson's approval, states publicly that this subsection applies, the period that is taken by the applicant to comply with the requirement is not included in the calculation of the time limit.

Public notice of excluded period

(6) The Board shall make public the dates of the beginning and ending of the period referred to in subsection (5) as soon as each of them is known.

Extension

(7) The Minister may, by order, extend the time limit by a maximum of three months. The Governor in Council may, on the recommendation of the Minister, by order, further extend the time limit by any additional period or periods of time.

Minister's directives

(8) To ensure that the report is prepared and submitted in a timely manner, the Minister may, by order, issue a directive to the Chairperson that requires the Chairperson to

- (d) la responsabilité et la structure financières du demandeur et les méthodes de financement du pipeline ainsi que la mesure dans laquelle les Canadiens auront la possibilité de participer au financement, à l'ingénierie ainsi qu'à la construction du pipeline;
- (e) les conséquences sur l'intérêt public que peut, à son avis, avoir la délivrance du certificat ou le rejet de la demande.

Évaluation environnementale

(3) Si la demande vise un projet désigné au sens de l'article 2 de la *Loi canadienne sur l'évaluation environnementale (2012)*, le rapport contient aussi l'évaluation environnementale de ce projet établi par l'Office sous le régime de cette loi.

Délai

(4) Le rapport est présenté dans le délai fixé par le président. Ce délai ne peut excéder quinze mois suivant la date où le demandeur a, de l'avis de l'Office, complété la demande. Le délai est rendu public par l'Office.

Période exclue du délai

(5) Si l'Office exige du demandeur, relativement au pipeline, la communication de renseignements ou la réalisation d'études et déclare publiquement, avec l'approbation du président, que le présent paragraphe s'applique, la période prise par le demandeur pour remplir l'exigence n'est pas comprise dans le calcul du délai.

Avis publics – période exclue

(6) L'Office rend publiques, sans délai, la date où commence la période visée au paragraphe (5) et celle où elle se termine.

Prorogations

(7) Le ministre peut, par arrêté, proroger le délai pour un maximum de trois mois. Le gouverneur en conseil peut, par décret pris sur la recommandation du ministre, accorder une ou plusieurs prorogations supplémentaires.

Instructions du ministre

(8) Afin que le rapport soit établi et présenté en temps opportun, le ministre peut, par arrêté, donner au président instruction :

- a) de fixer, en vertu du paragraphe (4), un délai identique à celui indiqué dans l'arrêté;



CANADA

CONSOLIDATION

CODIFICATION

Canadian Environmental Assessment Act, 2012

Loi canadienne sur l'évaluation environnementale (2012)

S.C. 2012, c. 19, s. 52

L.C. 2012, ch. 19, art. 52

NOTE

[Enacted by section 52 of chapter 19 of the Statutes of Canada, 2012, in force July 6, 2012, see SI/2012-56.]

NOTE

[Édictée par l'article 52 du chapitre 19 des Lois du Canada (2012), en vigueur le 6 juillet 2012, voir TR/2012-56.]

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(c) to promote cooperation and coordinated action between federal and provincial governments with respect to environmental assessments;

(d) to promote communication and cooperation with aboriginal peoples with respect to environmental assessments;

(e) to ensure that opportunities are provided for meaningful public participation during an environmental assessment;

(f) to ensure that an environmental assessment is completed in a timely manner;

(g) to ensure that projects, as defined in section 66, that are to be carried out on federal lands, or those that are outside Canada and that are to be carried out or financially supported by a federal authority, are considered in a careful and precautionary manner to avoid significant adverse environmental effects;

(h) to encourage federal authorities to take actions that promote sustainable development in order to achieve or maintain a healthy environment and a healthy economy; and

(i) to encourage the study of the cumulative effects of physical activities in a region and the consideration of those study results in environmental assessments.

Mandate

(2) The Government of Canada, the Minister, the Agency, federal authorities and responsible authorities, in the administration of this Act, must exercise their powers in a manner that protects the environment and human health and applies the precautionary principle.

Environmental Effects

Environmental effects

5 (1) For the purposes of this Act, the environmental effects that are to be taken into account in relation to an act or thing, a physical activity, a designated project or a project are

(a) a change that may be caused to the following components of the environment that are within the legislative authority of Parliament:

(i) fish and fish habitat as defined in subsection 2(1) of the *Fisheries Act*,

c) de promouvoir la collaboration des gouvernements fédéral et provinciaux et la coordination de leurs activités en matière d'évaluation environnementale;

d) de promouvoir la communication et la collaboration avec les peuples autochtones en matière d'évaluation environnementale;

e) de veiller à ce que le public ait la possibilité de participer de façon significative à l'évaluation environnementale;

f) de veiller à ce que l'évaluation environnementale soit menée à terme en temps opportun;

g) de veiller à ce que soient étudiés avec soin et prudence, afin qu'ils n'entraînent pas d'effets environnementaux négatifs importants, les projets au sens de l'article 66 qui sont réalisés sur un territoire domanial, qu'une autorité fédérale réalise à l'étranger ou pour lesquels elle accorde une aide financière en vue de leur réalisation à l'étranger;

h) d'inciter les autorités fédérales à favoriser un développement durable propice à la salubrité de l'environnement et à la santé de l'économie;

i) d'encourager l'étude des effets cumulatifs d'activités concrètes dans une région et la prise en compte des résultats de cette étude dans le cadre des évaluations environnementales.

Mission

(2) Pour l'application de la présente loi, le gouvernement du Canada, le ministre, l'Agence, les autorités fédérales et les autorités responsables doivent exercer leurs pouvoirs de manière à protéger l'environnement et la santé humaine et à appliquer le principe de précaution.

Effets environnementaux

Effets environnementaux

5 (1) Pour l'application de la présente loi, les effets environnementaux qui sont en cause à l'égard d'une mesure, d'une activité concrète, d'un projet désigné ou d'un projet sont les suivants :

a) les changements qui risquent d'être causés aux composantes ci-après de l'environnement qui relèvent de la compétence législative du Parlement :

(i) les poissons et leur habitat, au sens du paragraphe 2(1) de la *Loi sur les pêches*,

- (ii) aquatic species as defined in subsection 2(1) of the *Species at Risk Act*,
 - (iii) migratory birds as defined in subsection 2(1) of the *Migratory Birds Convention Act, 1994*, and
 - (iv) any other component of the environment that is set out in Schedule 2;
- (b) a change that may be caused to the environment that would occur
- (i) on federal lands,
 - (ii) in a province other than the one in which the act or thing is done or where the physical activity, the designated project or the project is being carried out, or
 - (iii) outside Canada; and
- (c) with respect to aboriginal peoples, an effect occurring in Canada of any change that may be caused to the environment on
- (i) health and socio-economic conditions,
 - (ii) physical and cultural heritage,
 - (iii) the current use of lands and resources for traditional purposes, or
 - (iv) any structure, site or thing that is of historical, archaeological, paleontological or architectural significance.

Exercise of power or performance of duty or function by federal authority

(2) However, if the carrying out of the physical activity, the designated project or the project requires a federal authority to exercise a power or perform a duty or function conferred on it under any Act of Parliament other than this Act, the following environmental effects are also to be taken into account:

- (a) a change, other than those referred to in paragraphs (1)(a) and (b), that may be caused to the environment and that is directly linked or necessarily incidental to a federal authority's exercise of a power or performance of a duty or function that would permit the carrying out, in whole or in part, of the physical activity, the designated project or the project; and
- (b) an effect, other than those referred to in paragraph (1)(c), of any change referred to in paragraph (a) on

- (ii) les espèces aquatiques au sens du paragraphe 2(1) de la *Loi sur les espèces en péril*,
- (iii) les oiseaux migrateurs au sens du paragraphe 2(1) de la *Loi de 1994 sur la convention concernant les oiseaux migrateurs*,
- (iv) toute autre composante de l'environnement mentionnée à l'annexe 2;

b) les changements qui risquent d'être causés à l'environnement, selon le cas :

- (i) sur le territoire domanial,
- (ii) dans une province autre que celle dans laquelle la mesure est prise, l'activité est exercée ou le projet désigné ou le projet est réalisé,
- (iii) à l'étranger;

c) s'agissant des peuples autochtones, les répercussions au Canada des changements qui risquent d'être causés à l'environnement, selon le cas :

- (i) en matière sanitaire et socio-économique,
- (ii) sur le patrimoine naturel et le patrimoine culturel,
- (iii) sur l'usage courant de terres et de ressources à des fins traditionnelles,
- (iv) sur une construction, un emplacement ou une chose d'importance sur le plan historique, archéologique, paléontologique ou architectural.

Exercice d'attributions par une autorité fédérale

(2) Toutefois, si l'exercice de l'activité ou la réalisation du projet désigné ou du projet exige l'exercice, par une autorité fédérale, d'attributions qui lui sont conférées sous le régime d'une loi fédérale autre que la présente loi, les effets environnementaux comprennent en outre :

- a) les changements — autres que ceux visés aux alinéas (1)a) et b) — qui risquent d'être causés à l'environnement et qui sont directement liés ou nécessairement accessoires aux attributions que l'autorité fédérale doit exercer pour permettre l'exercice en tout ou en partie de l'activité ou la réalisation en tout ou en partie du projet désigné ou du projet;
- b) les répercussions — autres que celles visées à l'alinéa (1)c) — des changements visés à l'alinéa a), selon le cas :

- (i) health and socio-economic conditions,
- (ii) physical and cultural heritage, or
- (iii) any structure, site or thing that is of historical, archaeological, paleontological or architectural significance.

Schedule 2

(3) The Governor in Council may, by order, amend Schedule 2 to add or remove a component of the environment.

2012, c. 19, ss. 52 "5", 64, c. 31, s. 425(F).

Prohibitions

Proponent

6 The proponent of a designated project must not do any act or thing in connection with the carrying out of the designated project, in whole or in part, if that act or thing may cause an environmental effect referred to in subsection 5(1) unless

(a) the Agency makes a decision under paragraph 10(b) that no environmental assessment of the designated project is required and posts that decision on the Internet site; or

(b) the proponent complies with the conditions included in the decision statement that is issued under subsection 31(3) or section 54 to the proponent with respect to that designated project.

Federal authority

7 A federal authority must not exercise any power or perform any duty or function conferred on it under any Act of Parliament other than this Act that could permit a designated project to be carried out in whole or in part unless

(a) the Agency makes a decision under paragraph 10(b) that no environmental assessment of the designated project is required and posts that decision on the Internet site; or

(b) the decision statement with respect to the designated project that is issued under subsection 31(3) or section 54 to the proponent of the designated project indicates that the designated project is not likely to cause significant adverse environmental effects or that the significant adverse environmental effects that it is likely to cause are justified in the circumstances.

2012, c. 19, s. 52 "7", c. 31, s. 426(E).

- (i) sur les plans sanitaire et socio-économique,
- (ii) sur le patrimoine naturel et le patrimoine culturel,
- (iii) sur une construction, un emplacement ou une chose d'importance sur le plan historique, archéologique, paléontologique ou architectural.

Annexe 2

(3) Le gouverneur en conseil peut, par décret, modifier l'annexe 2 pour y ajouter ou en retrancher toute composante de l'environnement.

2012, ch. 19, art. 52 « 5 » et 64, ch. 31, art. 425(F).

Interdictions

Promoteur

6 Le promoteur d'un projet désigné ne peut prendre une mesure se rapportant à la réalisation de tout ou partie du projet et pouvant entraîner des effets environnementaux visés au paragraphe 5(1) que si, selon le cas :

a) l'Agence décide, au titre de l'alinéa 10b), qu'aucune évaluation environnementale du projet n'est requise et affiche sa décision sur le site Internet;

b) le promoteur prend la mesure en conformité avec les conditions qui sont énoncées dans la déclaration qui lui est remise au titre du paragraphe 31(3) ou de l'article 54 relativement au projet.

Autorité fédérale

7 L'autorité fédérale ne peut exercer les attributions qui lui sont conférées sous le régime d'une loi fédérale autre que la présente loi et qui pourraient permettre la réalisation en tout ou en partie d'un projet désigné que si, selon le cas :

a) l'Agence décide, au titre de l'alinéa 10b), qu'aucune évaluation environnementale du projet n'est requise et affiche sa décision sur le site Internet;

b) la déclaration remise au promoteur du projet au titre du paragraphe 31(3) ou de l'article 54 relativement au projet donne avis d'une décision portant que la réalisation du projet n'est pas susceptible d'entraîner des effets environnementaux négatifs importants ou que les effets environnementaux négatifs importants que la réalisation du projet est susceptible d'entraîner sont justifiables dans les circonstances.

2012, ch. 19, art. 52 « 7 », ch. 31, art. 426(A).

Factors To Be Considered

Factors

19 (1) The environmental assessment of a designated project must take into account the following factors:

(a) the environmental effects of the designated project, including the environmental effects of malfunctions or accidents that may occur in connection with the designated project and any cumulative environmental effects that are likely to result from the designated project in combination with other physical activities that have been or will be carried out;

(b) the significance of the effects referred to in paragraph (a);

(c) comments from the public — or, with respect to a designated project that requires that a certificate be issued in accordance with an order made under section 54 of the *National Energy Board Act*, any interested party — that are received in accordance with this Act;

(d) mitigation measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the designated project;

(e) the requirements of the follow-up program in respect of the designated project;

(f) the purpose of the designated project;

(g) alternative means of carrying out the designated project that are technically and economically feasible and the environmental effects of any such alternative means;

(h) any change to the designated project that may be caused by the environment;

(i) the results of any relevant study conducted by a committee established under section 73 or 74; and

(j) any other matter relevant to the environmental assessment that the responsible authority, or — if the environmental assessment is referred to a review panel — the Minister, requires to be taken into account.

Scope of factors

(2) The scope of the factors to be taken into account under paragraphs (1)(a), (b), (d), (e), (g), (h) and (j) is determined by

(a) the responsible authority; or

Éléments à examiner

Éléments

19 (1) L'évaluation environnementale d'un projet désigné prend en compte les éléments suivants :

a) les effets environnementaux du projet, y compris ceux causés par les accidents ou défaillances pouvant en résulter, et les effets cumulatifs que sa réalisation, combinée à celle d'autres activités concrètes, passées ou futures, est susceptible de causer à l'environnement;

b) l'importance des effets visés à l'alinéa a);

c) les observations du public — ou, s'agissant d'un projet dont la réalisation requiert la délivrance d'un certificat au titre d'un décret pris en vertu de l'article 54 de la *Loi sur l'Office national de l'énergie*, des parties intéressées — reçues conformément à la présente loi;

d) les mesures d'atténuation réalisables, sur les plans technique et économique, des effets environnementaux négatifs importants du projet;

e) les exigences du programme de suivi du projet;

f) les raisons d'être du projet;

g) les solutions de rechange réalisables sur les plans technique et économique, et leurs effets environnementaux;

h) les changements susceptibles d'être apportés au projet du fait de l'environnement;

i) les résultats de toute étude pertinente effectuée par un comité constitué au titre des articles 73 ou 74;

j) tout autre élément utile à l'évaluation environnementale dont l'autorité responsable ou, s'il renvoie l'évaluation environnementale pour examen par une commission, le ministre peut exiger la prise en compte.

Portée des éléments

(2) L'évaluation de la portée des éléments visés aux alinéas (1)a), b), d), e), g), h) et j) incombe :

a) à l'autorité responsable;

(b) the Minister, if the environmental assessment is referred to a review panel.

Community knowledge and Aboriginal traditional knowledge

(3) The environmental assessment of a designated project may take into account community knowledge and Aboriginal traditional knowledge.

Federal Authority's Obligation

Specialist or expert information

20 Every federal authority that is in possession of specialist or expert information or knowledge with respect to a designated project that is subject to an environmental assessment must, on request, make that information or knowledge available, within the specified period, to

- (a)** the responsible authority;
- (b)** the review panel;
- (c)** a government, an agency or body, or a jurisdiction that conducts an assessment of the designated project under a substituted process authorized by section 32; and
- (d)** a jurisdiction that conducts an assessment, in the case of a designated project that is exempted under subsection 37(1).

Environmental Assessment by Responsible Authority

General Rules

Application only when no referral to review panel

21 Sections 22 to 27 cease to apply to a designated project if it is referred by the Minister to a review panel under section 38.

Responsible authority's obligations

22 The responsible authority with respect to a designated project must ensure that

- (a)** an environmental assessment of the designated project is conducted; and

b) au ministre, s'il renvoie l'évaluation environnementale pour examen par une commission.

Connaissances des collectivités et connaissances traditionnelles autochtones

(3) Les connaissances des collectivités et les connaissances traditionnelles autochtones peuvent être prises en compte pour l'évaluation environnementale d'un projet désigné.

Obligation des autorités fédérales

Fourniture des renseignements pertinents

20 Il incombe à toute autorité fédérale possédant l'expertise ou les connaissances voulues en ce qui touche un projet désigné devant faire l'objet d'une évaluation environnementale de fournir, sur demande et dans le délai précisé, les renseignements utiles :

- a)** à l'autorité responsable;
- b)** à la commission;
- c)** au gouvernement, à l'organisme ou à l'instance qui effectue une évaluation du projet qui découle d'un processus d'évaluation se substituant à l'évaluation environnementale au titre d'une autorisation donnée en vertu de l'article 32;
- d)** s'agissant d'un projet ayant fait l'objet d'une exception en vertu du paragraphe 37(1), à l'instance qui en effectue une évaluation.

Évaluation environnementale effectuée par l'autorité responsable

Règles générales

Application en l'absence de renvoi pour examen par une commission

21 Les articles 22 à 27 cessent de s'appliquer à un projet désigné si le ministre renvoie, au titre de l'article 38, l'évaluation environnementale du projet pour examen par une commission.

Obligations de l'autorité responsable

22 L'autorité responsable à l'égard d'un projet désigné veille :

- a)** à ce qu'il soit procédé à l'évaluation environnementale du projet;



Considerations

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was to enable the Panel to propose conditions for the project.

Environment Canada said that proposed research on oil fate and behavior, which would inform fate and trajectory modelling, would not likely be completed within the timeframe of the Panel's process. It said that a similar research program on the East Coast took place over a period of approximately 6 years, and it anticipated a similar time requirement for its recommended research program.

Northern Gateway said that it had provided sufficient modelling information for environmental assessment and other decisions to be made. It also said that additional modelling would be useful to support development of Geographic Response Plans and emergency response planning.

7.4.4 VIEWS OF THE PANEL

EMERGENCY PREPAREDNESS AND RESPONSE PLANNING

The Panel finds that Northern Gateway's extensive evidence regarding oil spill modelling, prevention, planning, and response was adequately tested during the proceeding, and was credible and sufficient for this stage in the regulatory process.

Parties such as the Province of British Columbia, Gitxaala Nation, Haisla Nation, and Coalition argued that Northern Gateway had not provided enough information to inform the Panel about proposed emergency preparedness and response planning. The Panel does not share this view.

Northern Gateway and other parties have provided sufficient information to inform the Panel's views and requirements regarding malfunctions, accidents, and emergency preparedness and response planning at this stage of the regulatory process.

In reaching this view, the Panel took into account additional information filed by the company in response to the Panel Session Results and Decision document dated 19 January 2011 as well as Northern Gateway's commitments, conditions set out by the Panel, and the existing regulatory environment.

Information filed by Northern Gateway was also supplemented by extensive information filed by hearing participants through letters of comment, oral statements, and oral and written evidence.

Many parties said that Northern Gateway had not demonstrated that its spill response would be "effective." Various parties had differing views as to what an effective spill response would entail. The Panel is of the view that an effective response would include stopping or containing the source of the spill, reducing harm to the natural and socio-economic environment to the greatest extent possible through timely response actions, and appropriate follow-up and monitoring and long-term cleanup. Based on the evidence, in the Panel's view, adequate preparation and planning can lead to an effective response, but the ultimate success of the response would not be fully known until the time of the spill event due to the many factors which could inhibit the effectiveness of the response. The Panel finds that Northern Gateway is being proactive in its planning and preparation for effective spill response.

The Panel is of the view that an effective response does not guarantee recovery of all spilled oil, and that no such guarantee could be provided, particularly in the event of a large terrestrial, freshwater, or marine spill.

The oil spill preparedness and response commitments made by Northern Gateway cannot ensure recovery of the majority of oil from a large spill. Recovery of the majority of spilled oil may be possible under some conditions, but experience indicates that oil recovery may be very low due to factors such as weather conditions, difficult access, and sub-optimal response time, particularly for large marine spills.

Although malfunctions and accidents may not be fully predictable, a precautionary approach requires that they be planned for. Specific details regarding the location, extent, and effects of a large spill cannot be known in advance because many relevant factors cannot be quantified. Sufficient information can be known in advance to allow planning, and response preparedness for a wide range of spill scenarios, including credible worst case scenarios.

EMERGENCY PREPAREDNESS AND SPILL RESPONSE -- PIPELINE AND MARINE TERMINAL

Emergency preparedness and spill response related to the pipeline and Kitimat Terminal is under the regulatory and enforcement jurisdiction of the National Energy Board. Northern Gateway discussed how it intends to meet regulatory requirements and provided examples of its spill response planning documents.

The Panel finds that Northern Gateway has appropriately identified issues which are particularly important for the project for inclusion in its emergency

	<p>b) During route finalization, Trans Mountain must conduct additional visual modelling of select locations, identified in consultation with stakeholders, including the Province of British Columbia, in which the pipeline corridor deviates from the existing TMPL system right-of-way. Trans Mountain must review additional visual modelling outcomes with stakeholders, including the Province of British Columbia, and work with them to identify any additional feasible vegetation strategies of other site-specific measures that may be implemented to enhance visual outcomes.</p> <p>c) During construction, Trans Mountain must implement the mitigation measures identified in Table 7.2.4-2 of Volume 5B of Trans Mountain’s application, and any additional site-specific mitigation measures identified in consultation with stakeholders, including the Province of British Columbia.</p>	<p>preliminary consultations with the Province and other stakeholders (A3Z4U5, PDF p. 4). This condition ensures that consultations continue during route finalization and detailed design, that additional visual modelling is carried out, and that the mitigation measures set out in the Application are implemented.</p>
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